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***The Impact of Students' Participation to a Facebook
Group on Their Learning Motivation and Scores***

Bernard Montoneri, Providence University, Taiwan

The Asian Conference on Education 2014
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Abstract

The development of Information and communications technology (ICT) has brought rapid and profound changes in the field of Education. Nowadays, teachers and students alike are engaging on social networks such as Facebook. This study discusses the benefits of using social network in the classroom. It aims at assessing the impact of Facebook on students' motivation and scores in a course of European Literature in a university of central Taiwan. A class of students was taught during the first semester of academic year 2013-2014 (September-January) using a traditional way of teaching. During the second semester (February-June 2014), the teacher used multimedia and Facebook to teach to the same students. They joined a "secret group", that is a group in which only students from the class can join, post, view posts, like, and comment.

This research compares various data from the first and second semester to measure students' improvement in motivation, their participation to the group and their scores. The data collected from the Facebook group during the whole second semester and students' evaluation of the educator at the end of each semester. Students are expected to make some progress and teacher's evaluation should improve. Even though Taiwanese students generally read and write in Chinese on Facebook, it is expected that they exclusively use English to read, share, and comment texts and information concerning the books studied during the second semester, thus increasing their chances to improve their reading and writing skills.

Keywords: Facebook; European Literature; Learning performance; Motivation; Scores.

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Introduction

Facebook, the world most popular online social networking service, was founded ten years ago by Mark Zuckerberg. As of March 2013, Facebook claimed having 1.1 billion monthly active users (Facebook, 2013). Taiwan ranks 19 worldwide for the number of Facebook accounts (6,992,040 on a population of 23,359,928 in 2014; Berry, 2014). Even though there is already a large number of studies concerning the use of Facebook as an educational tool, few articles have been published on the impact of the social network on students motivation and scores as well as on the teacher's evaluation by students. As far as we know, there are scarce studies on the usage of Facebook in courses of literature.

This paper focuses on a course of European Literature offered to English majors at a university in central Taiwan. During the second semester (February-June 2014), all students in the class joined a secret Facebook group in which the teacher as well as the students can post, view, like, comment, and share information, links, pictures, videos concerning the books studied during the semester. Research data consist of students' evaluation of teaching (SET) at the end of the semester, the number of posts, views, likes and comments in the Facebook group during the all semester and students' scores. This study will answer the following research questions:

1. What is the impact of Facebook on teacher's evaluation by students?
2. Is participation to a Facebook group helping students make progress a regard to their scores?
3. Can participating to a Facebook group help students increase their learning motivation?
4. What type of posts students like the most? Can it help teachers in the preparation of the teaching material?

1. Literature review

1.1. Student evaluation of teaching

This article notably analyzes student evaluation of teaching (SET) to highlight how using Facebook during and outside the classroom might have an impact on teacher's evaluation and on students' learning motivation. SET has become a common measure of teaching and learning quality in higher education (Zabaleta, 2007). During the 20th century, no less than 2,000 studies were published on SET (Wilson, 1997). The main purpose of SET is to provide feedback for the improvement of teaching (Marsh, 1987). Student evaluation can also be used to identify indicators of teaching improvement and to provide concrete advice to educators (Montoneri et al., 2012). A growing number of higher education institutions (HEIs) tend to prefer online, anonymous and confidential end-of-term course evaluation (Harrington & Reasons, 2005).

1.2. Education and networking: the use of Facebook for educational purpose

Al-Hammody (2014) analyzed the use of a Facebook group created for a group of students from the University of Mosul, Iraq, for English pedagogic purposes. This study used online questionnaire and phone interviews to examine students' perceptions of the benefits resulting from interacting in the Facebook group.

According to Al-Hammody (2014), 54.3% of the participants mostly used the Facebook page for socializing in English, 48.6% used it for vocabulary learning, and 25.7% used it for seeking feedback and for improving translation skills. Manca and Ranieri (2013) attempted to identify the pedagogical potential of Facebook and presented a detailed review of the literature concerning the world most successful social network. They showed that students do not always feel comfortable with Facebook and they do not wish to use social networking as a unique teaching tool for learning.

However, a large number of studies demonstrated that Facebook can be used as an English Language Training (ELT) supportive tool. According to Baran (2010), educators can open and administer Facebook groups for their students to share knowledge, post, comments and dialogue with other members of the groups. Facebook may be used for teaching and learning (Anderson, 2009; Greenhow, 2011); it provides students with extracurricular content resources (Bahner et al., 2012; Pilgrim & Bledsoe, 2011). The educational use of Facebook was found motivating by Backer (2010) who also stated like other scholars that Facebook should be one element among many others in teaching and learning. Çoklar (2012) also observed that Facebook was considered motivating and interesting by students. Shams (2014) investigated the role and effectiveness of using Facebook in tertiary level English language classrooms in Bangladesh. She showed that a decreased direct class contact offsets the motivational factors and positive impacts of using Facebook, notably for students with poor English skills.

2. Methodology

The Data Source

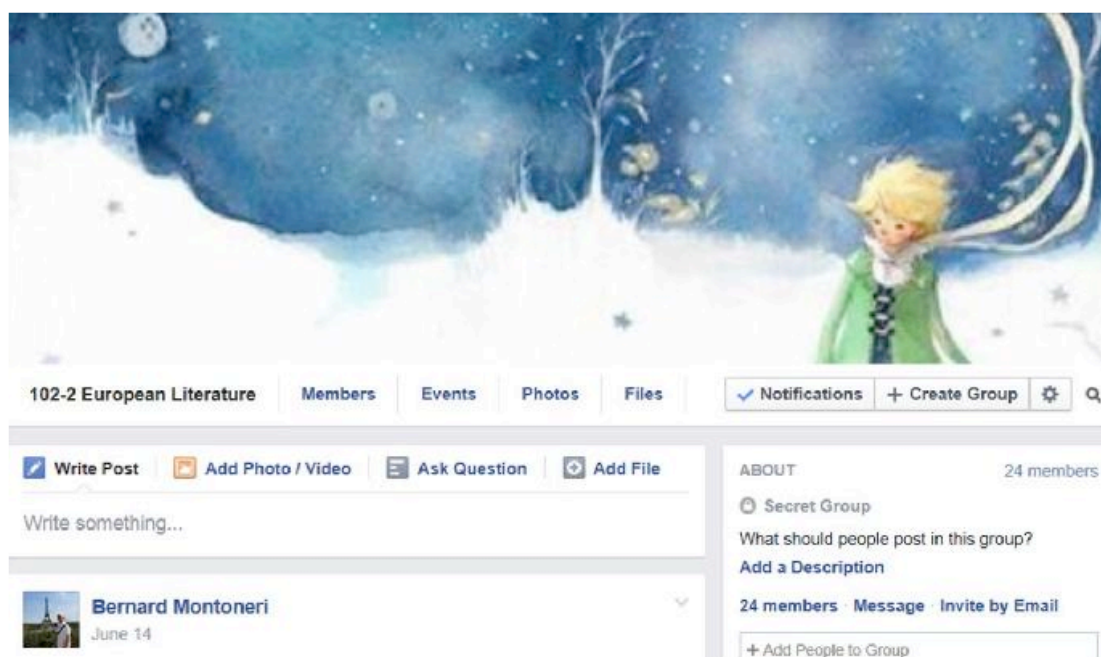
The study case is a private university established in 1956 in central Taiwan. The data comes from the university's online student rating system, which provides student feedback to professors at the end of each semester. Participants were English majors in a Department of English. The characteristics of the data source and research object are as follows:

1. European Literature is an optional, three-credit course for junior students from the Department of English (three hours/week).
2. There were 19 students during the first semester (September 2013-January 2014) and 23 students during the second semester (February 2014-June 2014). 14 students have been selected for this study as they were registered during the two consecutive semesters. Other students dropped, were failed or followed only one semester (exchange students from China can only stay one semester in Taiwan).
3. The data are based on questionnaires (11 questions) filled out by the students at the end of each semester. Each question is rated from one (very unsatisfied) to five (very satisfied).
4. All the students are required by the university to fill out the questionnaires online if they want their grades to be validated. So it is assumed they all did it.

3. Empirical study

The Facebook secret group was officially opened on February 18, 2014. All the students registered in the class quickly joined and the first post uploaded by the teacher was made on February 25, 2014 (post 1); the last one was made on June 14, 2014 (post 24).

Picture 1. Secret Facebook group: European Literature 102-2.



All the students registered in European Literature joined the Facebook secret group (24 members: 23 + the teacher). “Secret group” means that only students in the class of European Literature can join, post, view, like, comment, and share.

Picture 2. European Literature 102-2: example of teacher's post.



This post consists mainly of picture of The Little Prince. It was uploaded on May 24 and viewed by 21 students. 12 students liked the post (their names are hidden on picture 2).

3.1 Analysis of teacher's Evaluation

Table 1 shows the evaluation score for each question between the first semester using traditional classroom instruction and the second semester using traditional classroom instruction and Facebook. We find that the average score for all the questions has progressed by 1.87% and the average students' final score at the end of semester has progressed by 2.0%. Figure 1 indicates improvement for most of the questions, notably question 3 (4.10%), 6 (5.18%), 9 (5.18%), and 10 (5.57%). The progress of question 3 and 6 implies that the posts provided on Facebook give extra information helping students to better understand teacher's curriculum content; as a result, teacher's performance assessment methods are more fair and open. The progress of question 9 and 10 implies that students are more confident to obtain better professional knowledge and core competencies.

However, the scores of question 7 (-2.62%) and 11 (-1.09%) have decreased. According to the detailed data, more students appreciate teacher's open attitude to

communicate with students by using Facebook during the second semester. Nevertheless, several students refused to participate to group discussions via Facebook and without mentioning it during the entire semester. By consequence, these few students gave lower score to question 7 and reduced the average score. The score of question 11 and students' final score show that students need less time and effort to obtain better performance: this is an important encouragement for teachers using social network during and outside the classroom.

Table 1. Evaluation score for each question for the first and second semester using Facebook.

Scores Questions	Semester 1	Semester 2	Progress (in %)
1. Teacher was able to properly answer students' questions.	4.35	4.36	0.25%
2. Course curriculum structure was complete and covered all the important concepts of the discipline.	4.35	4.36	0.25%
3. Teacher fully grasped curriculum content and gave detailed explanation.	4.24	4.41	4.10%
4. The teaching expression was logical and organized which helped students to easily assimilate.	4.24	4.27	0.88%
5. Performance assessment covered important parts of the course.	4.29	4.36	1.62%
6. Performance assessment methods followed fair and open principles.	4.24	4.45	5.18%
7. Teacher used an open attitude to communicate with students.	4.29	4.18	-2.62%
8. Teacher concerned about students' learning conditions and gave timely counseling.	4.12	4.18	1.56%
9. I think this course has increased my professional knowledge.	4.24	4.45	5.18%
10. The completion of this course has improved my core competencies.	4.18	4.41	5.57%
11. The percentage of my attendance and invested effort in this course: (1) 0-20% (2) 20-40% (3) 40-60% (4) 60-80% (5) 80-100%.	4.41	4.36	-1.09%
Average score of questionnaires	4.27	4.35	1.87%
Student's final score at the end of semester	74.86	76.36	2.00%

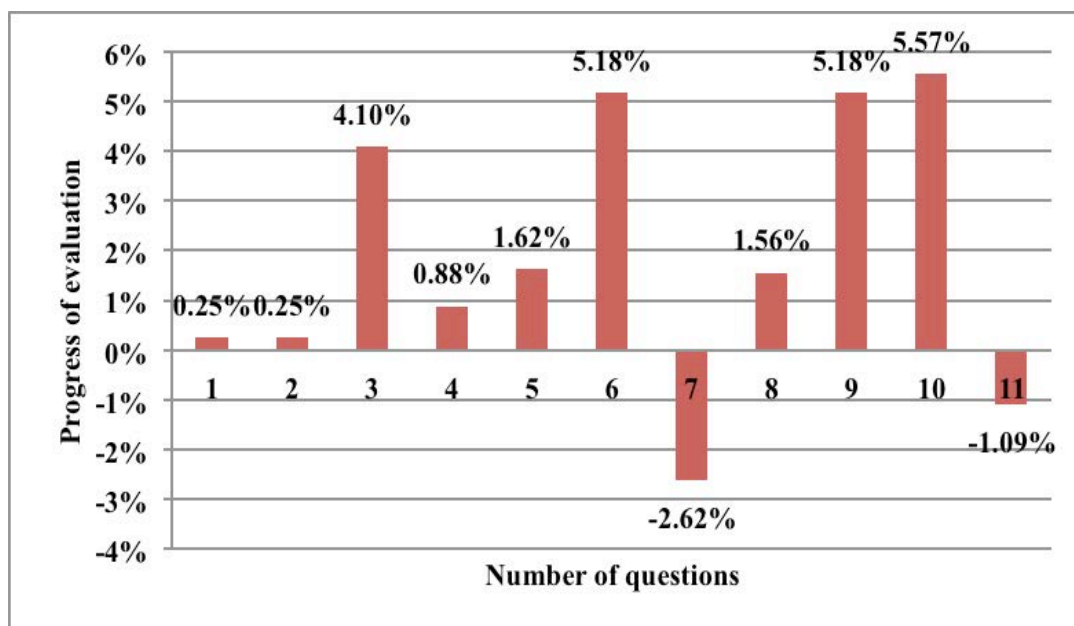


Figure 1. Progress of evaluation score for the semester using Facebook.

3.2 Analysis of Various Types of Teacher's Posts

The analysis in the previous section demonstrates that the use of social network as teaching and learning auxiliary does improve students' learning motivation and performance. In order to effectively enhance this improvement, an analysis of students' preference concerning the types of posts is proceeded. We define six types, such as quotation of texts (quote), power point files (ppt), pictures or photos (photo), information of movies (movie) and music (song) adapted from books, and external links (link).

It is important for students to realize that most famous movies and musicals for example are adaptations of European Literature (*Les Misérables*, *The Phantom of the Opera*, *The Lord of the Rings* and so many others). Table 2 and Figure 2 show that almost all the students participating to group discussion on Facebook have viewed all teacher's posts. Moreover, students are more interested in the posts with external links, pictures or photos, and information concerning movies; Power Point files seem to be less attractive to students, no matter how closely related to the class and how well designed they might be...

Picture 3. Examples of PPT files for European Literature 102-2.
King Arthur PPT



20,000 Leagues under the Sea PPT



Table 2. Average number of views and likes for different types of posts.

Type of posts	Number of views	Number of likes
Quote	21	4
PPT	21	2
Photo	21	7
Movie	21.2	4.8
Song	21	3
Link	20.8	7.5

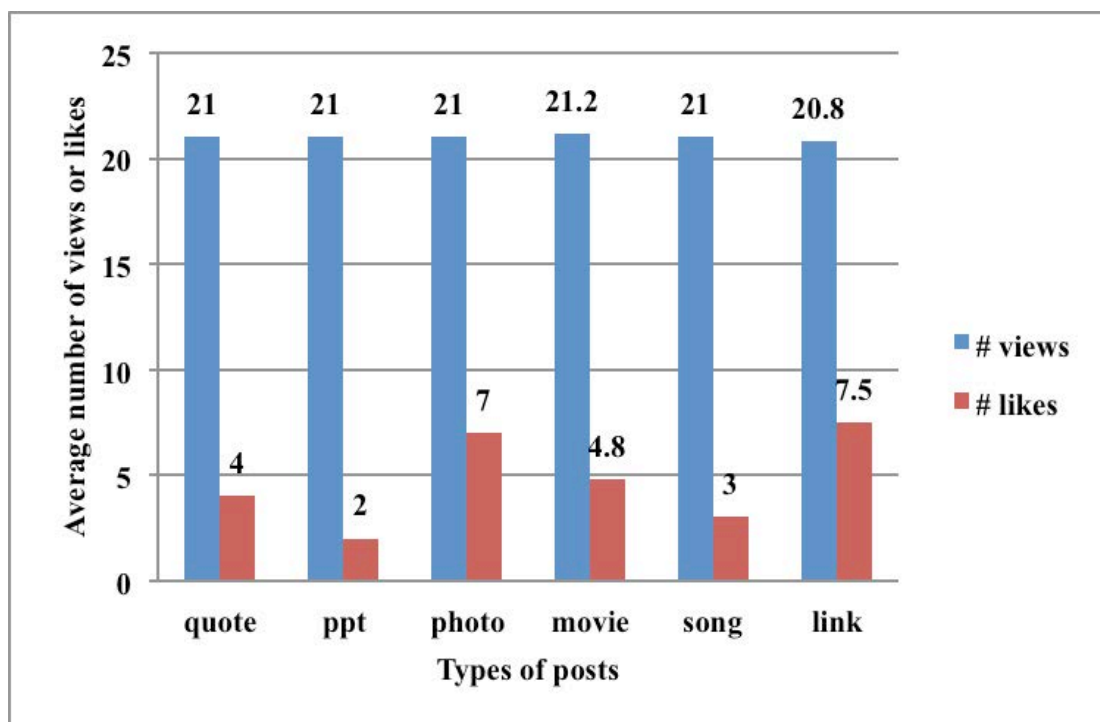


Figure 2. Comparison of different types of posts.

3.3 Analysis of students' learning behavior

Table 3 and Figure 3 show that more than half of the students viewed teacher's weekly posts in one week (viewed immediately or during the 7 days after the post was uploaded), notably for weeks 3, 4, 8, 14, and 17. Because week 2 is the opening of this group, only part of students had already joined the group. Weeks 3 and 4 were posted at the beginning of semester; probably students were surprised and more attracted by teacher's new teaching methods by using Facebook. Week 8 and 17 are the weeks just before midterm and final examinations.

Table 3 also indicates that more than 80% or even 90% of students have viewed teacher's weekly posts in the first two weeks; the proportion of view time in week 9 is only 62% since students are busy passing midterm exams for all their courses. The proportion during week 12 is also 62%, because 6 students attended other activities and viewed posts later. Consequently, we suggest that teachers post external links, pictures or photos at the opening of the Facebook group and the weeks before the midterm and final examinations in order to enhance students' learning interest and motivation. On the contrary, during week 5 and 12, teachers may diversify course contents and teaching methods by applying multimedia materials in order to attract students' attention.

Table 3. Students' Views Time by Week.

Weeks View time	2	3	4	5	8	9	10	12	14	17
1d	0.8	6	14	9.7	11.5	13	7	11	8.7	13
2-3d	1.9	2.5	3	1.3	4.5	0	3	1	5.0	7
4d-1w	10.6	8.5	1	1.0	1.0	0	4	0	4.0	0
1-2w	5.5	2	1	4.0	1.0	0	3	1	0.3	0
3-4w	1.0	0	0	2.3	3.0	5	0	6	3.0	0
1m~	1.3	2	2	2.7	0.5	3	4	2	0.0	0
Proportion in first week (%)	63%	81%	86%	57%	79%	62%	67%	57%	84%	100%
Proportion in first two weeks (%)	89%	90%	90%	76%	84%	62%	81%	62%	86%	100%
Proportion in first month (%)	94%	90%	90%	87%	98%	86%	81%	90%	100%	100%

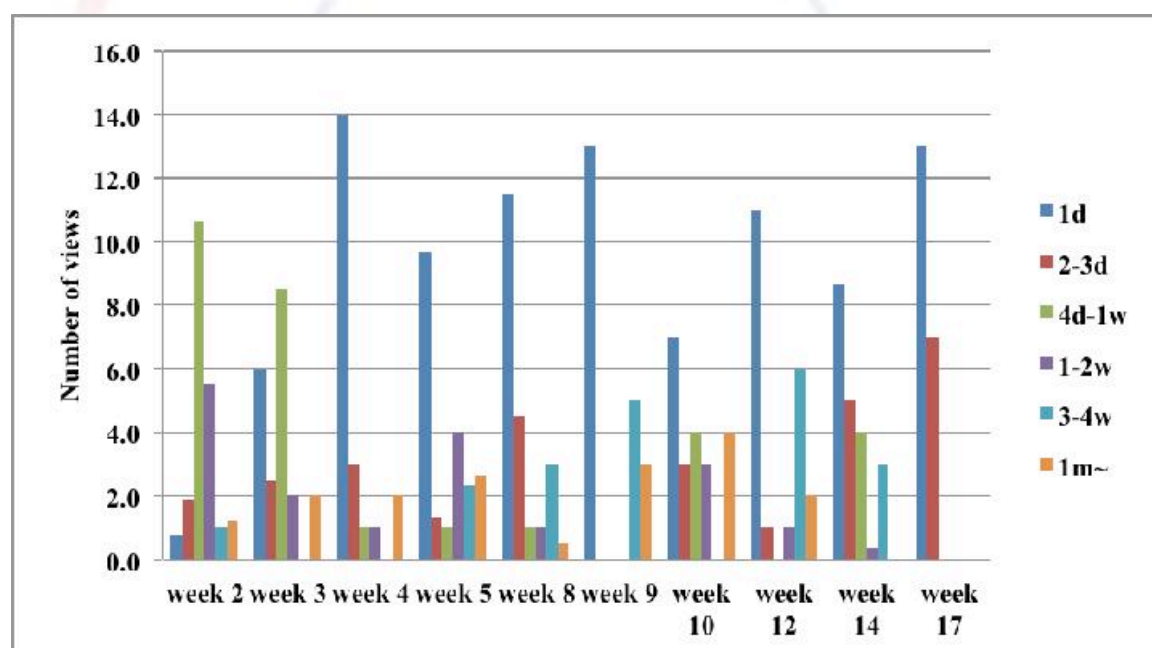


Figure 3. Students' views time to see whether students follow program every week.

4. Conclusion

Facebook can help educators to present and organize their courses, notably their teaching materials. Teachers can be administrators of a Facebook group, set up some rules and moderate the posts and comments. They can also be members of a Facebook group and interact with students. As administrators and members, they have the opportunity to observe students' improvement, their motivation, and their needs. As they can see which post students prefer and plan their lessons accordingly.

5. Conclusion

The present paper addresses the issue of improving classroom teaching by creating and managing a Facebook group in a class of European Literature in Taiwan. Online students' ratings of teachers at the end of each semester can help teachers to analyze students' motivation and any improvement in their evaluation by students. The four main contributions of this study are:

What is the impact of Facebook on teacher's evaluation by students? According to this study, teacher evaluation is higher during the second semester. The average score for all the questions has progressed by 1.87%.

Is participation to a Facebook group helping students make progress a regard to their scores? The average students' final score at the end of the second semester has progressed by 2.0%.

Can participating to a Facebook group help students increase their learning motivation? Students tend to view posts more at the beginning of the semester because they are surprised and interested by the new teaching method. They regularly and constantly participated to the group until the end of the semester.

What type of posts students like the most? Can it help teachers in the preparation of the teaching material? Almost all the students participating to group discussion on Facebook have viewed all teacher's posts. They are more interested in the posts with external links, pictures or photos, and information concerning movies.

The score of question 11 and students' final score show that students need less time and effort to obtain a better learning performance.

Future directions

Opening Facebook groups is time consuming and demands constant effort during the entire semester to record all the data necessary for analyzing any improvement in students' scores, motivation, and in teachers' evaluation. It would probably be easier to create a team of scholars to collect data for more and bigger classes to verify whether the conclusions are the same as in a small class.

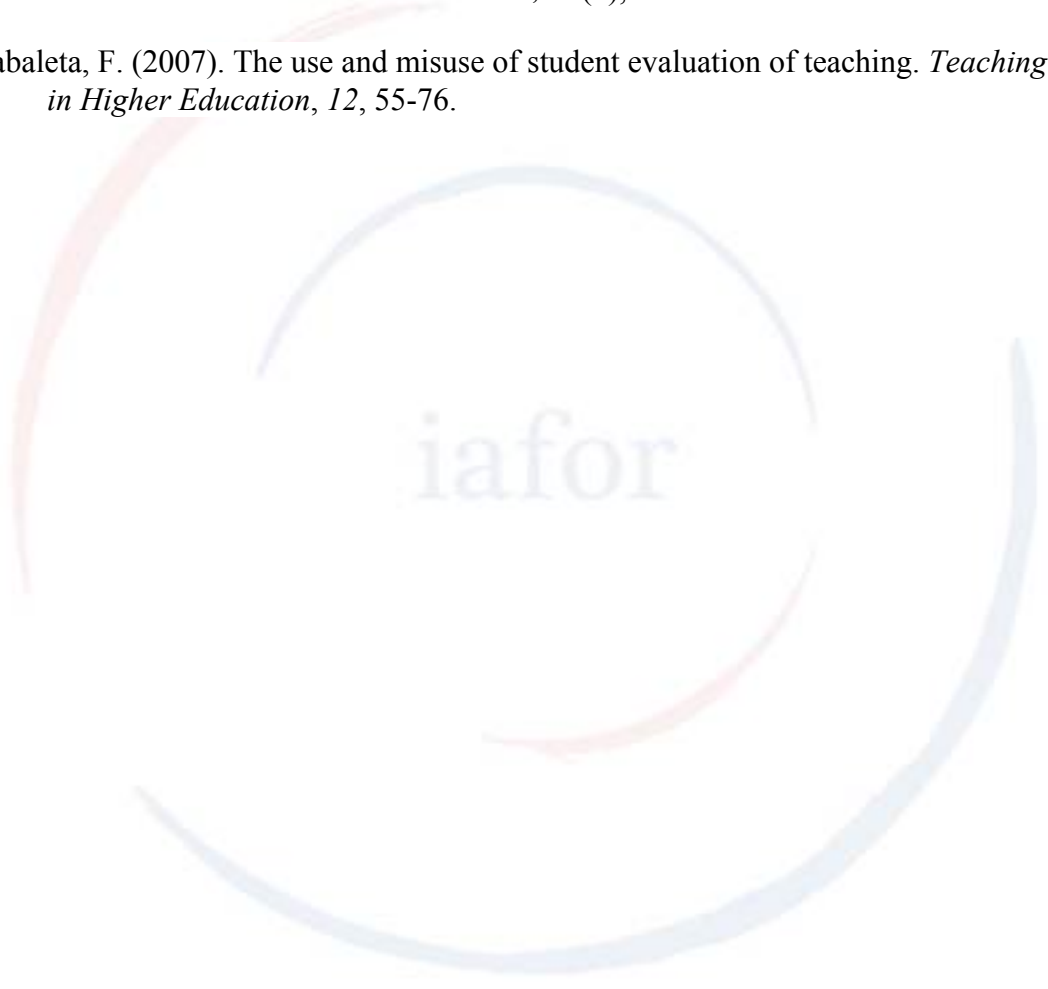
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***Transcending Teacher Professional Development:
From Determinism to Complexity***

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Abstract

There is a multiplicity of factors and actors that come into play to make teacher professional development (TPD) a strategic and powerful scheme for improving teacher practices. This multiplicity is evident in educational practices and theories. Consequently, traditional perspectives that take a simple view of TPD as a single, independent entity in teacher learning in isolation from other factors and actors are problematic. To better understand how TPD can bring about change in teacher practices—transforming teacher learning, there is a need to transcend the linear, causal, deterministic assumption about TPD. Here, in this discussion paper, I argue that powerful TPD is neither determined nor directed, but rather emerges. Powerful TPD emerges from many interconnected agents and these agents interact and combine in different ways depending on the situation, are reciprocal and are always nested, thus TPD is a complex enterprise. In order to showcase the complexity of the enterprise, TPD in the Indonesian context will be scrutinised using the lens of complexity theory.

Keywords: teacher professional development, teacher learning, teacher change, complexity theory, Indonesia

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Introduction

Teacher professional development (TPD) has become a major focus of a worldwide educational reform agenda because of the belief that students' learning and achievement is largely dependent on the quality of teachers' instructional practices (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Doecke et al., 2008; OECD, 2009; World Bank, 2011). In this sense, TPD can be seen as a powerful mechanism for enhancing teachers' instructional practices (Desimone, Porter, Garet, Yoon, & Birman, 2002). If the educational reform agenda is to improve students' performance, then a powerful TPD is fundamental.

Yet, providing TPD that is powerful to enhance teachers' instructional practice is neither simple nor straightforward as a proposition or undertaking. Literature on TPD suggests that a number of factors need to be taken into account to provide powerful TPD. The factors range from contents, types and processes of TPD (Burney & Elmore, 1999; Darling-Hammond & McLaughlin, 1995; Desimone et al., 2002; Ingvarson, Meiers, & Beavis, 2005), to teacher characteristics (Cohen, Manion, & Morrison, 2007; Guskey, 2002; Little, 1993; Pajares, 1992; Putnam & Borko, 2000; Smylie, 1988) and the conditions in schools (Bredeson & Johansson, 2000; Jurasaitė-Harbisson & Rex, 2010; Wermke, 2011). These research studies not only illuminate the importance of these influential factors in TPD, but they also illustrate that powerful TPD is influenced by a multiplicity of factors.

This discussion paper presents a perspective on the complexity nature of TPD. It examines the multidimensionality and non-linear dynamics of TPD to shape teacher change and argues for a need to transcend the linear, causal, deterministic assumption underlying TPD practices –how TPD is conceived and conducted. The examination begins with an outline of perspectives on TPD and the corresponding implications of the perspectives. The paper then develops a proposition of TPD based on complexity theory and to illuminate the proposition, following the discussion is a showcase of TPD in the Indonesian context that is explored from the perspective of complexity theory.

Contemporary Perspectives on TPD

In the literature, there is a variety of terms and definitions related to the notion of teacher learning and change. Among those commonly used terms are teacher training, in-service education and training (INSET), in-service learning, staff development, continuing professional development (CPD), staff development, professional development, continuing education, professional learning and life-long learning along with their respective definitions. Yet, the ideas or meanings of these terms are mostly often overlapped. Burke (2000) illustrated that “when educators think of professional development, they usually think of in-service days” (p. 29). Therefore, these terms are sometimes used loosely and interchangeably (see for examples; Bolam & McMahon, 2004; Burke, 2000; Craft, 2000; Day, 1999). In this paper, the term teacher professional development (TPD) is adopted to mean “a learning system in which influential factors and actors interrelate and interact to shape teacher learning and change”.

A number of different perspectives have informed the practice of TPD over time. The first perspective views TPD as *activities, events, or opportunities*. Fenstermacher and Berliner (1983), for instance, viewed TPD as “the provision of *activities* designed to advance the knowledge, skills, and understanding of teachers in ways that lead to change in their thinking and classroom behaviour” (p. 4, emphasis added). In a similar vein, Bolam (2000) argued:

[T]PD embraces those education, training and job-embedded support *activities* engaged in by teachers, following their initial certification, and head-teachers. Such activities are aimed primarily at adding to their professional knowledge, improving their professional skills and helping them to clarify their professional values so that they can educate their students more effectively. (p. 267, emphasis added)

The focus of this perspective of TPD is then on formulating the types of learning activities that can effectively and efficiently deliver the expected knowledge and skills for teachers. This perspective is concerned with the quest of “what” types, forms and models of TPD that work best to improve teachers’ instructional practices. Thus, in the current discussion of TPD, the supporters of this perspective compel to replace the so-called “traditional” learning activities to “reform” ones such as changing workshops, seminars, and in-service training with action research, collaborative learning, or peer network.

The second perspective regards TPD as a *process* by which teacher quality can be enhanced (Evans, 2002; Sparks & Loucks-Horsley, 1989). Evans, for example, interpreted TPD, or ‘teacher development’ to use her term, as “*the process whereby teachers’ professionalism and/or professionalism may be considered to be enhanced*” (p. 131, emphasis in original). In this perspective, the concern is about uncovering the processes that work best for developing teachers’ knowledge and skills. Therefore, the proponents of this perspective are likely to concentrate their attention on the “how” of TPD can be best delivered so that teacher quality is enhanced. Common issues in this perspective include whether to let teachers plan and pursue their own learning, to send them on courses, to present teachers with problems and challenges or to impose changes on them.

The third perspective combines the previous two perspectives and conceives of TPD as both activities and processes. Guskey (2000) defined TPD “as those *processes* and *activities* designed to enhance the professional knowledge, skills, and attitudes of educators so that they might, in return, improve learning of students” (p. 16, emphasis added). In an overarching and commonly cited definition, Day (1999) explained:

Professional development consists of all natural learning experiences and those conscious and planned *activities* which are intended to be of direct or indirect benefit to the individual, group or school and which contribute, through these, to the quality of education in the classroom. It is the *process* by which, alone and with others, teachers review, renew and extend their commitment as change agents to the moral purposes of teaching; and by which they acquire and develop critically the knowledge, skills and emotional intelligence essential to good professional thinking, planning and practice with children, young people

and colleagues through each phase of their teaching lives. (p. 4, emphasis added)

This perspective is the combination of both the “what” and “how” of TPD. Theoretically the activity and process of TPD are dependent on one another and, in most cases, a particular TPD activity informs the process that it entails and vice versa. For example, action research as a TPD activity, involves an investigative process whereby teachers examine their practices in order to improve them. This third perspective is evident among the scholars who propose a set of those “effective” features of TPD (e.g. Ball & Cohen, 1999; Burney & Elmore, 1999; Darling-Hammond & McLaughlin, 1995; Desimone et al., 2002; Hawley & Valli, 1999; Knapp, 2003).

The last *perspective* views TPD as a *complex system* rather than just an activity or a process, or both (Davis & Sumara, 2007; Hoban, 2002; Knight, 2002; Morrison, 2008; Opfer & Pedder, 2011). Opfer and Pedder (2011), for example, construed “teacher learning as a *complex system* representing recursive interactions between systems and elements that coalesce in ways that are unpredictable but also highly patterned” (p. 379, emphasis added). With the same orientation, Hoban (2002) coined the term “professional learning system” to advocate a theoretical framework in teacher learning “based on a combination of ... conditions for teacher learning that need to complement each other to support educational change as a *complex system*” (p. 68, emphasis added). The next section discusses why it is more appropriate to conceptualise TPD as a complex system rather than just an activity, a process or both an activity and a process.

Teacher Professional Development as a Complex System

Complexity theory underlies the argument in this paper. While the theory originates in other fields, such as physics, biology, mathematics and economics, complexity theory has been increasingly employed in the social sciences, including education (Davis & Sumara, 2006; Hoban, 2002; Lemke & Sabelli, 2008; Nielsen, Clarke, Triggs, & Collins, 2010; Opfer & Pedder, 2011; Reigeluth, 2004). Complexity theory is a way of thinking and acting that perceives and conceives living systems to consist of multiple elements or agents that interact in many different ways, and further, the organisation of these systems cannot be understood in simple mechanistic or linear ways (Alhadeff-Jones, 2008; Mason, 2008; Waldrop, 1992). According to Mainzer (2007), “[t]he principles of complex systems suggest that the physical, social, and mental world is *nonlinear*, [and] *complex*” (p. 417, emphasis added). The systems are nonlinear because a direct causal connection cannot be specified. Semetsky (2008) explicated that “[a] single cause may in fact lead to a multiplicity of effects; conversely, a single effect may be produced by a multiplicity of causes” (p. 80). The physical, social, and mental worlds are complex because “a great many independent agents are interacting with each other in a great many ways” (Waldrop, 1992, p. 11). From this complex systems perspective, the paper builds on and extends the work of those who conceptualise TPD as a complex system in an attempt to develop a more dynamic understanding of TPD.

There are at least two primary reasons for conceptualising (TPD) as a complex system. First, casting TPD as a complex system implies that numerous factors come

into play in TPD. As described in the earlier perspectives, TPD is multidimensional in nature. Therefore, when teachers participate in a TPD program, their learning and change cannot be attributed to a single factor. Teacher learning and change are made possible by other elements or agents being already in place. Teacher learning and change occur, for example, when among others, a learning activity is available; the teachers have a need and/or motivation for the learning; their beliefs, knowledge and experience are compatible with the knowledge or skills to be learned; and supports are provided by principals or administrators (Ball, 1996; Bransford & Schwartz, 1999; Caffarella & Barnett, 1994; Cochran-Smith & Lytle, 1999; Richter, Kunter, Klusmann, Lüdtke, & Baumert, 2011). The presence of these agents and elements means that a perspective that views TPD as an *activity* is too narrow and restrictive.

The second reason for conceptualising TPD as a complex system relates to the process of TPD. A number of scholars argue that TPD researchers and practitioners have committed an epistemological flaw by approaching TPD in a linear, causal and deterministic way (Gravani, 2007; Hoban, 2002; Opfer & Pedder, 2011; Webster-Wright, 2009). Guskey (1986, 2002) and Desimone (2009), for example, proposed the following models of TPD:

Figure 1. Guskey's (1986, 2002) model

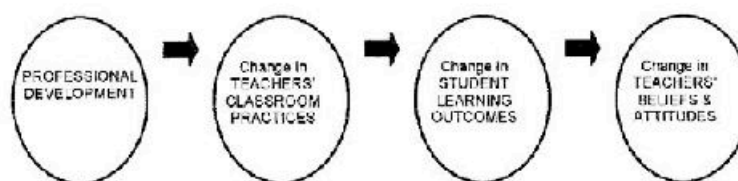
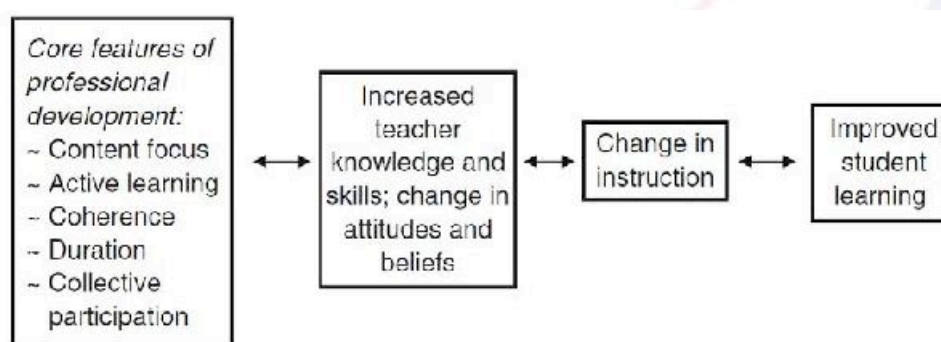


Figure 2. Desimone's (2009) model

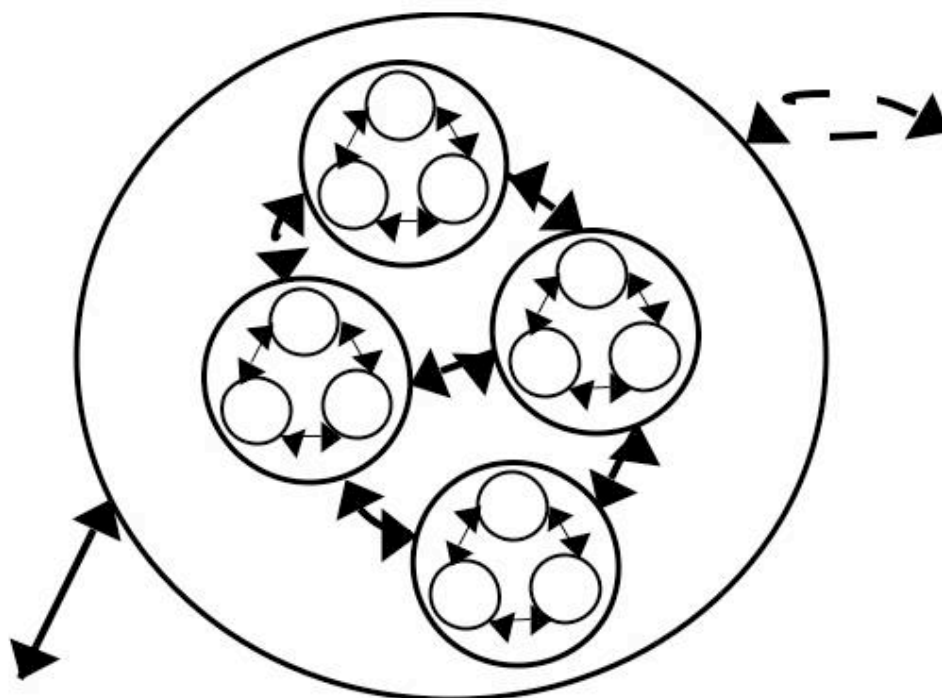


Although the two models are different in some aspects such as the order of changes and the nature of relationship among factors and actors, both of the models are presented visually in a linear, cause-effect, deterministic way. The models assume that: 1) an activity or reality occurs in a sequential process; 2) one part of an entity causes or affects another part in a linear way; and 3) because of this linear, cause-effect relationship, the outcome of an activity is pre-determined and known. This view holds that a known input will repeatedly produce a similar effect (Jayasinghe, 2011). Thus, it is a common belief in the field of TPD that once teachers attend "effective" TPD, the desired learning and change will follow. Unfortunately, the relationship of

agents (factors and actors) that interrelate in TPD is highly complex, which means that the outcomes of TPD are mostly unpredictable (Gravani, 2007; Knight, 2002). TPD is more than just a process or a compilation of an activity (by an agent) and a process, but is a nonlinear system in which “the effect is disproportionate to the cause” (Larsen-Freeman, 1997, p. 143).

It is from this multidimensionality and non-linearity of TPD that the paper argues for TPD as a *complex system*. Figure 3 depicts a representation of TPD as a complex system. However, Figure 3 presents only a simplified image of a much more complex set of processes and structures. First, there are multiple factors and actors (small circles) operating in one system (the larger circle). Second, as the two-way arrows suggest, the processes at play in a system are not linear but rather one element or agent can feed back or influence (or be influenced by) other elements. Third, the arrows outside the larger circle indicate that there are other systems, elements or agents operating outside this particular system that are influential to this one. In sum, through the lens of complexity theory, TPD is a learning system with multiple elements and agents that interact in non-linear ways to occasion the emergence of teacher learning and change.

Figure 3. Conceptual framework of TPD as a complex system (Adapted from Davis & Sumara, 2006)



TPD in Indonesia from a Complexity Perspective

This section presents a description of typical TPD in Indonesia. Some basic concepts of complexity theory are useful in attempting to understand the complex nature of TPD. Among these concepts include: *nested structure*, *feedback and sensitivity to initial conditions*, and *emergent and self-organisation*.

TPD in Indonesia: A glimpse

A typical TPD program in Indonesia starts with a letter of invitation but mostly in a sense of a request received by schools from educational authorities (districts, provinces, or central government) or TPD providers. This letter specifies the information about contents, duration, venues for the TPD program and most importantly the allocated number of teachers or subject teachers required to attend the program. The principals then choose teachers to represent the schools at the TPD programs. Although, there is sometimes a guideline or a set of criteria for choosing the teachers, in most cases, the decision on which teachers to choose is at the principals' discretion. Thus, a TPD program commonly involves teachers from various backgrounds (e.g. districts, school types, career status and qualifications). Generally, TPD learning activity takes the form of workshop training which is held at training centres or hotels in districts, provinces or a state capital. The duration of this workshop training ranges from a one-day workshop to a 15-day workshop training. In the workshop training, teacher participants receive intensive lectures on specified educational topics such as teaching methods, curriculum or assessment from 08:00 to 17:00 and then a second session in the evening from 19:30 to 21:30. Training instructors are not only required to follow specified teaching methodologies to assure consistent delivery, but also to ensure that the same outcomes are achieved by all participants. Upon their return to their schools, teachers have the responsibility to cascade the newly gained knowledge and skills to their fellow teachers through a series of learning activities in their districts and schools (Adey, Hewitt, Hewitt, & Landau, 2004; Supriatna, 2011; Thair & Treagust, 1997).

With this kind of TPD practices, many have argued that TPD has a little or limited impact on teachers' instructional practices for several reasons. First, schools do not provide adequate support for teachers to share their learning experiences with other teachers as well as to experiment the newly gained knowledge and skills. Second, what teachers learn from their TPD is often not applicable or practical to their school and classroom conditions. Third, teachers have restricted time and energy to have professional talks with their colleagues due to the fact that many teachers hold a second job to supplement their low incomes (Saito, Imansyah, Kubok, & Hendayana, 2007; Supriatna, 2011; Yuwono & Harbon, 2010). Put differently, "[t]he impact of training in transforming Indonesian educational institutions is not clearly established at all. The effects of training are arbitrary and, too often, dependent on the unplanned interactions of returning trainees, their supervisors and opportunities in their working environments. Much training leads nowhere except to unrealized potential, frustration and waste" (Cannon & Arlianti, 2008, p. 79).

Nested Structure

Complex systems are made up of elements or agents that are simultaneously agents of other systems (Davis & Sumara, 2007; Doll, 2008). Each whole system is a collection of interacting agents and at the same time is a part of a more inclusive whole. In this arrangement, “the part-whole relationship is a nested one” (Doll, 2008, p. 187). Therefore, in the nested structure of a complex system, everything is inextricably interrelated with everything else and the development and change of one agent/system influences and is influenced by that of other agents/systems. The concept of nested structure helps us to embrace the idea that TPD is composed of and comprises other agents/systems. TPD is itself a system along with its constituent parts including instructors, activities, learning materials and participants and at the same time it is a part a greater system such as a TPD system or an educational system for a country. Thus, TPD is not an isolated or independent system disconnected from other systems in which it operates and to which it is related.

It is commonly argued that TPD in Indonesia brings about little impact on teacher learning and instructional practices. One of the important reasons for this small impact is the types of TPD activity that are made available to the teachers. The answer is then to look for and introduce new types of TPD that are “empirically effective” to improve teacher quality such as lesson study and action research. However, something which is assumed to have a positive impact often does not yield the expected outcomes. The introduction of lesson study in TPD program in Indonesia, for example, does not in itself guarantee teachers’ improved learning and instructional practices. Sometimes quite the opposite is true. Teachers who attempt a lesson study in their schools may become resentful to their fellow teachers or principal who are not “in the same page” which in turn badly influences school dynamic. Other teachers may feel the lesson study to be too demanding or time-consuming, which may lead them to withdraw their participation. Schools may become over-reliant on this new type of TPD and then fall into a traditional view of TPD where the procedure or activity is supposed to be a quick fix for quality improvement that has been mandated by authorities. Thus, impact of TPD cannot be solely attributed the type of TPD/learning activity. There are other actors and factors, such as teachers, principals, and members of schools that affect the TPD impact at teacher or school level. TPD cannot be fully understood without reference to other agents and systems within which it operates.

Feedback and Sensitivity to Initial Conditions

A feedback loop is a mechanism that either keeps a system in an overall steady state by dampening perturbations or amplifying a specific quality in the system so as to ensure the change is noticed and a response enabled (Davis & Sumara, 1997; Haggis, 2008). On one hand, a feedback loop that functions to regulate and control the course and the outcome of the system is called a negative or regulatory feedback loop. On the other hand, a feedback loop that functions to notice or inform the system when something new happens and thus amplify it into messages that signal a need for change is called a negative or regulatory feedback loop (Wheatley, 2009). A feedback loop, both negative and positive one, occurs between the interacting agents of a system and the feedback continually adjusts and modifies both the agents of the system and the system itself (Haggis, 2008).

A complex system has also “initial characteristics [that] can have profound effects on later behaviour ... [and] small variations at the beginning of a process can have large effects in the end” (Buell & Cassidy, 2001, p. 212). In the realm of complexity, this is understood as ‘sensitivity to initial conditions’. The initial condition of a complex system involves many different combinations of interactions which are possible at that point in time (Haggis, 2008). Haggis further explained that “[t]his untrackable history of interactions (both within and beyond the system) is crucial in determining the form of future emergences, making time and history of central importance [in complex systems]” (p. 158). The ideas of feedback loop and sensitivity to initial conditions suggest the necessity to acknowledge and engage with the history of the particular TPD system and its interacting parts. The feedback loop mechanisms help us to recognise that the outcome of TPD is shaped by the kind of responses that are fed back into the interacting parts and the TPD system. The sensitivity to initial conditions suggests that a similar TPD program can produce different outcomes at the teacher and school level because of the diversity of teachers’ or schools’ initial characteristics.

TPD programs in Indonesia commonly emanate from agents (districts, provinces or central authorities) external to teachers and that operate at a different level of the system. To assure the smooth and successful implementation of TPD programs, the authorities have virtually developed every aspect of the TPD including content, duration, number of participants and so on. Based on these pre-specifications, policy makers, TPD providers, instructors, and principals evaluate the progress or outcome of the programs. Teachers, in turn, are expected to adjust their behaviour and attitude towards these criteria. This kind of evaluation is essentially a negative feedback loop that aims to regulate and control the courses and outcomes of TPD programs on teachers. A deviation from the specified processes and outcomes is not tolerated and, thus, should be abandoned, leaving teachers no room for improvisation. A powerful TPD program should allow and stimulate any single ideas and experiences to be amplified into innovations or novel practices, instead. It indicates that TPD also needs to incorporate positive feedback mechanisms so that a seemingly small event can be amplified to bring about a bigger impact.

The idea of sensitivity to initial conditions means that the starting point of any TPD program is different from one teacher or a group of teachers to another. These are initial conditions that are consequential in terms of the impacts of TPD on teachers. Where teachers start with a particular TPD program often has a big impact on where they end up. Some teachers may have already accessed materials or ideas presented in the TPD programs, and thus, could feel bored and/or influence the dynamic of group in the program. Others might have had prior negative TPD experiences that could influence their present response to a new program. In a more positive circumstance, a teacher may point out a particular practice that he has been doing in his class and this point could trigger other teachers to engage in an in-depth group discussion that could presage the development of a learning community.

Feedback mechanisms and sensitivity to initial conditions help us to recognise that while some aspects of TPD can be carefully managed and controlled, others cannot. Further, it is almost impossible to know in advance which interactions will be significant, what interactions have preceded the TPD, and what has resulted from these previous and unknown interactions (Haggis, 2008). Sometimes, those who

involve in TPD just need to observe until they recognise what emerges and provide necessary positive feedback.

Emergent and Self-Organising

From a complexity theory, change is natural, evolutionary, and emergent from a process that is neither imposed nor directed (Byrne, 2001; Morrison, 2008; Waldrop, 1992). What emerges at a system level is the result of interactions among the agents of the system. The popular example is termites that develop into a colony and as a collective can build an incredible structure (e.g. the termite mound) relative to the size of the builders. Yet, in the process of building the mound, there is no chief termite, architect termite or master plan. Each individual termite acts locally, following a few simple shared rules: the termite mound emerges from a process of self-organisation. This manner of organisation means that most of the interactions between agents within such systems are with their closest neighbours and are based on simple sets of local rules. Self-organising systems, like the termite colony, demonstrate the ability of all social or living systems to organise into a web of interactions that increases capacity: this capacity cannot be reduced to the sum of its parts.

The emergent and self-organising principles help us to understand that providing TPD opportunities to all teachers in the same way will not yield the same outcomes for every teacher. Outcomes of TPD are shaped by the kind of local needs, interests, or conventions that shape teachers' behaviours and responses toward their TPD experiences. The principles also posit that local actors in TPD such as teachers, principals, and administrators have the capacity to behave adaptively and produce the expected outcomes without directions detailing their actions.

The emphasis of TPD in Indonesia is often on careful, top-down organization rather than encouraging local interactions. As mentioned previously, most TPD programs are imposed on teachers by superior authorities who envisage particular changes in the participating teachers. However, most teachers do not achieve or display the envisaged changes because teachers need to adapt what they take from the TPD to what already exists or applies in their schools. For example, delivering an ICT training program to teachers and asking them to integrate ICT into their instruction does not necessarily mean that all teachers will use ICT-based learning activities. Teacher capacity to develop and implement such learning activities may be enabled or hindered by local factors, such as IT resources at the school, teacher values and beliefs about ICT, school culture and the principal. Those involved in delivering such training have little or no control over such local factors.

The principles of emergence and self-organisation suggest that particular outcomes or effects cannot be imposed on teachers by external authorities. TPD providers cannot position themselves as authorities that can direct the courses and hence outcomes of particular TPD activities. Instead, the system in which teachers is a part of, say a school, "decides" what is and is not desirable, acceptable or applicable.

Implications and Conclusion

What specifically, then, are the implications of complexity theory for the practices of TPD? Complexity theory presents a number of challenges to conventional ways of thinking about TPD.

First, people who are involved in TPD need to redefine TPD. It is a common practice that when one thinks of TPD, the focus of attention is on the activity of TPD to the exclusion or little attention of other factors and actors. However, if TPD is regarded as a complex system then the attention needs to be extended from a focus on individual consideration of activity to the TPD as a whole. A complexity perspective enables people to view TPD as a system of relationships and participations (Davis, 2003). Second, whoever has a stake in TPD needs to surrender certainty and predictability. A complexity perspective informs the inevitability of changes in the courses and outcomes of TPD on teachers. Attempts to hold or fix the courses and outcomes of TPD as constant are impossible and indicate a perspective on learning that “assumes learning can be isolated, separated, and controlled from the milieu in which it is embedded” (Clarke & Collins, 2007). From a complexity perspective TPD providers, administrators, and principals cannot determine completely the courses and outcomes of TPD in advance. However, this indeterminacy does not mean that anything goes randomly or that plans, expectations or standards for TPD are abandoned. Rather, it is an acknowledgment that expecting teachers to perform neatly to a predetermined set of outcomes (practices) of TPD and at the same time to allow for “rich” learning for teachers is highly improbable. Last, people who are involved in TPD need to allow for improvisation. Too often teachers are positioned and treated to be passive recipients of knowledge and skills. They cheerfully forgo inquiry and mindlessly submit to what they are being told to do. However, in many literature about TPD this is not the sort of learning that can help teachers improve themselves. Teachers have to be reflective practitioners in their learning (Shulman & Shulman, 2004) and the generative space created by improvisation is essential for the emergence of such properties. Improvisation is “a willingness to hold in abeyance patterned responses and allow for the possibility of something new to emerge” (Clarke & Collins, 2007, p. 170). Clarke and Collins further explicated that improvisation is a not a solitary act but relies on interaction, communication and a willingness to explore from others.

To sum up, if people who are involved in the provision of TPD are to understand the potential of TPD to enhance teachers’ instructional practices, there is a need to transcend the linear, causal, deterministic assumption underlying current TPD practices. Complexity theory helps us to understand and acknowledge the complex interplay of factors that influence teacher learning and change. It also helps us to accept and capitalise on the fact that TPD opportunities may not influence teachers, schools, and ultimately students, in the same ways as expected or predicted. TPD is a complex enterprise of practices, and thus approaches underpinned by a “one size fits all” approach will likely flounder because they fail to take into account the inherently complex nature of TPD.

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***Required Knowledge of Cooperative Education Students:
A Case Study of Modern Management Information Technology Curriculum,
College of Arts, Media and Technology, Chiang Mai University***

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Abstract

Cooperative education (co-op) is an educational method, which combines typical academic study with real working experience. This academic method is propelled by two major associates: those of academic institute and professional company. The co-op operations, especially identification of required knowledge of co-op students, cannot be specified solely by academy or host company. Therefore, this study aimed to explore required knowledge of cooperative education students from both academic and professional perspectives. A research was studied on a specific curriculum, modern management information technology curriculum, College of Arts, Media and Technology, Chiang Mai University, Chiang Mai, Thailand and 14 associative companies in Thailand. All required knowledge sets were tentatively identified in constructed questionnaires by responsible academic institution, and then 42 surveys by working positions were distributed to all participating host organizations. After questionnaires were sent back and completely collected, then frequency analysis was calculated. The outcomes indicated that two proposed types of knowledge including non-sector knowledge and relevant sector knowledge were required. 16 from 17 suggested non-sector knowledge sets conformed to several past studies and were accepted by involved partners whereas 27 from 40 proposed related sector knowledge bundles were agreed by the same focused group. This studied approach can be applied with other related academic programs such as work integrated learning, internship, etc. aiming to improve or develop any curriculum involving with both academic and professional sides.

Keywords: Cooperative Education, Work Integrated Learning, Competency

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Introduction

Nowadays, work integrated learning (WIL) is respected as a highly-successful study model for both students and host enterprises (Dressler and Keeling, 2004; Braunstein and Loken, 2004). Cooperative education (co-op) that is one distinctive type of WIL can also bring several advantages to participating students such as increasing confidence, creating a clear career objective, assisting success of graduation, making early income, etc. (Wilson, 1989). Co-op is mainly driven by association between academic institute and host organization. Generally, characteristics of co-op are (1) a university mostly provides theoretical and academic knowledge, and (2) a host enterprise mainly gives working skills or competencies. Nevertheless, in any case, provided knowledge, skills and competencies from both academic institute and enterprises must relate to philosophy of curriculum. However, curriculum is not able to be successful and widely accepted if it could not respond to requirements of organizations or career market. In other words, contained knowledge in co-op curriculum is needed to be designed for directly serving requirements of enterprises in order to correctly deliver expected students to those organizations. In the past few years, several empirical researches surveyed stakeholders of co-op program and identified required knowledge of co-op students including with leadership, language and communication, information technology, problem solving, etc. (Gault, Redington and Schlager, 2000; Cullen, 2005; Asgarkhani and Wan, 2007). Although there are some common knowledge sets from previous studies that universities can adopt for curriculum development, nevertheless, each academic institute still require to survey and design curriculum matching to specific requirements depending on local curriculum, economic, culture, politics, etc. Therefore, this study aims to survey and identify specific knowledge of co-op curriculum in developing country, Thailand. A case study was applied with modern management information technology (MMIT) curriculum, College of Arts, Media and Technology, Chiang Mai University.

College of Arts, Media and Technology is an academic institute of Chiang Mai University. There are four curricula; those of knowledge management (KM), software engineering (SE), animation (ANI) and modern management and information technology (MMIT). MMIT is a curriculum focusing on two major disciplines including information technology and management. It is also a co-op curriculum designed by focusing on creating knowledge for supporting public and private sectors as well as especially northern industrial estate of Thailand. The curriculum mainly concentrates on co-op program in order to deliver knowledgeable students matching with requirements of industry. Since the MMIT curriculum was created more than five years, therefore, the college was forced to improve the curriculum to conform to a regulation of Thailand qualifications framework. Hence, as mentioned in the beginning, the curriculum cannot be improved by just only internal opinion but also external reflection. Therefore, to provide knowledge and to develop the curriculum directly serving both academic and career dimensions, required knowledge of co-op students should be accepted by those both factions.

This study aims to identify required knowledge of co-op student of MMIT curriculum, College of Arts, Media and Technology, Chiang Mai University, Chiang Mai, Thailand. The remainder of this paper is separated into four sections, including literature reviews, research method, result and discussion and conclusion.

Literature reviews

WIL is an education paradigm that integrates traditional study with work experience. WIL is highly acknowledged that it can create several benefits for educated students and enterprises involving in the program (Dressler and Keeling, 2004; Braunstein and Loken, 2004). WIL includes several process patterns such as internships, co-op, community service, work place learning, experiential learning, etc. However, among those WIL approaches, co-op has been highly identified that it can bring more advantages. Co-op fulfills the gap between theory and practice. The program provides several potential advantages to students, host enterprises and universities. For the students, co-op creates several opportunities such as increasing learning performance, improving self-confidence, gaining money, getting working experience, clarifying career goals, etc. (Dressler and Keeling, 2004; Wilson, 1989; Mariani, 1997). For host companies, co-op gives opportunities for enterprise to improve corporate image, to save labor cost, to select and hire skilled employees and to participate with academic organizations (Braunstein and Loken, 2004; Reeve, 2001). Finally, universities can also obtain several benefits from co-op program such as curriculum and staff development, research and relationship opportunity with industry, reputation and marketing enhancement (Weisz and Chapman, 2004; Calway and Murphy, 1999).

As previously mentioned, co-op program is mainly driven by cooperation between academic institute and host firm. The curriculum cannot be successfully fulfilled if it is designed and created by only academic perspective, since required knowledge of student can be dissimilar between academic institute and host company. Therefore, several researches investigated expected knowledge of co-op students from companies as described in Table 1.

Table 1. Expected knowledge of co-op students

Author	Expected knowledge from associated company
Cullen (2005)	General knowledge, computer, initial knowledge on working field, writing, communication, data collection, data input, technical knowledge, information technology, problem-solving
Asgarkhani and Wan (2007)	Communication, relationship management, teamwork, leadership, positive thinking, self-development, mentor, customer focus, problem-solving, rapid learning, systematic management, innovative idea, ethics, multi-skills working, strategic thinking

From literature reviews, there was a lot of identified knowledge expected and required from host organization. Nevertheless, most of studies specifically focused on general knowledge of co-op students, especially in developed countries such as New Zealand, Australia, etc. Therefore, this study aims to deeply investigate on both general knowledge of co-op students and also specific knowledge of focused curriculum in developing country such as Thailand.

Research methods

A questionnaire was conducted in order to collect all required knowledge of cooperative students from entire host companies associating with MMIT curriculum. The questionnaire was designed by separating into two main parts, including general information and required knowledge of cooperative student. The first part, general information section, aimed to examine initial data of student, mentor and associated host firms. The remainder of questionnaire mainly focused on investigation of required knowledge of co-op student. This part was divided into two parts by different knowledge; those of non-sector knowledge and MMIT-sector knowledge. The non-sector knowledge is general knowledge that does not directly relate to the philosophy of curriculum such as communication, language, calculation, leadership, service-mindedness, etc., whereas the MMIT-sector knowledge is the knowledge specified following philosophy of the curriculum. In the non-sector knowledge section, 17 sets of general knowledge were provided following expected identities of institute and selected knowledge from past studies (Cullen, 2005; Asgarkhani and Wan, 2007; Tanloet and Tuamsuk, 2011; Yildirim, 2007). The proposed general knowledge was classified into 5 parts including primary, personal, collaborative, managerial and teaching knowledge. For MMIT-sector knowledge, 40 knowledge bundles were initially identified in survey document mainly following philosophy of curriculum. Therefore, the questionnaire provided all required non-sector knowledge and MMIT-sector knowledge for academic perspective. Therefore, respondents could select required knowledge from the provided lists, and also identify their expected knowledge for real workplace sector.

The created questionnaires were planned to be transmitted to all 14 participating companies from 42 cooperative students. After the survey forms were completely replied and collected, obtained data were classified, and then analyzed. After all previous processes had been completed, final results were summarized and concluded. Therefore, the process method of this research can be presented as in Figure 1.

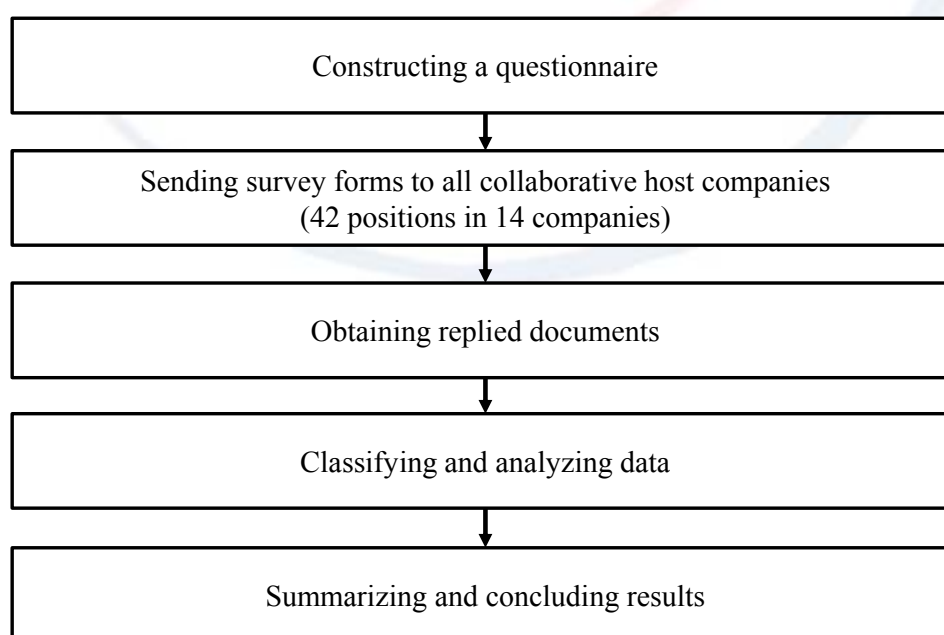


Figure 1: The research processes of this study

Results and discussions

The questionnaires were created following the structured details identified in the previous section and then were spread out to all participating host organizations. Thence, 29 survey forms from 11 companies were sent back to a researcher. A reliability of collected survey was tested by Cronbach's α test. The α coefficient for overall result was 0.9181. This obtained result implied that the survey results was excellently consistent and highly reliable. Various non-sector knowledge and MMIT-sector knowledge were selected and identified by several focused respondents. Therefore, to specify which bundles of knowledge were required, an average score was applied for selecting essential knowledge. Only knowledge identified which had score greater than 2.00 (a three-level Likert-type scale: 3 - essential, 2 - neither essential nor inessential and 1 - inessential) was selected to be required knowledge of co-op students of MMIT curriculum. The expected knowledge can be presented as in Table 2. Moreover, some identified knowledge, especially non-sector knowledge, which conformed to former studies is also presented in Table 2.

Table 2. Identified essential knowledge by associated host companies

Knowledge	Relating study
1. Non-sector knowledge	
1.1 Primary knowledge	
English language	-
Communication and presentation	Cullen, 2005; Asgarkhani and Wan, 2007
Information technology and computer	Cullen, 2005
Calculation	-
Problem solving	Cullen, 2005; Asgarkhani and Wan, 2007; Tanloet and Tuamsuk, 2011
1.2 Personal knowledge	
Positive thinking	Asgarkhani and Wan, 2007
Responsiveness	-
Adaptability	Tanloet and Tuamsuk, 2011
Continuous improvement and self-development	Asgarkhani and Wan, 2007
Leadership	Asgarkhani and Wan, 2007; Tanloet and Tuamsuk, 2011
1.3 Collaborative knowledge	
Teamwork	Asgarkhani and Wan, 2007
Involvement	-
Team communication	-
1.4 Managerial knowledge	
Service-mindedness	Tanloet and Tuamsuk, 2011
Organization responsiveness	-
1.5 Teaching knowledge	
Teaching mentoring and assessment	Asgarkhani and Wan, 2007; Tanloet and Tuamsuk, 2011
2. MMIT-sector knowledge	
2.1 Information technology and information system knowledge	
Computer programming literacy	-
Computer programming design and analysis	-
Web programming	-
Software development	-
Computing systems	-
Operating systems	-
Computer networks	-
Information system literacy	-

Knowledge	Relating study
Database management	-
Information technology system development	-
Multimedia programming	-
Security of network and database	-
2.2 Technology tools	
Office systems (e.g. MS Office)	-
Web development software	-
Digital camera	-
Photo editor software	-
File sharing (e.g. dropbox)	-
Video conference	-
Social network (e.g. facebook)	-
Online encyclopedia (e.g. wikipedia)	-
2.3 Industrial and business management	
Enterprise resource planning (ERP)	-
Knowledge management	-
Quality assurance	-
Introduction to industrial management	-
Strategic management	-
Key performance indicator (KPI)	-
Customer relationship management (CRM)	-

From questionnaire analysis, 16 general knowledge sets were selected from all 17 provided competencies and 10 essential groups of knowledge related to other past studies. For MMIT-sector knowledge, 27 specific knowledge bundles directly relating to the philosophy of curriculum were identified as essential knowledge from 40 proposed knowledge packages.

According to outcomes, both non-sector and MMIT-sector knowledge were essential for real-working organizations. Although some knowledge sets specified by academic institute were probably unnecessary to real-working sectors, but most of them were still essential. Moreover, general knowledge that was rarely provided and taught in courses and classrooms was still identified as required knowledge conforming to several previous studies (Cullen, 2005; Asgarkhani and Wan, 2007; Tanloet and Tuamsuk, 2011). Nevertheless, some of non-sector knowledge sets were not similar to the past studies because this researched case was specifically studied in developing country, Thailand, and general knowledge such as English language is highly essential and required. Therefore, in future, the institute should consider these empirical results and apply them along with its academic perspective to improve the curriculum in order to reduce unnecessary courses and resources and deliver exact co-op program to effectively serve host organizations.

Conclusions

Nowadays, co-op is widely accepted as one of successful educational forms. This study approach delivers not only academic knowledge but also working experience to attended students at the same time. Therefore, co-op can provide several advantages which cannot be found in a typical education such as giving career opportunity and creating income between studying. Nevertheless, the co-op strengths could not occur without well-organized association between two major stakeholders; those of academic institute and host company. Therefore, a quality co-op curriculum should be designed, developed and operated from both collaborative partners. Nevertheless,

generally co-op curriculum is initiated mainly from academic perspective, and it probably could not properly respond to working situation. In order to inclusively provide required knowledge of co-op students, the curriculum should be designed to serve requirements of both academic and professional perspectives. Therefore, this study aimed to survey required knowledge of co-op student with a real case study of MMIT curriculum, College of Arts, Media and Technology, Chiang Mai University. The required knowledge was surveyed and identified from both academic institute and professional perspective. The outcomes show that required knowledge of co-op program contained both non-sector knowledge and sector knowledge. Some general competencies were common knowledge such as calculation, communication, information technology, etc. relating to other past studies. Therefore, it confirmed that general knowledge was crucial and still required by host organizations. For sector knowledge, curriculum could deliver all required working knowledge, and moreover some academic courses were over supplied from professional perspective. In conclusion, this study aimed to improve the co-op program by finding required knowledge from all cooperative partners. This approach could properly deliver expected knowledge of students exactly serving curriculum philosophy and professional expectation. Moreover, the results of this study also identified non-sector knowledge that can be applied to other general co-op programs, whereas sector knowledge that could not generally be adopted to other curriculums, but it is still able to be applied to improve the focused curriculum in the future.

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A Study of Compatibility of Picture Storybooks Prepared for Children 3-8 Years Range in Early Childhood Period with the Indicators and Concepts Identified for Language and Cognitive Development in Ministry of Education 2013 Early Childhood Education Program

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Abstract

This research is conducted for the examination of the compliance of picture story books prepared for early childhood education period children and language-cognitive development area outcomes, indicator and concepts in MOE 2013 Early Childhood Education Program. It is thought that examination and analyzes of picture story books in terms of concepts; language-cognitive development area acquisitions and indicators will help how the educators follow a path and add the picture story books into their education programs. For the research, picture storybooks were chosen from the libraries and publishing houses, located in Ankara, made the first edition in the years of 2012-2013 and designed for 0-8 age group children. In total 96 picture storybooks were chosen by random sampling. As a data collection tool, "Acquisitions, Indicators and Description Table" and "Concepts of the Month Education Plan Availability Charts" has been used that were located in MOE 2013 Early Childhood Education Program. Every picture storybooks was examined by the researchers one by one and analyzed with SPSS 19.0 Package-Program and Microsoft Excel Working Sheet. In the research, percentage and frequency analyze were done. Scoring reliability of researchers was calculated 0,88. Research results show that 51.5% of 101 picture storybooks contain concepts. When the cognitive area acquisitions and indicators are examined, there are 22 acquisitions related to this area and 31.5% of the books include these acquisitions. Also, when the language area acquisitions and indicators are examined, there are 12 acquisitions related to this area and 50.7% of books include these acquisitions.

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Introduction

Preschool period between 0-6 years is known as critical period for all development zones of children. The most important reason of this is that personality development and formation, acquiring basic knowledge and skills and language acquisition occur in this period. One of the main purposes of preschool education is to ensure that the children in preschool period use language accurately and appropriately (Haktanır, 2012).

Language is an important tool for learning. Language development of children has a significant influence on reading skills and school success in following years. For this reason, starting from preschool time it is necessary to establish feasible educational environment in order to support language development of children. According to studies, having optimal level of basic language skills enables children to be inclined to progress and grow up comparing to their peers academically (Dice & Schwanenflugel, 2012).

In this day and age of rapid technological progress it is a common knowledge that reading-habit decreases due to abundance of stimulants. Especially gaining the habit of reading from an early age is crucial for continuance of reading-habit in the upcoming ages. Therefore, these habits need to be gained properly so as to pass from childhood to adulthood healthfully (Demircan, 2006). Books and reading-habit, which have so much influence on the lives of children must be implemented to the social lives of children starting from postpartum period (Gönen, 2013).

Language and reading-writing skills starting in early ages are under the influence of more than one development zone (Lennox, 2013). All of the changes in skills of perception, thinking, recollection, reasoning, decision making, problem solving are called cognitive enhancement (Ramazan & Demir, 2011). In the first years of life children improve their mental abilities by means of sensory perception and physical activities (Gönen, 2013). There is a meaningful relationship between developmental phase of children and reading habits. Reading habits of children not only improve verbal skills but also help children acquire high level mental abilities (Higham, Tönsing & Alant, 2010). Children structure their life through their interests, curiosity, needs, abilities and competences. Happening of this process is conditioned by culture, biological factors, and experience far more than direct guidance. In other words, personal experience and knowledge affecting the sole of life play a crucial role on shaping of a life (Gönen, 2013).

The most important source for children to improve their ideation and having a solid understanding is reading books. Illustrated children's books with which children encounter first have an important effect on child development (Veziroğlu & Gönen, 2012). Sipe (2001) has described illustrated children's books as "a common work of script, picture, cover, last page and details to provide children with aesthetically satisfying experience". Through the medium of the illustrated children's books, children enrich accumulation of knowledge about themselves, their environment and the world they live in.

Picture books have an influence on creativity of preschoolers. Picture books are both sensory tools stimulating with language and pictures, and also help children socialize (Gönen, 2013). That children are well in with illustrated children's books in childhood ensures children become individuals who enjoy reading and use the time efficiently to read rather than just someone who articulates letters and words correctly (Philips & Sturm, 2013). Illustrated children's books are one of the best tools for children to learn how to write. The children who have not interacted with books intentionally or unintentionally are prone to be unenthusiastic while learning how to read and write (Philips & Sturm, 2013).

This research has been done on the purpose of investigating illustrated children's books for preschoolers with regards to 3-6 age-group acquisitions and indicators under new Early Childhood Education Program (2013) which got off the ground at preschool education institutions in 2012. The main purpose of this study is to provide teachers guide information about what activities may assist illustrated children's books and how illustrated children's books can be incorporated into the preschool education program.

Research Question:

Are the picture storybooks used in early childhood qualified with designated indicators and concepts for language and cognitive enhancement in Ministry of Education Preschool Education Program (2013)?

Sub-questions in the Research:

* Do the picture storybooks used in early childhood cover the designated indicators for language development in Ministry of Education Preschool Education Program (2013)?

* Do the picture storybooks used in early childhood cover the designated indicators for cognitive enhancement in Ministry of Education Preschool Education Program (2013)?

* Do the picture storybooks used in early childhood cover the concepts in Ministry of Education Preschool Education Program (2013)?

Purpose of Research:

This research has been done on the purpose of investigating illustrated children's books in terms of acquisitions and indicators designated for language and cognitive development of 36-72 months-old children in 2013 Ministry of Education Preschool Education Program used in preschools and in terms of the concepts in program book. The analysis of picture storybooks in terms of the acquisitions and indicators of language and cognitive enhancement and the concepts in the program is considered to be helpful for teachers on ordering the books in the program while planning the activities in respect to this. It also provides educators with variation in use of books while teaching the concepts, acquisitions and indicators designated for language and cognitive development. It is aimed to find out to what extent the concepts, acquisitions and indicators issued in this research are supported in picture storybooks published recently and also to lead to increase the number of qualified editions.

Research Method

Target population of the Study

Target population of the study has been composed of 101 picture storybooks chosen using random sampling method among the picture storybooks which has been published between 2012-2013 for the first time for 0-8 age group, which are present in the libraries in Ankara and are sold in publishers. The findings of the study can be generalized to the books in the target population.

Data Collection Tool

As a data collection tool of the research, "Tables of Acquisitions, Indicators and Comments" and "Status List of Adding Concepts to the Monthly Training Scheme" in 2013 Ministry of Education Preschool Education Program have been used in the cause of covering the acquisitions and indicators of language and cognitive enhancement and the concepts in 2013 Ministry of Education Preschool Education Program, therefore enabling readers to check on what indicators and concepts are supported in what books.

i) Tables of Acquisitions, Indicators and Comments

This table which educators use to determine on the attachments and indicators they are going to add monthly training scheme in accordance with personal needs of children is presented with supplementary statements-12 at the end of the book of 2013 Ministry of Education Preschool Education Program. In the table there are 34 acquisitions and 180 indicators in total of which 73 indicators are for 12 acquisitions in language development and 117 indicators are for 22 acquisitions in cognitive development.

ii) Status List of Adding Concepts to the Monthly Training Scheme

This chart which educators use to determine on the concept they are going to add monthly training scheme is presented supplementary statements-5 at the end of the book of 2013 Ministry of Education Preschool Education Program. Using this chart, every month educators determine on the concepts to add training scheme in accordance with acquisitions and indicators. In the chart the concepts are scrutinized in the categories of color, figure, size, quantity, position/location, count/counting, sense, sensation, opposite and duration. In 11 categories of the chart there are 96 concepts including the colors determined by the researchers.

Implementation Process of the Research

The researchers have analyzed the books in the target population between November 2013 and December 2013. For each book some information like copyright page, subject matter and physical properties have been recorded. After having been read for once, each book has been marked for the concepts in Status List of Adding Concepts to the Monthly Training Scheme, and then indicators of cognitive and language enhancement has been analyzed according to Tables of Acquisitions, Indicators and Comments. Finally, every book has been read once again to review in case some indicators have been missed out or misevaluated.

iii) Scoring of Tables of Acquisitions, Indicators and Comments

In this table every indicator has been considered as an entry in 180 indicators differentiated according to development zones. The books have been examined

separately in terms of each entry and each entry present in the book has been given 1 point and each nonexisting entry has been given 0 point. The sum of all entries help to calculate the score of acquisitions and the sum of the acquisitions points refer to the scores of language and cognitive enhancement.

iv) Scoring of Status List of Adding Concepts to the Monthly Training Scheme

In this table every concept has been considered as an entry in categorized 96 concepts. The books have been examined separately with regards to each entry. Each entry present in the book has been given 1 point and each nonexisting entry has been given 0 point. The sum of all entries help to calculate the score of the category of concepts and the sum of the points of all categories refer to the total scores of the concepts.

Data Analysis

Picture storybooks prepared for the children aged 0-8 in the target population of the study have been analyzed using "Tables of Acquisitions, Indicators and Comments" and "Status List of Adding Concepts to the Monthly Training Scheme" in 2013 Ministry of Education Preschool Education Program. As for the analysis of the data collected SPSS 19.0 statistical package for social sciences and Microsoft excel worksheet have been used. Having been chosen via random sampling method, each book has been analyzed and percentage distributions have been evaluated by the help of SPSS 19.0 statistical package for social sciences and Microsoft excel worksheet. As a result of the analysis, it has been assessed how many indicators of language and cognitive enhancement are addressed to the concepts of each book, and to what extent 101 picture storybooks in the target population confirm concepts and indicators of language and cognitive enhancement.

Validity and reliability of "Tables of Acquisitions, Indicators and Comments" and "Status List of Adding Concepts to the Monthly Training Scheme" have been regarded as high since they are in 2013 Ministry of Education Preschool Education Program and used in all preschools connected with Ministry of Education. On the purpose of gaining credibility of scoring, among 5 different evaluation of 2 domain experts for 5 different books Pearson Correlation Analysis has been done, and there is a fairly high correlations of 0,88 between these ratings. When this rate is higher than 0,80, it is known that correlations between expert opinions is enough (Davis, 1992; As cited in Yurdugül, 2005).

Findings

Table 1: General information about books examined:

		f	Total f	%	Total %
Publishing year	2012	76	101	75,2	100
	2013	25		24,8	
Size	Small	20	101	19,8	100
	Medium	77		76,2	
	Large	4		4,0	
Aim of the book	Enjoying	11	101	10,9	100

	Teaching	71		70,3	
	Sensitive	14		13,9	
	Adventure	5		5,0	
Style	Simple	87	101	86,1	100
	Complex	14		13,9	
Grammar structure	Grammatical	97	101	96,0	100
	direct sentence				
	Inverted sentence	4		4,0	
Description of the characters	Done	73	101	72,3	100
	Not done	28		27,7	
Understandability of the illustrations	Understandable	99	101	98,0	100
	Not understandable	2		2,0	
Accordance of illustration-text	Compatible	100	101	99,0	100
	Incompatible	1		1,0	
Type of cover	Thick cartoon	57	101	56,4	100
	Cardboard	13		12,9	
	Thin cartoon	31		30,7	
Quality of paper	Glossy coated paper	44	101	43,6	100
	Matte coated paper	50		49,5	
	Matte paper	7		6,9	

For this research, sample group consists of 101 picture story books published for 36-72 month-old-children in 2012 and 2013. In the demographic features of examined 101 books, first of all 76 of them are published in 2012 and 25 are published in 2013. When the size of books are examined; 19,8% of them are small (12x16 cm), 76,2% are medium (16x20 cm) and 4% are large (20x28 cm). Aim of the books is categorized as enjoying, teaching, sensitive and adventure. 10,9% of books are enjoying, 70,3% are teaching, 13,9 are sensitive and only 5% of them are adventure. Style of the books is categorized as simple and complex. 86,1% of all the books are simple and 13,9% of them are complex. When the style becomes simple, it is easy children to understand it and this is a good specialty for picture child books. When the grammar structure of the books is examined; 96% of them have grammatical direct sentences. 72,3% of all the books have description of the characters and 27,7 of them do not have the character description. Most of the books have understandable illustrations and only 2% of all books' illustrations are not understandable. Compatible between illustration and text is examined, 99% of all books have compatible between illustration and text. When the type of cover are examined, 56,4% of all books have thick cartoon cover and 30,7% have thin cartoon cover. When the quality of papers of books are examined only 49,5% of them have matte coated paper and 6,9% have mat paper. While reading with children, it is important the papers of book do not reflect the light and do not cause the problems children to see the illustrations and writings.

Table 2: Concepts placed in examined picture story books:

Concepts	Include f	Not Include f	Total f	Include %	Not Include %	Total %
Color	42	59	101	41,6	58,4	100
Geometric Shapes	11	90	101	10,9	89,1	100
Size	65	36	101	64,4	35,6	100
Quantity	53	47	101	53,5	46,5	100
Direction/Position in Space	73	28	101	72,3	27,7	100
Number/Counting	63	38	101	62,4	37,6	100
Sense	59	42	101	58,4	41,6	100
Emotion	63	38	101	62,4	37,6	100
Contrast	79	22	101	78,2	21,8	100
Time	63	38	101	62,4	37,6	100

When the 101 picture story books are examined, there are ten types of concepts chosen that place in MoNE 2013 Early Childhood Education Program Book. These concepts are Color, Geometric Shapes, Size, Quantity, Direction/Position in Space, Number/Counting, Sense, Emotion, Contrary and Time. When these 101 books are examined; it is found that 41,6% of the books include 'color' concept and these colors are mostly red, green, white and black. Also, it is found that 10,9% of the books include 'geometric shapes' concept and 89,1% of them do not include. Geometric shapes have the less percentage in the picture story books. When these 101 books are examined; it is found that 64,4% of the books include 'size' concept and these sizes are mostly large-medium-small and tall-short. When these 101 books are examined; it is found that 53,5% of the books include 'quantity' concept and these are mostly less-more, empty-full and part-all; rarely ağır-hafif, single-double and equal. When these 101 books are examined; it is found that 72,3% of the books include 'direction-posititon' concept and these are mostly up-down and inside-outside and rarely right-left, in-out and on the right-on the left. When these 101 books are examined; it is found that 62,4% of the books include 'number/counting' concept. When these 101 books are examined; it is found that 58,4% of the books include 'sense' concept and these senses are mostly hot-cold, wet-dry and loud-quiet; rarely salty, bitter, sour and slippery-grainny. When these 101 books are examined; it is found that 62,4% of the books include 'emotion' concept and these emotions are happy and sad; the lest embrassed.

When these 101 books are examined; it is found that 78,2% of the books include 'contrast' concept and these are mostly beautiful-ugly, old-new and quick-slow; rarely straight-crooked, deep-shallow and light-dark. Also, when the 'time' concept is examined, 62,4% of the include mostly before-now-after and rarely day-night. As a result of examination it has been found out that in 101 picture storybooks 96 concepts have been issued at 51.5% rate. This rate in the picture storybooks which have an important place in concept acquisition of children is not enough.

Table 3: Cognitive development acquisition and indicators placed in examined picture story books:

Acquisitions	Number of Indicators	Include f	Not Include f	Include %	Not Include %	Total %
A1: Concentrates on object/situation/happening	3	97	4	96	4,0	100
A2: Makes a prediction about object/situation/happening	4	81	20	80,2	19,8	100
A3: Remembers percives	3	48	53	47,5	52,5	100
A4: Counts objects	6	35	66	34,7	65,3	100
A5: Observes objects or creatures	12	73	28	72,3	27,7	100
A6: Matches objects or creatures according to specialities	14	35	66	34,7	65,3	100
A7: Groups object or creatures according to specialties	11	27	74	26,7	73,3	100
A8: Compares object or creatures according to specialties	11	32	69	31,7	68,3	100
A9: Sorts the objects according to specialties	5	6	95	5,9	94,1	100
A10: Apples the directions related to the position in the space	4	51	50	50,5	49,5	100
A11: Measures the objects	5	9	92	8,9	91,1	100
A12: Knows geometric shapes	3	4	97	4,0	96,0	100
A13: Knows the symbols used in daily life	2	5	96	5,0	95,0	100
A14: Creates patterns with objects	5	1	100	1,0	99,0	100
A15: Understands the part-all relationship	4	5	96	5,0	95,0	100
A16: Makes simple addition and subtraction using objects	2	1	100	1,0	99,0	100
A17: Understands the reason-conclusion relationship	4	54	47	53,5	46,5	100
A18: Examines concepts related to time	3	44	57	43,6	56,4	100
A19: Produces solutions to problem situations	7	81	20	80,2	19,8	100
A20: Prepares the object graphic	4	8	93	7,9	92,1	100
A21: Knows Atatürk	2	0	101	0	100	100
A22: Examines importance of Atatürk for	3	4	97	4,0	96,0	100

Turkish society

2013 MoNE Early Childhood Education Program has 22 cognitive development acquisition and 117 indicators related to cognitive development acquisitions. ‘Acquisition 6: Matches objects or creatures according to specialties’ has 14 indicators and it is acquisition containing most indicators. ‘Acquisition 5: Observes objects or creatures’ has 12 indicators; ‘Acquisition 7: Groups object or creatures according to specialties’ and ‘Acquisition 8: Compares object or creatures according to specialties’ have 11 indicators and they have also more indicators at all. ‘Acquisition 13: Knows the symbols used in daily life’ and ‘Acquisition 21: Knows Atatürk’ have the minimum number of indicators in total.

When the published in 2012 and 2013 totally 101 child picture books were examined in terms of containing indicators that place in MoNE 2013 Early Childhood Education Program Book, ‘A1: Concentrates on object/situation/happening’ is placed in 101 child picture books 96%. ‘A2: Makes a prediction about object/situation/happening’ and ‘A19: Produces solutions to problem situations’ are involved in 101 books 80.2%. ‘A3: Remembers perceives’ is placed in 101 child picture books 47.5%. ‘A4: Counts objects’ is placed 34.7%. ‘A5: Observes objects or creatures’ is placed 72.3%. ‘A6: Matches objects or creatures according to specialties’ is placed 34.7%. ‘A7: Groups object or creatures according to specialties’ is placed 26.7%. ‘A8: Compares object or creatures according to specialties’ is placed 31.7%. ‘A9: Sorts the objects according to specialties’ is placed 5.9%. ‘A10: Applies the directions related to the position in the space’ is placed 50.5%. ‘A11: Measures the objects’ is placed 8.9%. ‘A12: Knows geometric shapes’ and ‘A22: Examines the importance of Atatürk for Turkish society’ are placed 4%. ‘A13: Knows the symbols used in daily life’ and ‘A15: Understands the part-all relationship’ are placed 5%. ‘A14: Creates patterns with objects’ and ‘A16: Makes simple addition and subtraction using objects’ are placed 1%. ‘A17: Understands the reason-conclusion relationship’ is placed %53.5. ‘A18: Examines concepts related to time’ is placed 43.6%. ‘A20: Prepares the object graphic’ is placed 7.9%. ‘A21: Knows Atatürk’ is not placed in 101 child picture books.

Table 4: Language development acquisition and indicators placed in examined picture story books:

Acquisitions		Number of Indicators	Include f	Not Include f	Include %	Not Include %	Total %
A1:	Distinguishes sounds	5	47	54	46,5	53,5	100
A2:	Uses his/her voice properly	4	4	97	4,0	96,0	100
A3:	Establishes sentences according to syntax rules	5	96	5	94,5	5,5	100
A4:	Uses grammatical structures when speaking	10	90	11	89,1	10,9	100
A5:	Uses language for communication	11	91	10	90,1	9,9	100
A6:	Develops	6	50	51	49,5	50,5	100

vocabulary repertory							
A7: Understands the meanings of listened/watched	3	68	33	67,3	32,7	100	
A8: Expresses what is listened/watched in various ways	8	60	41	59,4	40,6	100	
A9: Shows phonological awareness	6	20	81	19,8	80,2	100	
A10: Reads visual materials	5	62	39	61,4	38,6	100	
A11: Shows reading awareness	4	11	90	10,9	89,1	100	
A12: Shows writing awareness	6	17	84	16,8	83,2	100	

2013 MoNE Early Childhood Education Program has 12 language development acquisition and 73 indicators related to language development acquisitions. 'Acquisition 5: Uses language for communication' has 11 indicators and it is acquisition containing most indicators. 'Acquisition 4: Uses grammatical structures when speaking' has 10 indicators; 'Acquisition 8: Expresses what is listened/watched in various ways' has 8 indicators and they have also more indicators at all. 'Acquisition 7: Understands the meanings of listened/watched' has 3 indicators; 'Acquisition 2: Uses his/her voice properly' and 'Acquisition 11: Shows reading awareness' have 4 indicators and these acquisitions have the minimum number of indicators in total.

When the published in 2012 and 2013 totally 101 child picture books were examined in terms of containing indicators that place in MoNE 2013 Early Childhood Education Program Book, 'A1: Distinguishes sounds' is placed in 101 child picture books 46.5%. 'A2: Uses his/her voice properly' is involved in 101 books 4%. 'A3: Establishes sentences according to syntax rules' is placed in 101 child picture books 94.5%. 'A4: Uses grammatical structures when speaking' is placed 89.1%. 'A5: Uses language for communication' is placed 90.1%. 'A6: Develops vocabulary repertory' is placed 49.5%. 'A7: Understands the meanings of listened/watched' is placed 67.3%. 'A8: Expresses what is listened/watched in various ways' is placed 59.4%. 'A9: Shows phonological awareness' is placed 19.8%. 'A10: Reads visual materials' is placed 61.4%. 'A11: Shows reading awareness' is placed 10.9%. 'A12: Shows writing awareness' is placed 16.8% in total.

Conclusion and Discussion

In the study frequency of use of cognitive development, language development and concepts existing in 2013 Ministry of Education Preschool Education Program in picture storybooks first published in 2012-2013 has been examined. As a result of examination it has been found out that in 101 picture storybooks 96 concepts have been issued at 51.5% rate. This rate in the picture storybooks, which have an important place in concept acquisition of children is not enough.

When it comes to the frequency of use of acquisition and indicators of cognitive development existing in 2013 Ministry of Education Preschool Education Program in

picture storybooks first published in 2012-2013, this domain having 22 acquisitions and 117 indicators has been issued at 31.5% rate. In the study of Veziroğlu and Gönen (2012), 250 children's books have been examined in terms of the target acquisitions in 2006 Preschool Education Program it has been observed that target acquisitions of cognitive development have been issued at 19.5% rate in the books.

As for the frequency of use of acquisitions and indicators of language acquisition existing in 2013 Ministry of Education Preschool Education Program in picture storybooks first published in 2012-2013, it has been found out that in this domain which has 12 acquisitions and 73 indicators has been issued at 50.7% rate. In the study of Veziroğlu and Gönen (2012), 250 children's books have been examined in terms of the target acquisitions in 2006 Preschool Education Program it has been observed that target acquisitions of language development have been issued at 26% rate in the books.

Among the picture storybooks first published in 2012-2013, a book themed Atatürk has not been found. Besides, some of the acquisitions, indicators and concepts have never been traced. Concepts of circle, rectangle, ellipsis and zero belonging to the domain of cognitive development have not been found in the following acquisitions and indicators: ninth acquisition and fourth indicator; ninth acquisition and fifth indicator; fourteenth acquisition and first, second, third and fourth indicators; fifteenth acquisition and second indicator; sixteenth acquisition and second indicator; first and second indicators belonging to twenty-first acquisition; first, second and third indicators belonging to twenty-second acquisition. Similarly, second acquisition-fourth indicator and twelfth acquisition-sixth indicator belonging to the domain of language development have not been found.

At the end of the study it has been emphasized that new books which are Atatürk-themed and many more books for concepts should be published. It has also been observed that present books are translation books. From this viewpoint, native writers could be supported. Considering book covers, it has been seen that there are very few cardboard covers. With regard to stability, publishing cardboard covered books could be suggested.

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***Satisfied and Happy: Establishing Link between
Job Satisfaction and Subjective Well- Being among Filipino Teachers***

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Abstract

Job satisfaction refers to people's reactions and feelings towards aspects of their jobs. On the other hand, subjective well-being refers to people's evaluations of their lives which include cognitive judgments, such as life satisfaction; and affective evaluations like moods and emotions. The present study describes the relationship between job satisfaction and subjective well-being specifically among Filipino basic education teachers. Two hundred fifty-one Filipino basic education teachers who came from 52 government schools from the provinces of Pampanga and Tarlac in the Philippines whose years of service ranged from one to 36 were asked to respond to the Generic Job Satisfaction Scale and the Satisfaction with Life Scale. The study employed a descriptive-correlational design. After collecting the questionnaires from the participants and analyzing the data using SPSS 15.0 software, it was noted that the participants had high job satisfaction and high subjective well-being. Also, it was revealed that job satisfaction was significantly related to subjective well-being ($r=.43$, $p<.01$). The researcher looked into the possible implications of these findings to the population at hand.

Keywords: Filipino teachers; positive psychology; job satisfaction; subjective well-being

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Introduction

Most people spend a quarter of their lives working (Blanchflower & Oswald, 1999) that is why an interesting topic for those who work for organizations and who study them is job satisfaction (Spector, 1997). Positive and negative aspects of a job influence satisfaction (Romle & Shamsudin, 2006) because job satisfaction is a variable that is attitudinal in nature (Spector, 1997). When people are satisfied with their jobs, they will more likely be creative, flexible, innovative, and loyal (Wicker, 2011).

Job satisfaction can be best understood either by focusing on employees or organizations. The humanitarian perspective believes that people deserve to be treated with respect and with fairness. On the other hand, the utilitarian perspective believes that job satisfaction can result to employee behaviors that can eventually affect the functioning of an organization therefore job satisfaction can be considered a reflection of organizational functioning (Spector, 1997).

With specific reference to employees, job satisfaction is an indicator of emotional well-being or psychological health (Spector, 1997). It gives an emotional state that provides pleasure and can lead to positive work attitude and better performance (Wicker, 2011). The understanding of people's well-being in the workplace is important (Blanchflower & Oswald, 1999). Employees with high level of satisfaction show positive attitude and those who are dissatisfied show the opposite (Romle & Shamsudin, 2006).

Since job satisfaction is the way people feel about their jobs (Spector, 1997), people's mindset and attitudes do have an effect in their actions and performances, and in turn can affect the way they handle projects and responses to certain situations (Wicker, 2011). Job satisfaction reflects how happy one is with his/her job and can be improved by changing one's attitude or environment (MacDonald & MacIntyre, 1997). Analyzing job satisfaction is important because it is a measure of individual well-being (Clark, 1996).

In contrast, subjective well-being refers to how people evaluate their lives which may include cognitive judgments and affective evaluations as assumed by Eddington and Shuman (2008). Cognitive judgment may include life satisfaction while affective evaluations include moods and emotions like that of positive and negative emotional feelings. People with high subjective well-being are said to be satisfied with their lives and do experience frequent positive emotions and infrequent negative emotions. Subjective well-being is the psychological term for happiness. Life satisfaction in general is believed to be a conscious cognitive judgment of one's life and criteria for judgment are always relative to the individual (Pavot & Diener, 1993).

Specifically, Diener, Suh, Lucas and Smith concluded in 1999 that a happy person possesses the following traits: blessed with a positive temperament, tends to look on the bright side of things and does not ruminate excessively about bad events, and is living in an economically developed society, has confidants, and possesses adequate resources for making progress toward valued goals. Although said researchers noted that the description of the happy person may change since research in the area of subjective well-being is progressing in a rapid manner.

In the end, conducting a study on teachers' job satisfaction and its possible link to their subjective well-being is a worthy undertaking. It must be recognized that education will never be completed without teachers for the obvious reason that teachers occupy the most important part of the educational process (Rao & Kumar, 2004). Several studies have reported that, in any given year, 30 percent of the variation in students' test scores could be attributed to teachers while literature with consistency finds that students' learning is influenced by teachers (Hunt 2009).

Methodology

Research design

The study utilized a descriptive-correlational research design. A descriptive-correlational design is used when one is interested in describing relationships among variables without seeking to establish causal connections. Variables correlated in this study were job satisfaction and subjective well-being.

Participants

Two hundred fifty-one Filipino basic education teachers who completely responded to the given questionnaires were considered participants of this study. These basic education teachers came from 52 government schools from the provinces of Pampanga and Tarlac in the Philippines. There were 142 females and 109 males. One hundred eighty-seven were married and 64 were single. Their years of service as teachers ranged from one to 36 ($M=10.43$, $SD=7.61$). All of them have permanent tenures.

Research instrument

The researcher utilized the Generic Job Satisfaction Scale (GJSS) and the Satisfaction with Life Scale (SWLS). The GJSS was developed by MacDonald and MacIntyre (1997). The items in the scale focused on employees' feelings or reactions towards aspects of their jobs. Structural characteristics of the job (i.e. actual value of wages, status, autonomy, etc.) were not considered to be as important in determining employee job satisfaction as the reactions of employees to those characteristics. The scale is relevant to practically any occupation. Model of job satisfaction presented focuses on the reaction to events rather than the events themselves. It has 10 items which are responded through a Likert scale of 1 to 5 (Strongly Disagree to Strongly Agree). Current reliability of the scale using the responses of the participants of this study is .84.

On the other hand, the SWLS was developed by Diener, Emmons, Larsen, and Griffin (1985). The scale assesses life satisfaction as a whole and does not assess health and finances but allows subjects, in whatever way they choose, to weigh these domains. Additionally, the scale assesses the positive side of an individual's experience (Pavot & Diener, 1993). The scale has five items that can be responded through a Likert scale of 1 to 7 (Strongly Disagree to Strongly Agree). Items are global rather than specific in nature (Pavot & Diener, 1993). Current reliability of the scale using the responses of the participants in this study is .81.

Results and Discussion

It is generally assumed that people who are satisfied with their jobs tend to be satisfied with their lives and vice versa and the conduct of a research specifically among teachers with emphasis on job satisfaction and subjective well-being is a worthy undertaking.

Nurturing and at the same time developing students has been the primary role of teachers. However, in the current times, this has changed. A typical teacher's work, nowadays, include not only teaching, but also the learning of new skills, keeping abreast with new technology, and dealing with parents and the community (Pillay, Goddard & Wilss, 2005). And since the teaching profession is regarded as a calling, it also requires the moral inseparability of work and one's life (Ahammed, 2011).

To be able to achieve the purpose of this study, two instruments were responded to by the 251 participants. These were the GJSS and the SWLS. Using SPSS 15.0 to analyze the responses of the participants, the results are presented in two tables. Table 1 presents the descriptive statistics for the GJSS while Table 2 presents the descriptive statistics for SWLS. The correlational coefficient between job satisfaction and subjective well-being is also discussed.

Table 1

Descriptive statistics for the Generic Job Satisfaction Scale

Items	Min.	Max.	M	SD
1. I receive recognition for a job well done.	1.00	5.00	4.10	.70
2. I feel close to the people at work.	1.00	5.00	4.21	.56
3. I feel good about working for this company (school).	1.00	5.00	4.29	.55
4. I feel secure about my job.	1.00	5.00	4.35	.62
5. I believe management (administration) is concerned about me.	1.00	5.00	4.04	.61
6. On the whole, I believe work is good for my physical health.	1.00	5.00	4.11	.67
7. My wage (salary) is good.	1.00	5.00	3.61	.91
8. All my talents and skills are used at work.	1.00	5.00	4.18	.66
9. I get along with my supervisors (immediate heads).	1.00	5.00	4.04	.64
10. I feel good about my job.	1.00	5.00	4.18	.58
Whole Instrument: M=4.11 SD=.65 Interpretation=High Satisfaction				

Table 1 specifically summarizes the information relevant to the profile of the first instrument that was administered to the participants. It reports the means and standard deviations for all the responses of the two hundred fifty-one participants on the GJSS. As can be seen in the Table, all of the means of the items in the instrument were higher than three which was supposedly the mean with one as minimum and five as maximum. Items with the highest means pertain to job security (M=4.35, SD=.62), the good feeling of working for the school (M=4.29, SD=.55), and the feeling of being close to people at work (M=4.21, SD=.56). On the other hand, items with

lowest means pertain to salary ($M=3.61$, $SD=.91$), concern of the management towards the teacher ($M=4.04$, $SD=.61$), and getting along with supervisors ($M=4.04$, $SD=.64$).

The main ideas imbedded in the three items with highest means are worth discussing in detail. As to job security, it must be noted that all of the participants of this study had permanent tenures and were all working for government schools. This fact could explain why the item that pertained to job security was highly-rated. As early as 1975, significant, positive and linear relationship had already been established between overall-job satisfaction and company tenure in the study conducted by Hunt and Saul. The importance of job security was acknowledged by Senol (2011) who believed that it is impossible for an employee to be motivated if he/she constantly worries about the future of his/her employment. Additionally, according to the Society for Human Resource Management (2012), with reference to the surveys they conducted, only two aspects of job satisfaction remained to be in the top five aspects of job satisfaction since 2002 and job security was one of them while Sousa-Poza and Sousa-Poza (2000) found job security to be one of the determinants of job satisfaction.

The good feeling one has working for a school was parallel with the findings of Net Impact (2012), where having a work that has social impact on the world is considered to be an important life goal. In relation, employees who find their work fulfilling and satisfying are more likely to be satisfied (SHRM, 2012). The good feeling the participants have in this study about their jobs is further reflected in their years of service where the mean was 10.43 years. It could be assumed that the participants would not stay long in their profession if they didn't have a good feeling about it. Similarly, in the study conducted by Malik (2011), the work itself was found to be the most motivating aspect of the job although said study was conducted among tertiary level faculty members.

The feeling of being close to people being the third item with the highest mean was a reflection of the importance of relationships in the work setting. Relationships of employees with co-workers are important to success at work. Building of alliances across organizations is helpful for employees to accomplish their work and organizational goals. The forming of positive relationships makes the workplace and work itself more enjoyable, thus, in turn increase job satisfaction and engagement (SHRM, 2012).

On the other hand, the main ideas imbedded in the three items with lowest means are also worth discussing in detail. Salary having the lowest mean can be explained by the fact that money is considered to be a good motivator and it must be recognized that employees work for money and need money. Good salary and compensation are key factors to satisfy employees (Parvin & Kabir, 2011) while Sousa-Poza and Sousa-Poza (2000) found pay to be one of the determinants of job satisfaction. It must be noted that the academic ranks of the participants in this study were Teachers I to III and said ranks had salaries ranging from Php 18,549 to Php 22,982 (approximately USD 450 to 560) per month.

The concern of the management towards the teacher having the second lowest mean and getting along with supervisors having the third lowest mean could be explained again by the importance of relationships in the workplace. Employees' relationships

with their supervisors are considered to be the central element of employees' affiliation to an organization. Recognition of employees' performances through praise, awards and incentives is believed to be a cost-effective way of increasing their morale, productivity, and competitiveness (SHRM, 2012). Also, Sousa- Poza and Sousa-Poza (2000) found relations with management to be one of the determinants of job satisfaction. Romle and Shamsudin (2006) found that management practices do have an impact to employees' job satisfaction.

Regarding the whole instrument, the summated mean of the total scores of the participants was 4.11 or 41.11 when multiplied with the total number of items. A total score of 39 to 41 is a reflection of "high satisfaction." MacDonald and MacIntyre (1997) believed that high scorers tend to have few sleeping problems, happy in personal life, don't feel worn out at the end of the day, don't desire counseling, and rarely worry. Additionally, it can be gleaned that the responses were very homogenous as reflected in the computed standard deviation value of .65. Therefore, the mean scores of the participants had minimal dispersion in relation to the total mean score gathered from the instrument.

For Bakker and Oerlemans (2010), happiness at work is a more likely predictor of job performance and job satisfaction was found to be an indicator of employee retention in a survey conducted by HR Council for the Non-Profit Sector in 2008. Van Horn, Taris, Schaufeli, and Schreurs (2004) found that lower job satisfaction manifests itself in many aspects, ranging from exhaustion and lower work commitment to lack of concentration and psychosomatic complaints.

The result found in this study was similar to the result of the study conducted by Leppanen (2011). Teachers in the study of Leppanen were specifically satisfied with the social aspect of their work and seeing the results of their work. Rao and Sridhar (2003) believed that job satisfaction is a primary requirement of the teaching and learning process. Teachers who attain adequate job satisfaction can fulfill educational objectives and national goals. As observed in the study conducted by Josias (2005), low level of employee satisfaction is associated with an increase in the number and frequency of sick leave days. Even if relatively weak correlation between job satisfaction and absenteeism was established, it was nevertheless statistically significant for all the dimensions of the Job Satisfaction Survey (pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, co-workers, nature of work and communication). It can be said therefore, that if teachers' job satisfaction are low, then the more absences they will commit.

Table 2

Descriptive Statistics for Satisfaction with Life Scale

Items	Min.	Max.	M	SD
1. In most ways my life is close to my ideal.	1.00	7.00	5.60	.86
2. The conditions of my life are excellent.	2.00	7.00	5.31	.98
3. I am satisfied with my life.	1.00	7.00	5.65	1.09
4. So far I have gotten the important things I want in life.	1.00	7.00	5.21	1.28
5. If I could live my life over, I would change	1.00	7.00	5.23	1.31

almost nothing.

Whole Instrument: M=5.41 SD=1.10 Interpretation=High Satisfaction

Table 2 specifically summarizes the information relevant to the profile of the second instrument that was administered to the participants. It reports the means and standard deviations for all the responses of the two hundred fifty-one participants on the SWLS. As can be seen in the Table, all of the means of the items in the instrument were higher than four which was supposedly the mean with one as minimum and seven as maximum. The item with the highest mean pertain to satisfaction with life (M=5.65, SD=1.09). On the other hand, the item with lowest mean pertain to getting the important things one want in life (M=5.21, SD=1.28).

Regarding the whole instrument, the summated mean of the total scores of the participants was 5.41 or 27 when multiplied with the total number of items. With reference to the interpretation given by Diener (2006), scores between 25 to 29 are considered high scores. Individuals who score in this range like their lives and feel that things are going well. Of course their lives are not perfect, but they feel that things are mostly good. Furthermore, just because the person is satisfied does not mean she or he is complacent. In fact, growth and challenge might be part of the reason the respondent is satisfied. For most people in this high-scoring range, life is enjoyable, and the major domains of life are going well– work or school, family, friends, leisure, and personal development. The person may draw motivation from the areas of dissatisfaction. The responses were also very homogenous as reflected by the computed standard deviation value of 1.10. Therefore, the mean scores of the participants had minimal dispersion in relation to the total mean score gathered from the instrument.

As to the possible impact of subjective well-being to work, Judge and Hulin (1991) found a significant causal link between subjective well-being and job adaptation. Job adaptation in their study refers to numerous withdrawal and other adaptive behaviors enacted by individuals in organizations. The researchers claimed that those unhappy and dissatisfied with their lives were significantly more likely to engage in adaptive behaviors than those with high subjective well-being. Adaptive behaviors include being late, being absent, quitting, missing meetings, chatting with co-workers and the like. Therefore, it can be said that when teachers have low subjective well-being, they are more likely to commit adaptive behaviors.

Based on the Pearson product-moment correlation coefficient revealed by the Statistical Package for the Social Sciences (SPSS 15.0) Software, a significant correlation ($r=.43$, $p<.01$) between job satisfaction and subjective well-being was established and correlation between said variables was moderate basing from the measures of correlation given by Subong (2006). This result was in contrast with the result of the study conducted by Ahammed (2011) where the relationship between teaching satisfaction and life satisfaction was not established despite the participants being highly satisfied with both teaching as well as life in general. It must be noted however that the study conducted by Ahammed was among university teachers.

MacDonald and MacIntyre (1997) believed that the degree of overall happiness was one of the strongest correlates of job satisfaction and since items in GJSS were believed to be related to variables external of the workplace, it could be assumed that

job satisfaction and life satisfaction influence each other. Problems related to work may cause disruptions at home and problems related to home may also cause disruptions at work.

In the end, the implications of these findings are important for teachers as well as for the management and governing bodies of government schools. Regardless of the very positive and reassuring findings that ascertain teachers have high satisfaction and high subjective well-being, the significant correlation between job satisfaction and subjective well-being is one that cannot be ignored. It is important to realize that teachers' satisfaction or contentment with their jobs is not merely professional experience. Rather, these are experiences that can impact subjective well-being which in turn can affect the teaching and learning in any educational institution. Hence, it is important for management and governing bodies to assume roles in helping teachers value and appreciate their jobs since it contributes to their sense of well-being, and this can be, by way of supportive environments and appropriate teachers' assistance programs such as formal counseling services, opportunities to promote their creative talents, occasions for socialization and interpersonal relationships.

Conclusion

As can be drawn from the results of the study, teachers' job satisfaction had a significant relationship with their subjective well-being. By employing a descriptive-correlational research design, the researcher was able to portray how job satisfaction can influence subjective well-being and vice-versa. Therefore, it can be surmised that experiencing job satisfaction is crucial in the participants' subjective well-being. This proved to be another input in the growing pool of knowledge in the field of Positive Psychology particularly on the continuous proliferation of researches on job satisfaction and subjective well-being.

The findings will help school managers understand holistically various factors which could possibly contribute to the improvement of teachers' job satisfaction and subjective well-being. Likewise, this will also be purposeful in the practice of Guidance and Counseling as it will allow guidance counselors to assist teachers in making them realize the worth of job satisfaction and subjective well-being. Designing counseling programs that addresses attainment of positive and joyous conditions among teachers is a sound and viable option in helping them perform tasks expected in the teaching profession.

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Towards an Audiovisual Translation Policy in the Arab World

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Abstract

The future of translation studies in Arabic is in screen and not print translation. As digital technology is fast changing the way we access information, do business and entertain ourselves, the screen has become the *modus operandi* through which much of infotainment is produced and consumed. However, the majority of Arabic translation research has been not only confined to print translation but surprisingly oblivious of the significance of the screen. The paper examines the emerging field of audiovisual translation, which is essentially done on a screen. Part of an ongoing research that examines the status of audiovisual translation in Arabic, the paper argues for an audiovisual translation policy that attempts to explore the impediments facing Arabic translation studies today. Discussions of policy, like theory and practice, is seen as an essential part in pushing translation studies into the digital age in a bid to answer some of the vexing questions and challenges facing Arabic language, culture, education and translation in the second decade of the 21st Century.

Key words: Arabic, Audiovisual translation, digital technology, multimedia, policy

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Introduction

Audiovisual translation studies; the discipline that examines the creation, accessibility and consumption of translation on screen is now two decades old. It has its own “specialized conferences”, publications and academic programs (Diaz-Cintas and Anderman 2009: 8). While it is true that such progress seems, for historical and technological reasons, to be centered in Europe, the rest of the world including the Arab world does not seem to be mindful of AVT. There is of course some research, that could be broadly classified as audiovisual translation research, in some Arab countries but it remains token research that is essentially an academic exercise in translation studies and not in audiovisual translation studies proper (Gamal 2014). Surprisingly, audiovisual translation studies, and despite the significant relevance to the Arab context, has not been endorsed by Arab academia (Gamal 2013). In the past two decades, there has not been any debate of audiovisual translation as a discipline that has direct relevance to the issues, problems and challenges facing the Arab world today. Most of the discussions of audiovisual translation in the Arab world amount only to dealing with subtitling, and only into Arabic, while neglecting the broader picture of the discipline, its theoretical background, its technical aspects and relevant applications. One of the significant reasons why AVT has not emerged in the Arab world is attributed to the lack of a generation of translation scholars who have had first-hand experience working as translators in the audiovisual field, understand the technical background of the industry, and have the tools to do research in and to debate the issues of this emerging field. This paper builds on previous research (Gamal 2007, 2008) that examines the state of the field in the Arab world and argues that for the new field of audiovisual translation to take root in Arabic it must enjoy state sponsorship due to its high relevance to the local context in almost all twenty-two Arab countries.

Historical background

It is exactly two decades since the Strasbourg conference in 1995 that gave rise to the academic field of audiovisual translation studies (Von Flotow 1995: 286). Held on the centenary of cinema it gave the impetus for the formal examination of translation on screen from subtitling and dubbing to audio description. The mid-nineties were also the years that witnessed the commercialization of the Internet, the increased accessibility of the personal computer with Microsoft's Windows 95, the emergence of multimedia through digital technology and the arrival of the compact disc. Since then digital technology has been dominating our life whether working, playing, entertaining ourselves, studying or communicating with each other. Shortly before the Strasbourg Conference, the field of Translation Studies was confidently moving towards establishing a separate field of studies with its own popular theories that modernized the field of translation, and popularized the discipline as an academic pursuit particularly at the postgraduate level with more and more universities offering MAs and PhDs in Translation Studies. In the Arab world, however, the region was shocked by the Iraqi invasion of Kuwait in 1991 and shaken by the audacity of CNN covering the first televised war (Arnett 1994). Technologically, the advent of the Internet, the proliferation of privately owned satellite channels, the introduction of mobile phones and the arrival of Gameboy marked the beginning of a dramatic change in Arab culture, education, economics, politics and even Arabic itself. The arrival of AL Jazeera in 1996 helped in reshaping the stagnant, government-controlled

media sector. The traditional problems in the Arabic educational system were further exacerbated as several Arab countries, rich and poor, adopted Thatcher-style privatization policies which essentially meant the selling off of the debt-ridden public sector to private (mostly foreign) investors. The introduction of Australian and American universities in the region extending from the GCC countries, to Jordan, Lebanon and Egypt was the hallmark of the privatization frenzy that gripped the Arab world.

Translation in the Arab world

Several scholars have examined the history of translation in the Arab world which has a long tradition (El-Shayyal 1951, Tager 2014). There is the early Arab period in which the new religion of Islam made Arabic its religious vehicle and cultural repository. There is also the golden Arab period that is closely associated with the medieval city of Baghdad, which witnessed a state-sponsored translation movement. In the middle ages, commonly known in the west as the Dark Ages, the Arab and Muslim worlds were abuzz with light and enlightenment as the Andalusian cities of Toledo, Cordoba and Seville were not only centers of knowledge, tolerance and culture but also centers of translation (Galal 1977). In those years, the world spoke Arabic, which was the language of science, philosophy, poetry and the arts. A millennium earlier, during the Roman Empire, the entire Mediterranean Sea was referred to as a Roman lake. Yet by the time the Catholic Kings were reclaiming Spain from the Muslim Andalusians most of the Mediterranean was speaking Arabic and collecting Arabic manuscripts as they included translations of ancient Greek and some Roman manuscripts that were disappearing or had been lost. The modern period of translation began with the rule of Muhammad Ali in Egypt and the establishment of the School of Al-Alsun (Languages) in 1835 (Hassan 1966). The old school was responsible for the training of translators required for the official modernisation program designed and implemented by the government.

The history of Al-Alsun is worth examining as it reflects the perception of translation as a catalyst for progress: from a state-sponsored policy in the service of a national modernization program to what appears as a cultural movement in modern times devoid of any vision or aims. In order to appreciate the seriousness of the translation situation in the Arab world one has to remember the work of Rifaa Al-Tahtawee , the first director of the School of Al-Alsun and the pioneering father of translation and education in Arabic. Under his tutelage translators were trained for the clear purpose of modernization and nation building. It is insightful to remember his instructions to translators to include a glossary at the end of each translated book. The translated books were not literary books but hard science, with the purpose of localizing western knowledge and domesticating the skills required for modernization. Several Arab countries today host centers for translation that embark on translating a number of books that are considered lacking in the Arabic library and therefore necessary for the modern Arab reader. Yet, the fact is the number of books translated falls far short of what is required for a nation of 300 million people. What makes the situation even more complicated is the fact that 30% of the population is illiterate. A closer look at the titles translated reflects a tendency to select books for the elite and not for the masses or the youth. The current translation effort is clearly not for modernization, nation-building or the masses but is seen as a cultural policy that reflects the views of the government of the day or simply the wishes of the director in charge.

Pedagogically speaking, most Arab universities teach in English or French. All technical and scientific disciplines are taught in English. In addition to the foreign universities, there are the language schools that teach all subjects in the foreign language to students who went to foreign kindergartens learning their ABC before mastering their Arabic alphabet. This clearly points to a rift between those who received better education at foreign schools and universities and those who attended the over-crowded, run-down and poorly-managed public universities. There is another disturbing fact concerning the educated class whether they studied at Arabic language universities or foreign language universities that is the poor reading level among young Arabs. A feature article published in July 1995 attempted to investigate the reasons behind young people's aversion to reading in Egypt in the age of satellite television (Nasr, Zaafran and Zaitun 1995: 17). Two decades later, the situation is not any better. As Arabic is not being used as the language of science, research or critical thinking there is a direct impact on the language of the media which also reflects the social norms and trends of favoring new, trendy and foreign words, idioms, images and even syntactic structures (Amin 1998:100). It is easy to see how the language of the media is foreignizing the use of Arabic and is actually undermining the position of the national language. This phenomenon is taking place across the entire 22-state Arab world from the Gulf countries where foreign workers and residents are to be found at every level, to North Africa where French still dominates the educational system and the language of tertiary instruction (Mathews 2014).

Translation in the Arab world has been traditionally centered in Cairo, Beirut and Baghdad. However, over the past twenty years, and due to political and economic reasons, the balance shifted to the Gulf States and particularly to Abu Dhabi where a vibrant translation activity is attempting to replenish the Arabic language with translated books at the rate of one translated book a day. Yet, the question remains: how to instill the habit of reading in young people who are growing up surrounded by screens, visual culture and digital toys and tools?

Translation studies in the Arab world exist, and the translation programs are popular but for alternative reasons. Most students study translation as a means of learning the language and culture better and not necessarily to become translators and interpreters. The graduates of Al-Azhar in Cairo are snapped up by call centers offering customer service for international companies. Current research in translation studies at most Arab universities, seem to have the academic purpose of getting a tenured academic position and lacks the dimension of applied translation. While this is a legitimate purpose for pursuing a PhD, most doctoral research in translation studies (and particularly in audiovisual translation) reflects a western agenda: not just the research methodology but also the theoretical framework, objectives and conclusions. Consequently the doctoral research has no relevant applications to the context in Arab society. Furthermore, translation conferences in Arab cities reflect a western theoretical framework from the title of the conference to the themes and sub themes discussed. Again, the current translation movement seems to be separated from the local context. Academic conferences have become ceremonial in nature based on personal contacts and less on individual output with quality, relevance and a clear research objective. One of the best examples to illustrate this is the field of audiovisual translation, which is widely seen in Arab academia as a trendy genre of translation. Some universities add audiovisual translation in their conference call for

papers with no background, local expertise or even knowledge of the field except to imply that their translation program is modern.

Audiovisual Translation in the Arab world

The lack of academic interest in audiovisual translation in the Arab world is perplexing. On the one hand, academia still views audiovisual translation as a trendy specialization that is closely associated with youth, digital technology and subtitling. On the other hand, it is something that most of faculty did not grow up with and consequently regard the specialization as a costly investment that is unrelated to context and therefore not a priority.

The few studies in audiovisual translation that are conducted by native speakers of Arabic are all related to subtitling and dubbing and almost all are focused on the direction English-Arabic. This is not *audiovisual translation* but subtitling (or dubbing) research. The American University in Cairo which began offering training in subtitling attempted to keep pace with the developments in the field and changed the name of its course from subtitling to screen translation to audiovisual translation with little or no change in the core subjects and skills taught. What is remarkable is that the research at the doctoral level (so far all in western universities) has the western literature as its background: the references, the theoretical framework, the ideas, examples, research method and the result is that it lacks any relevance to the local Arab context. Written in English, and based on western theory and references, such effort continues the market-driven trend that considers Arabic a language not fit for scientific research. This does not only undermine the national language, but also keeps audiovisual translation as a *western science*, a foreign concept ultimately delaying its localization.

The digital revolution with its numerous manifestations from satellite channels to the Internet, digital toys and games, cameras and portable technology came to the Arab world at a time when there was no technical or economic background to receive the new age of telecommunication. The last decade of the Twentieth Century ushered in the new age of globalization that was forced on many countries and cultures with little any Arab government could do. In the digital age, it is very difficult to close borders when the skies are wide open. Yet, the argument of this paper is that Arab governments can and should examine current trends and draw maps, plans and policies in a bid not to control but to manage what is happening. When privatisation was adopted there were little studies on the effect such 'foreign' models could have and do to the local culture. Likewise, when globalizing measures were allowed in, first through big shopping malls and later through foreign investments, banks, companies and universities; the average person in the street became estranged in their own culture unable to fathom the purpose of acquisitions and takeovers by foreign global companies of local businesses. Although globalization brought in better goods, it also devastated local economies that were not ready, or at least, prepared for the sweeping changes.

Opportunities and challenges of the digital age

There is no doubt that the digital Revolution of the 1990s has brought about unimaginable opportunities and creative solutions to, inter alia, how we do business,

educate and entertain ourselves, design and deliver national policies and market our cultural services abroad. Yet, the digital age has also brought about challenges and problems that force communities that imported or are invaded by such digital products, to adopt values that run contrary to their cultural vein. To illustrate this situation further I shall take the Arab world as an example. The Arab world has a population of 300 million of whom about half are classified as youth (under the age of 25). Illiteracy is estimated to be 30% and unemployment at about 13%. The commercialization of the Internet, in the mid-nineties, did not speed up communication, business, education or production not only because the Internet penetration is low (estimated 36% of the population) but more importantly because of the lack of the infrastructure that allows for fast internet connection. When Facebook arrived, about a decade later, there had been no generation used to the Internet, its protocols, ethics and Netiquettes. The spread of Facebook in the Arab world, while reflecting a desire to be modern it also reveals a deeper desire to be different, expressive and free. However, the Internet in the Arab world, broadly speaking, has not enhanced the cultural values but posed greater threats to one of the most revered components of Arab culture: Arabic.

Youths in the Arab world introduced a Romanized alphabet for their Arabic language and began using it in emails and SMS messages on their smart mobiles. While this was mainly due to the fact that early mobiles did not support right-to-left languages such as Arabic, the new vogue continued even after an Arabic script became available on smart phones, email programs and search engines. In addition, mature authors of Arabic, in a bid to appeal to the youth started using the vernacular in their writings not only in blogs online but also in printed newspapers and leading publications. Furthermore, there has been a widespread trend of using American words in everyday parlance at an increasing rate that can readily be interpreted in psycholinguistic terms as 'integrative motivation'. Yet, the majority (if not all of the borrowed words) have their equivalents readily available in both varieties of standard and vernacular Arabic. Thus any claim of integrative motivation, beyond the trendy lexical borrowing of Americanisms, becomes untenable. There is another aspect to Arabic in the digital age that is directly linked to how the media, particularly the print media, affected Arabic. Traditionally, journalism is viewed as one of the sources, if not forces, of change and modernization, of the national language. Thus, journalistic style is credited with enriching the local language and its usage. However, from a translation point of view, 'literal translation' appears to be a predominant strategy favored by the print media. Borrowed lexical items abound in the text and this seems to be infiltrating the Arabic phraseology not just at the lexical level but also at the semantic and even the syntactic level as well. While literal translation, is acceptable (if warranted) it appears to be the easiest strategy selected by the writer who obviously lacks training in translating from foreign (mostly English) sources as well as training in writing in clear, and good, Arabic.

The proliferation of satellite TV channels operating round the clock created a demand for media specialists that was not available and continues to be unavailable. The need to fill the broadcasting hours led to a demand for subtitled (and later dubbed foreign programs) and also the translation and adaptation of foreign programs such as talk shows, Arabs got Talent, Who wants to be a millionaire, and the like. In the digital age, 'talk shows', mixed news with politics, and the inexperienced broadcasters committed gross professional errors whether interviewing ambassadors or discussing

the policies of other Arab countries that they had to be taken off the air. Public speaking, like composition, film literacy and art appreciation are not among the subjects taught at schools and in the media age they have become sorely lacking. There are several other examples of how the digital age has posed challenges to communities that were not ready for it. Some of these challenges are: the digital divide between the information rich and the information poor in the same country, digital ethics, Arabic content online, availability for training, cost of digital tools and toys. Against this background, there seems to be a need for a government body to examine the impact digital technology has on the local culture. Such body would also study, research and advise on how best to use the opportunities made available by the new technology and how best to meet the challenges posed by it.

Need for a policy

Translation in the Arab world did not make the transfer from the verbo-visual (print) world to the audio-visual (digital) reality smoothly. Apart from the more affluent Gulf States, the majority of the Arab world still relies on and thinks in terms of print technology. The past two decades show, rather clearly, how digital technology has caught the Arab world by surprise. To contextualize the effect digital technology has had on Arab society, the media scene provides a relevant example. The proliferation of satellite channels, the emergence of blogs, personal web sites and the interactivity some official news media outlets offer have turned consumers into Netizens and created citizen journalism. This effect can be seen in better light when examining western cultural settings such as Australia; however, the picture is darker in other societies such as Egypt, Tunisia and Libya, the cradle of the Arab Spring. In countries with no traditions of free media, good reading levels and a healthy book publication market and with high illiteracy, stagnant economy, poor educational system, low scientific knowledge, and conservative values; the localization of digital technology (and its cultural changes) needs to be fully and *officially* examined. The decision not to examine the changes digital technology has on society runs the risk of not only being controlled by the consequences but also falling victim to its influences. The finest example is the Egyptian government's failure to anticipate the role social media played in bringing down the entire regime that was essentially built on a central government and media censorship. The Egyptian revolution was not hatched underground but rather masterminded online. By the time Egyptian authorities woke up to the fact that social media has become a force galvanizing popular support, it attempted undermining the revolution by switching off the Internet and the mobile phone network. It was too late for such desperate measures for the online revolutionaries were already amassed in Tahrir Square.

Many scholars, researchers and authors in the Arab world have been calling for the need to examine the current digital state of affairs in Arab societies (Kirat 2001, Al-Rifai 2011, Al-Jaber & Alareshi 2014). Digital technology does not affect the media sector alone but the translation scene that has been traditionally of significant importance to the modern Arab nation.

There is a dire need for an audiovisual translation policy in the Arab world today. Audiovisual translation as the term suggests is translation created and accessed through audio and visual means, in other words, via screens. With the proliferation of screens (Gambier 2003) information could be translated via numerous applications to

reach consumers via cinema, television, the Internet and mobile devices, all of which are accessed through screens. Given that translation is vital for the Arab world in its plans for modernization and given its youthful population, digital translation becomes an important issue of national security level. The last statement is not an exaggeration. Over the past two hundred years, print translation, has been traditionally the only viable and permanent mode of enlightenment and modernization in the Arab world. Other modes existed, of course, such as the radio, cinema, television, theatre and formal education yet the book and the printed word were the most popular and most accessible. Digital technology, on the other hand, has given a new meaning to affordability, accessibility and durability of information and programs designed for mass enlightenment and education. To illustrate this point further, one has to look at the benefits of a DVD on Diabetes; a problem that affects a significant sector of the society everywhere in the Arab world. A single professionally designed DVD that addresses the majority who come from a low socio-economic background would be more efficient, cheaper and durable than thousands of wasted print-based advertisements and literature aimed at people who are averse to reading or are simply illiterate. A well-designed and well-maintained web site is equally affordable, accessible and durable and is valid and relevant to a population of over 300 million users from Marrakesh to Muscat. However, the field needs specialists who understand how to create translation while employing multimedia: using text with video, images, color and sound. In this respect audiovisual translation, unlike print translation, is more interactive designed to make information more accessible for children, the young, the educated and also for the un-educated and the illiterate through the use of multimedia (Gamal 2014).

The policy does not have to be set in stone with strict guidelines and unrealistic objectives. A policy, by its very nature, provides a framework of how to carry out an objective. Perhaps one of the primary objectives is to localize digital technology and to make it serve national needs. It must be remembered that digital technology and its tools and toys arrived in the age of globalization that markets international products and focuses on higher levels of consumption. Once again, globalization, as a western concept, works well in western societies that can afford high levels of consumption from buying better quality products to obtaining the latest version of consumer goods. Digital technology in non-western societies, however, needs to be examined differently and employed to achieve different objectives. These objectives must be directly related to nation building: better management, responsible media, and good governance. Examination of the media situation in the Arab world today, from official media to social media, reveals an undeveloped understanding of the potential digital technology has.

The media scene in most Arab countries is fragmented and unregulated. The attempt by Egypt and Saudi Arabia to propose a 'Framework for Regulating the Satellite Broadcasting Service' that was concluded in February 2008 appears now as outmoded measure given the social upheavals of 2011. The fact that several Arab countries, such as Jordan and Egypt, have abolished their "Ministry of Information" is a significant measure that requires further examination. It is significant because in the absence of reliable public opinion studies and mechanisms the 'information' field should not be left vacant with no government involvement. This is not to be understood as a call for direct government intervention in the traditional pre-satellite-age sense, but rather an informed and enlightened type of involvement. This is expected, if not required, of

governments allowing such (foreign) technology into the country: after all many governments, did not allow GPS technology until they have established controls to ensure national security is not compromised. The same applies for the mobile phone networks, the Internet and foreign media control. Even in western countries there are numerous government controls in place to protect their citizens varying from protecting children surfing the Net to fraud, money laundering, Internet crime and transnational organized crime. The difference here lies in the much higher level of literacy, education, social political awareness and general knowledge.

Conclusion

The field of audiovisual translation is still in its infancy in the Arab world. The limited opportunities available to localize the concept are confined to learning the basic skills and norms of the field. The few academic studies completed in the field do not examine policy issues. There is no need to wait until the localization of the new concept has been completed and taken root before professional or academic policy studies are attempted. As explained in the Egyptian Revolution example, it will be too late to have any relevant or useful impact. The paper argues that the localization of audiovisual translation in the Arab world needs an official policy. Leaving digital technology, in traditional societies, to market forces is a risky policy. This is simply because such societies are consumers of foreign technology and inventions and are, mostly, not active contributors to its design and development. The political, economic, social and cultural repercussions could be devastating as seen in the post-Arab-Spring context of Arabic. The paper calls for a continuous and rigorous examination of and debate on the localization of audiovisual translation so that the concept becomes localized, used in Arabic and employed to serve local needs enhancing local values and cultures and enriching life experience.

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The logo for the International Association for Far Eastern Research (iafor) is centered on the page. It features the word "iafor" in a lowercase, sans-serif font. The text is surrounded by a large, stylized circular graphic composed of several overlapping, curved lines in shades of blue and red, creating a sense of motion or a globe.



***Developing Sustainable Thainess Indicators for Promoting
Sustainable Thainess of Non-Formal Education Students***

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Abstract

The purpose of this study was to develop sustainable Thainess indicators for promoting sustainable Thainess of non-formal education students. On duty of Thai non-formal education was to promote sustainable Thainess in order to enable Thainess to exist in the world society with dignity. But in the course, there is no apparent pattern to promote sustainable Thainess manner made affecting non-formal education students in serious condition for promoting the sustainability of Thainess, which have to foster a sense of a mutual dimensions balance between economic, political, cultural, social, psychological resources and environment. These factors will make Thai people have a better quality of life. The research was divided into two steps: 1) to develop sustainable Thainess indicators 2) to develop program for non-formal education students to sustain Thainess. The design of this study was surveying with exploration factor analysis and systematic reviewing. The results showed that the characteristics of the Thailand Sustainable comprises 68 indicators in four components: 1) a proudness of Thailand (Eigenvalues = 18.43.) 2) Faithfulness of Thailand (Eigenvalues = 12.17) 3) behaved Thailand (Eigenvalues = 10.57) , and 4) culture of Thailand (Eigenvalues = 6.86). The process of learning to achieve the sustainable Thainess consists of the investigating experience, the paradigm shift, planning the transmission of knowledge, building the network to exchange knowledge and integrating the knowledge into their way of life In conclusion, the learning process to promote sustainable Thainess should intense on proudness, faithfulness, behaved and culture of Thailand, Furthermore, each community should encourage the establishment of learning networks for the sustainable Thainess and supporting the establishment of a learning center for the sustainable Thainess to serve as Thainess information technology center It would help encourage the Thai youth has a sustainable Thainess manner

Keywords: Thainess, sustainable, non-formal education

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Introduction

Thailand is a country with a civilized nation, has a culture that ancestors have created a precious heritage passing down for a long time. The Thai culture has national identity And symbolized of their Thainess , which can uphold the honor, dignity, and pride of the Thailand national (Hatairat, 2549). Thus, Thainess is not the only thing that Clearly reflects the uniqueness of Thai people , but also symbolizing of a mind connection between all Thai people for being unified, heroical, sacrifice and able to encourage the people to work for a noble and pride and feel being the Thainess. Nowadays,the whole world became a globalization. The influx of diverse cultures are furiously fast. The one of the social problems,which Thailand has faced with is Thai people have to live among the current capitalism, mercantilism, and materialism as well as the people lack of proudness, passion, commitment, accepting Thai wisdom, and local knowledge of their hometown. Conversely, they have turned to the Western culture without any selective screening, this can cause the culture be absorbed and changed and finally they will become being used to by other cultures. Moreover, the conflicted values and attitudes were created between the old and new generation as well as the lifestyle and unique culture have been grudgingly changed. (Office of National Education, 2545).

In order to maintain the Thainess being able to exist in the culture amid the severe influx in the present, cultivating a sense of faith for Thainess, all these people are important especially for children and youth. Because the immune system and preach as Thainess is Freedom, The awareness of the Present, Coping on the fundamental cultural Thailand, Together make a strong Thainess, Self with dignity, made the elegant in the region and the world (Prajak Boonaree,DEA), which the concept was contained in the National Economic and Social Development Plan No. 11 by the year 2570 Vision Thailand (Office of the National Economic and Social Development, 2554). Although the above plan will not clearly get into the details of the development in the dimension of Thainess, It has been starting Thai people realizing to pride on The Thainess increasingly.

The study of the Thainess relates to several important issues using "lifelong learning" as a medium. The relationship between lifelong learning and democratic, culture, religion, economic and environmental aspects of the systems of integration which is a creation of the good quality of Thai people to be a power to maintain national security and serve as an important foundation for developing countries successfully, because lifelong learning is needed to understand the self-study and a good conscience simultaneously (Veera ambansuk, 2551: 255-307). Nowadays, the ways of human learning, the advancement of information technology, the expansion of social globalization, the occurring of the new knowledge and technology, the development of a knowledge-based economy, are dramatically changed. Those factors can lead to the people's needs to learning in all aspects of society. Thus, the learning's approach is expanded the scope of the Formal education system to Non-Formal education and Informal educational.

Education principles to achieve continuous learning throughout life is an opportunity for the disadvantages or the lacks of education in the school system have the opportunity to learn the skills needed to cultivate the attitude to life and the honest livelihood which comprises of the five key principles namely: 1) The main

educational equality in education and the learning process, but must be no discrimination within the Created Equal opportunity in education and learning equally 2) the principle of self-development and self-reliance of the teaching and learning process aimed at learners develop their potential and to develop a sense of self and self-reliance to be able to live a normal life. 3) the integration of learning with the learning culture in relation to lifestyle and environmental problems, including the local community and to contribute to improving the quality of life of the students. 4) The core is consistent with the needs and aptitudes of the students to encourage the students to recognize their own needs and can provide training for themselves properly including learners can share objectives how to learn and evaluate their own learning. 5) The principle of mutual learning and involvement of the community in a collaborative learning groups to promote and build goodwill among the students, which contributes to the community be able to come together to participate in the curriculum (Bureau of Non-Formal Education.2547). Formal education courses, the students can learn based on their interests, which are divided into : basic education, Education for professional development, Education to develop life skills as well as education to social and community development.

But in the course of the study, no formal model to promote sustainable Thainess to make clear that students outside the school system is in a state that is concerned with statistical information about Thailand's Office of the Youth Council.(2552) found that : There are the lowest number 38 percent of the children who feel pride in Thainess. According to the data from research of Ram Chitti institutions (2548) examined the cultural life of Thai youth in the life with the Thainess found that: they have problems of (conservation) Thai language incorrectly spelled and misread etc. Also, they have a attitude towards Thainess as something boring and not important including the values and accuracy decreased. Conversely, the number of people who dress without following Thai tradition tend to increase, which relate to the study of Sompong Jitradub(2551) indicated that the situation of children and young people are getting worse, especially Thai youth are multiculturalism while Thai good culture is significantly reduced to about 30 percent. As the information, the study suggests that to promote the sustainable Thainess to the deficient or disadvantaged youths are very important because Non-formal education is the opportunity key solution to improve their life skills, attitudes and the honest livelihood as well as the ability to confront with the world's changing constantly and keep growing up happily without leaving his roots.

Although, sustainable development is the study and attention to the various aspects, there are mainly three same reasons: 1) the development progresses, taking into account the limits of natural resources and the environment including meet the needs of the present without jeopardizing the needs of future. 2) development, which is considered to "integrity" by taking into account the impact that will have on other things, any action on it. Therefore, the development of this concept is based on the principles of prudence and allows gradual and various development partners took part in the development process. 3) sustainable development, don't decline the technology but should be regardless of the technology to be used in a way that "creative" is not "destroyed" (Pruet Siribunphitrak, 2551). Thus, to promote the Thainess sustainable is an important component of sustainable and socialized development linking to the balance of things, which should be on the principle of sustainable development as well.

Objectives

- 1) To develop indicators as Thainess sustainability of non-formal education students
- 2) To develop program for promoting sustainable Thainess of non-formal education students

Methodology

- 1) The development indicators of the sustainable Thainess of Non-Formal Education students. The researcher was carried out three steps follows:-

Step 1 Study the Concept of Thainess 's sustainable from research documents, texts, and media band. The issues include the definition, the Elements and the Indicators of sustainable Thainess.

Step 2 Check the possibility of the definition, the elements and the indicators of sustainable Thainess by expert and audit results to improve the definition, the elements and the indicators of features a built sustainable Thainess.

Step 3 Check the quality of the components and the indicators for development of sustainable Thainess by empirical data with Exploratory Factor Analysis to Non-Formal Education students in Bangkok Semester 1 Year 2556.

- 2)The development to promote the sustainable Thainess of Non-Formal Education students. The researcher was carried out by steps follows :-

Step 1 Study the documentation and research associated with the development program to promote the sustainable Thainess.

Step 2 Check the concordance of the definition and objective, The sustainable Thainess program was approved appropriately by auditing and specialist with corresponded objectives.

Results

Our study in the development of indicators of sustainable Thainess found that all the data are suitable for factor analysis. When analyzing the composition and the rotation axis basis pivotal of Kaiser (Kaiser) by considering the variance of the Dependent variable (Eigen value) over 3 and a weight factor component (Factor Loading) of individual parameters of components ranging from 0.5 up to and include parameters 3 or more metrics found that sustainable Thainess indicators has a total of 68 variables under the four elements and can be described as sustainable Thainess 56.519 percent.

Table 1 The inspection of the sample with the appropriate KMO (Kaiser-meyer-Olkin Measure of Sampling Adequacy) and check the correlation matrix with Bartlett's Test.

KMO and Bartlett's Test		
Kaiser-meyer-Olkin Measure of Sampling Adequacy		.965
of Sphericity	Approx. Chi-Square	41508.037
	df	3570
	Sig.	.000

Table 1 shows that the KMO was 0.965, indicating that all the information is appropriate for analyzing with the Factor Analysis techniques with very good level, and Bartlett's Test of Sphericity test found that the variables are correlated significantly (Chi-Square = 41508.037, df = 3570, P-Value <.05) can be summed up that the correlation matrix of the variables is relate, which is suitable for the analysis

Table 2 Elements, Eigenvalues, Percentage of variance and the cumulative percentage of the variance of the Thainess sustainability elements.

Element	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Eigenvalue	% Variance	% cumulative	Eigenvalue	% Variance	% cumulative	Eigenvalue	% Variance	% cumulative
1	32.766	38.549	38.549	32.766	38.549	38.549	18.435	21.689	21.689
2	6.776	7.971	46.520	6.776	7.971	46.520	12.174	14.322	36.011
3	4.947	5.820	52.340	4.947	5.820	52.340	10.570	12.436	48.447
4	3.552	4.179	56.519	3.552	4.179	56.519	6.862	8.072	56.519

Table 2 showed that the element meet the criteria pivotal of Kaiser, with the variance of the variable (Eigenvalue), which is over 3 and Factor Loading of individual parameters of element obtaining the values from 0.5 up to and including three variables consist of four elements, which have 17 extracted variable ,the rest of 68 variables and can explain the cumulative percentage as 56.519.

Table 3 the factor Loading after Rotated Component Matrix and the Communality

Variable	Factor Loading Component			
	1	2	3	4
T60	.76			
T55	.75			
T46	.74			

Variable	Factor Loading Component			
	1	2	3	4
T29		.87		
T6		.86		
T61		.85		

T54	.73			
T44	.71			
T45	.70			
T62	.70			
T52	.69			
T39	.69			
T42	.69			
T53	.68			
T47	.67			
T48	.67			
T19	.65			
T69	.65			
T56	.64			
T36	.63			
T68	.63			
T51	.63			
T59	.62			
T18	.62			
T43	.62			
T57	.61			
T76	.61			
T58	.60			
T41	.59			
T10	.59			
T17	.58			
T36	.56			
T50	.55			
T40	.55			
T15	.54			
T77	.53			
T78	.53			
T65	.52			
T70	.50			
T24		.88		

T16		.84		
T13		.84		
T32		.83		
T29		.87		
T6		.86		
T61		.85		
T16		.84		
T13		.84		
T32		.83		
T9		.83		
T11		.82		
T79		.82		
T1		.79		
T74		.78		
T83		.76		
T63		.75		
T22			.67	
T27			.66	
T23			.65	
T30			.64	
T12			.64	
T31			.63	
T21			.60	
T28			.60	
T26			.58	
T71			.57	
T25			.56	
T33				.82
T34				.81
T35				.80
T37				.80
T8				.79
T5				.75
T7				.74

The study in the development of promoting sustainable Thainess program by Item – Objective Congruency Index (IOC) to consider the consistency of objective and content, learning activities, media, measurement and evaluation found that the IOC value between 0.8 - 1.0, as shown in the table 4.

Table 4 Consistency of Sustainable Thainess Program

activity	Objective	Descriptive	IOC
Amazing Thai Musical	In order to rebuild for appreciated Thai musical	Learners learn Thai original songs through watching the movie “The Overture”.	1.0
Literature Club	Provide Thai literature knowledge to learner	Learner have adapted an idea about Thai literature through read the story of a literary	0.8

		club.	
Thai contemporary art	Provide learners with appreciate of the Thai Contemporary arts.	Lecturer of art motivating learner to interested to study Thai art	0.8
Sawadee	Provide the learner to understand and take pride in Sawadee	Allows Learner to learn Sawadee through role-plays.	0.8
Thai expressions	Learners can learn Thai idioms and Thai expressions.	Allow Learners to learn Thai idioms and Thai expressions through games.	1.0
Royalty word puzzles	Learners can learn Thai Royalty word correctly.	Allow Learners to learn Thai Royalty word correctly through games.	1.0
Poetry ruse	Learners can learn Thai Poetry correctly.	Allow Learners to learn Thai Poetry through Poetry ruse.	1.0
Thai fabric	Provide the learner to understand and take pride in Thai fabric.	Allow Learners to learn through watching the series about Thai fabric.	1.0
Thai architecture	Provide the learner to understand and take pride in Thai architecture.	Allow Learners to learn through excursions the Thai temple and the palace.	0.8
Tourism in Thai trajectory	Learners can learn about Tourism in Thai trajectory.	Allow Learners to learn through excursions and shares their experience.	0.8
Thai carp weave	Learners can learn Thai carp weave correctly.	Allow Learners to learn through weave the Thai carp.	1.0
OTOP	Learners can learn Thai product correctly.	Allow Learners to learn through OTOP Thai product	1.0

Table 4 showed that the experts give an opinion of the developed Program appropriately The corresponding index is high value between 0.8 - 1.0.

Discussion

In addition Table 3 were showed that the classified elements of Thainess's sustainable of non-formal education students were identified to four elements. Each element has a variant with the Factor Loading from .50 to .88. All of four elements have the number of variables 36, 14, 11 and 7 respectively, details are as follows :

The first element consists of a number of key variables, 36 variables are indicators about the attention, penchant for Thainess, proud of what the various expressions of Thainess. This element includes detailed 1) Choose a Thai fabric every major festival. 2) Appreciate to see Thai building styles. 3) Study Contemporary Thai art. 4) Pride and selection Thai herbs. 5) Pleasure to read Thai literature. 6) Pleasure to listening Thai musical. 7) Use Thai wicker products. 8) Dress Thai fabrics. 9) Interested to Thai amusement. 10) Favor Thai musical. 11) interested and persuade others to travel of Thai conserve cultural. 12) Sightseeing Thai architecture places. 13) Visit the museum exhibits about Thainess. 14) write prose poem correctly. 15) popularizing Thai products 16) Pride in the wisdom of building a Thai house. 17) Interested in traditional sports of each region. 18) Choose Thai product to souvenir. 19) Likes and

choices to eat Thailand dessert 20) Pride in the traditional medicine of Thailand. 21) Selected Thai idioms, aphorisms and proverbs properly. 22) Interested in painting and murals on temple. 23) Appreciate the Thai wisdom. 24) Squat successfully When adults sitting on the floor. 25) Choose to buy local products as souvenirs. 26) Pride in Thai dancing art such as mime and will look at every opportunity. 27) Subscribe to news in the court. 28) Use the appropriate reverence. 29) Pour water on the hands of revered elders and ask for blessing in the Songkran festival. 30) Order Thai traditional food for eaten. 31) Dress Thai set whenever possible. 32) Say the word "sawadee" on the phone instead of "Hello". 33) Did not sit cross-legged when speaking to others. 34) Could Praecn and received from the monk correctly. 35) Purchase showcasing local products whenever possible. And 36) Know and respect as Anchalee Action (pay obeisance) worship (idolatry) and Apiwat (prostration) properly. New elements are called **"The Thai Pride"**.

The second element consisted of 14 variables is important indications about adhering to the motto, threat beliefs about the Thainess, appreciation in a way that expresses a Thainess. This element includes detailed 1) Committed in the attitude about. "preserve one's purity" of Thai women. 2) make merit and donate regularly 3) Participate in religious holidays. 4) See Thai movies whenever possible. 5) Use and write Thai numeracy correctly. 6) Participate bless the king On various occasions 7) Held beliefs of Thai ancient 8) Researched biographies and educate projects in his majesty King. 9) Appreciate when know the news of his majesty King duties. 10) Sent and received from others with a polite. 11) Give respect to the flag and the national anthem of Thailand. 12) Don't Standing over one's shoulder. 13) Do not knock the mouth of the pot with a ladle or spoon. And 14) Purchase Thai products as candy and a gift every time. This new component is called **" Thai Faith "**.

The third element consists of 11 variables, represents the practical expression of the Thainess, exquisite manners, kindness and generosity as a way of Thai lifestyle. This element includes detailed 1) Use the term, "my uncle", etc. With older. 2) Smiling and friendly with others 3) peaceful when in religious importance place. 4) be courteous. 5) Loved and emulated his majesty King. 6) Honoring a senior. 7) Pray and say "Sawadee" for greeting. 8) make a merit and donation regularly. 9) Helping misery. 10) Bend down when walking through elder. And 11) Bring food to share with friends. This new component is called **"Thai Courtesy"**.

And the fourth element contains a variable number of key elements 7 variables is a measure that represents love and cherish the things that are indicative to Thainess, and also to participate in the traditional of Thai culture. This element includes detailed 1) Dressed modestly when in the temple. 2) Give food offerings to a Buddhist monk. 3) Join in Thai cultural festivals. 4) Join Teacher venerated ceremony. 5) Study important principles of religion. 6) Loved and cherished national sovereignty. And 7) commitment to follow the teachings of the religious principles that respect. Therefore named this new element. **"Thai Cultural"**.

The results are consistent with studies of Panupat Limchumroon (2008) found that the Thai proud can be measured by 5 indicators include 1) Use the Thai language correctly 2) Use the Thai products and Thai wisdom 3) humility and respect adults 4) the activity is about National Religious kings and 5) engage in dissemination and preservation of cultural traditions. And this results can conclude

that Thainess's sustainable elements of the non-formal education students is composed of 68 indicators in four elements Shown in Figure 1

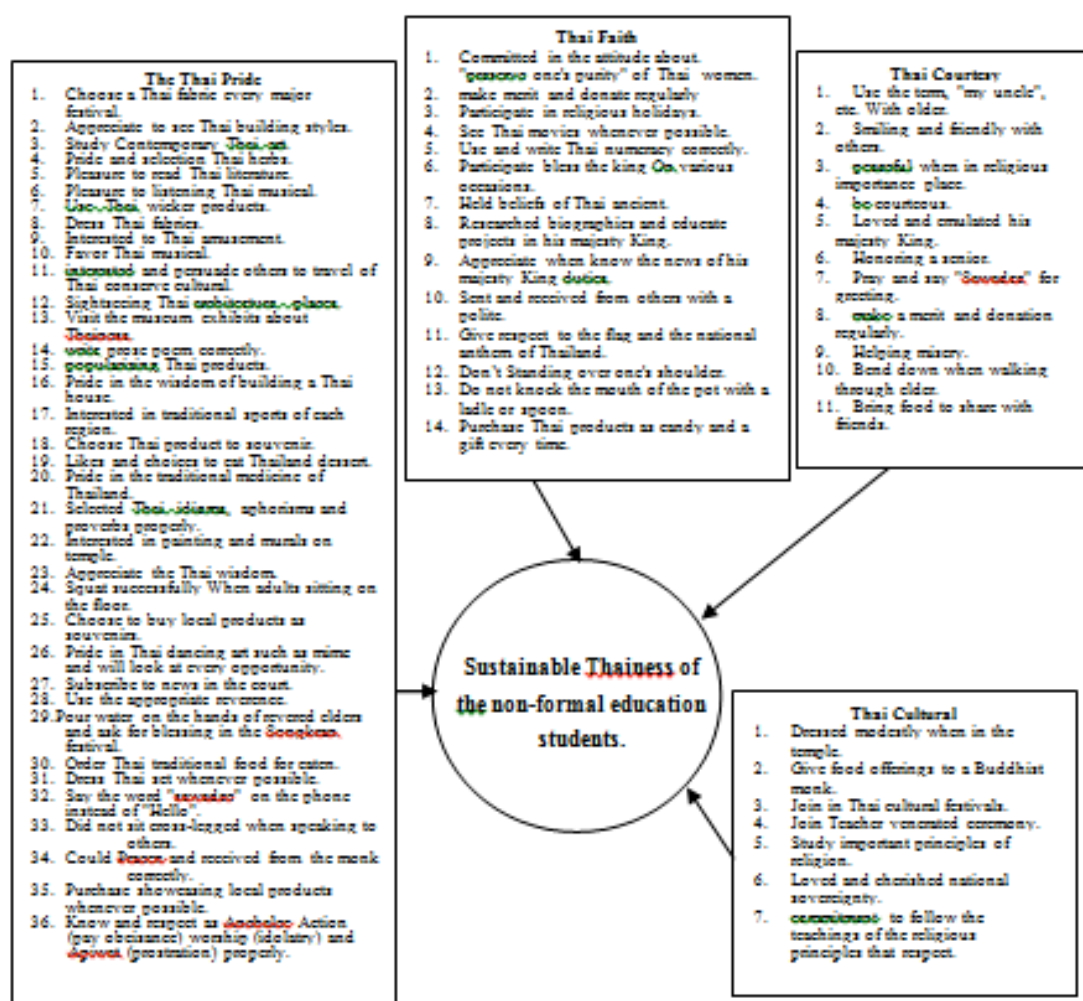


Figure 1 summarizes the results of the analysis of the elements of Thainess's sustainable elements of the non-formal education students.

The program was developed in order to promote sustainable Thainess in various fields include The Thai Pride Thai Faith, Thai Courtesy and Thai Cultural. By allowing learners to learn through various activities such as watching the movie, reading, studying with Lecturer, role-plays, games, excursions and action. And activity details are as follows : Amazing Thai Musical, Literature Club, Thai contemporary art, Sawadee, Thai expressions, Royalty word puzzles, Poetry ruse, Thai fabric, Thai architecture, Tourism in Thai trajectory, Thai carp weave.

However, There are some researchers who studied about individuals to promote sustainable learning including research related to the promotion of Thainess. For example, the research of Hatairat(2553) Dauojai(2553) Archanya(2552) Phojjana(2546) Sumalee(2550), Find a way to promote Thainess or Transfer of knowledge or wisdom of Thai teachers is a learning process and encourage students to

develop the knowledge, beliefs, attitudes in anyways that will promote The exchange of experiences and practical demonstrations, A rational conversation. To instill values and consciousness etc. The important factors, which contribute to the knowledge transfer and individuals to promote learning and research in the sustainable success is to change the behavior of learners into new behaviors. This behavior is an important foundation of ideas and basic beliefs then must be set in a paradigm shift as the key. While the problems and challenges of the knowledge transfer and individuals to promote learning and research in sustainability, including the transfer of non-compliance and not conducive to social development and the lack of application processing continuously.

Conclusion

This research is developed indicator and model to promote Thainess sustainable of non-formal education students, which found the Thainess sustainable of non-formal education students is composed of 68 indicators in 4 components: 1) a Thai proud 2) Thai Faith 3) Thai behaved and 4) Thai Culture.

In summary, it looks as Thailand in promoting sustainable development in the school system for students. It is important to focus urgently in both at the policy and operational level. The importance of encouraging students to study outside the school system to be sustainable is to change the foundations of the ideas, beliefs, and behaviors the person who looks at the Thailand model. Moreover, modifying the conceptions of the person a step-by-step on the feelings. Approach is important in understanding the nature and promote Thailand as a sustainable education to students outside the school system. In addition, lifelong learning can encourage students' thoughts. A rational conversation. With the use of master to learn the characteristics of a sustainable Thailand. It would help the cause of learning and feelings. Feel bound to a sustained increase in Thailand respectively. It also allows students to study outside the school system can integrate into a sustainable lifestyle Thailand harmoniously. This gives them a sense of pride in the Thailand and citizens can live in our region. The fluid flow and the shoulder of multicultural sustainability. And dignity. In the spirit of the Thailand is following suit.

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***The Main Components of Self-Development Model
to Enhance Non-Formal Education Facilitators' Potential in
Lifelong Education Management***

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Abstract

Recently, lifelong learning has been essential in knowledge-based economy and learning society. Thai laws and policies indicated lifelong learning was one of the ways to sustain community development. Thus the non-formal educators had to acquire knowledge and skill by self-development in lifelong learning management. The purpose of this study was to find the main components of Self-development program to enhance educators' potential in lifelong learning management. The design of this research was qualitative study, which was triangulated by systematic reviewing, best lifelong learning management center observation, key person interviewing.

The findings were self-development consisted of 1) design to learn 2)self-diagnosis 3)set goal 4)finding appropriate resources 5)recruit of other people 6)attempt to do 7)self-evaluate and lifelong learning management of Thai non-formal educators comprised of services, fundamental education, career and life education, society and community development, Thai wisdom conservation.

The process should start from social capital and Thai wisdom. Self-development may be Thai wisdom application such as meditation and inside self-seeing. In conclusion, there were 7 main components of Self-development in lifelong learning management, which should start from social capital and Thai wisdom led to human, monetary capitals and resources using as necessary. That meant sustainable development and reciprocity between self-development and lifelong learning management especially Thai wisdom.

Keywords: Lifelong learning, Self - development, Lifelong education management, Non-formal facilitator's potential

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Introduction

The National Education Act B.E. 2542 (1999) and its Amendments (Second National Education Act B.E. 2545 (2002)), Article 15 stipulates that the educational arrangement shall be based on the lifelong education and the education consists of 3 forms including formal education, non-formal education and informal education. The education or learning is necessary for persons all ages. Education and learning could help them to have information, skill, experience and intellectual development in order to deal with various situations (Sumalee Sangsri, 2008). The lifelong learning has happened all time in life and it is covering any place like in a classroom, school, community and work place. And also it comes from mass media or various forms of activities. The lifelong education focuses to develop people who able to adjust them to changes in the world and develop potential of each person. Because the lifelong education could help promoting the well known and skilled person on their career making for better life. (Kiley and Cannon, 2000). Also, the lifelong education helps promote the mobilization of resources in the society to develop knowledge, thinking, and human ability in order to solve the problem and develop the quality of life continuously from birth to death (Udom Choeikewong, 2008)

However it is necessary to have an organization that has in charge management lifelong education direction for successful lifelong education and continuously learning whole life of Thai people. The Office of the Non-formal and Informal Education is one of an organization for this. And they have promoted and coordinated non-formal and informal education work on the Promotion of Non-formal and Informal Education Act, B.E. 2551 (2008) as the law to drive the educational management to be under the intention of the National Education Act B.E. 2542 (1999). Therefore role of Non-Formal Education for supporting and help the inaccessible and people who desire for lifelong learning that have been increasing day by day. (Sombat Suwanapitak, 2011). So The office of Non-Formal Education and Informal education is the place which opens up opportunity for people who do not have a chance reaching to formal education or who need to enhancing their knowledge skills, occupation and incorporate them with their potentials.

Therefore, the most important factor for pursuing non-formal education is facilitators who promote non-formal learning students and people in community and developing quality of education, research, development of curriculum and educational innovation in the different community, gathering data and information that involves with informal education and formal education in community, monitoring and assessing informal education and formal education system for them student and people in community. The facilitators have to acquire a lot of knowledge and skills to help their students to learn, with main duties as follows: 1. Plan for the lifelong education management such as surveying community in order to prepare for community database and cooperating with network parties; 2. Preparing and providing for community learning activities such as the course of non-education in basic education level, managing vocational training or continuous learning by short-term course for developing career, developing life skills and developing society and community to promote reading, managing education activities for community development; 3. Providing service in learning, information of the community, community service center for serving on learning media as community radio; 4. Supporting the community activities on society, culture, and tradition, promoting the establishment of

community group or community club; 5. Building learning network in the community and coordinating for cooperation from network parties, the experts, the local intellectuals, and non-formal and informal education volunteer. (The Office of the Non-formal and Informal Education, 2011)

These shows that the non-formal education facilitators have various roles and works in their workplace on general administration, planning for learning, managing learning, and providing service on media and learning center, and coordinating for cooperation with the network. This requires them to be on site and actual environment for work and for managing lifelong education. Therefore, non-formal education facilitators have to always acquire for knowledge in order to develop such potentials. In developing the potential, must be enhancing follow non formal education facilitators roles are promoting, encouraging, and developing quality of non formal education, service and provide objectives, forms, curricula, methods of provision and course or training durations which are flexible and diverse according to the needs of student and community. In order to develop such potentials, it depends on 2 forms including 1. Internal potential consisting of attitudes, personal characteristics, and motivation; 2. Visible, measurable skill consisting of knowledge and skill in managing lifelong education as stated by spencer&spencer, 1993 and McClelland, 1999. postulates that “Potentials can show in 2 parts as Visible and Invisible visible potential can show like Knowledge is what a person knows about a specific topic and skill are the thing that people can do well and Hidden potential it a personality as trait, motive, attitudes values beliefs”

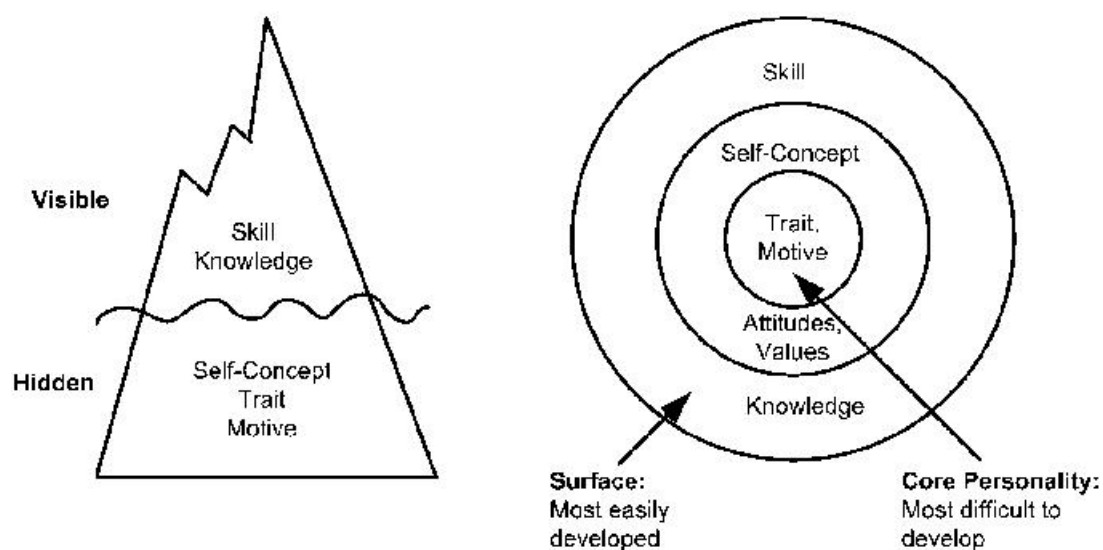


Figure 1: 2 parts of Potentials as Visible and Invisible
(Spencer&Spencer, 1993 and McClelland, 1999)

In developing any matter, it should start at the person or the learner first. So, self-development plays an important part in developing a person because self-development is the most important of a person in life and in performing work because it can help improve the quality of life and work. The person who always develop oneself would be the one with wider range of knowledge and better ability and skill at performing work in terms of knowledge, ability, skill, attitude, moral, ethics, and the concept in performing work with the aim to allow the person to develop potential and ability in

work efficiently and fully as well as to have tool in seeking for knowledge to keep up with change of the world and to benefit the society. As Megginson and Pedler (1992) postulates that “A self-development as a process which Non-formal education facilitators can take the primary responsibility for choosing what, when and how to learn. They also suggest that this implies a certain freedom in choosing what not to learn, although this may raise certain tension with others in the organization, Community and their students”. Non-formal education facilitators who have self-development would have self-development process to development themselves that consists of 7 steps including 1.Desire to learn because if workers want to learn about their work it would lead them to success at work, 2.Self diagnosis to analyze oneself and then, 3.Set goals, 4.Find appropriate resources, 5.recruit other people, 6.Strict ability and perseverance,and finally, 7.Self Evaluation. (Megginson.D and peddler.M, 1992)

However, at present, self-development of non formal education facilitators is found to be at a very low level although it is done continuously but is still impractical as stated by the Director of Provincial office of the Non-formal and Informal Center of Bangnampriew Sub District in that “non-formal education facilitators have develop themselves in form of self- directed learning via various activities by conversation with the expert, by survey in the real area in community, by exchanging knowledge and experience among themselves, by studying for more information on the local area, by reading, by asking their supervisor or coaching, and then by applying knowledge to manage lifelong education”. So if non-formal education facilitators have always developed their self-development to enhancing potentials of lifelong education management all the time, them will can be used to aid the organization in achieving goals and objectives. Enhancing performance in the existing job, advancing your career, developing specific skills. (Mumford, 1993)

This is consistent with the interview of the non-formal education facilitators of Norachate Sub-district Non-formal and Informal Center closed to Bangkaew Sub-District in that “Since each Sub-district has its own characteristics in terms of information, the people in the community who are non-formal education facilitators then have to seek for knowledge by themselves because there is not much training from the Central Region, and the content is too wide. Each non-formal education facilitator would receive knowledge from the community as the main one through conversation with the experts in the community, reading, asking from buddy civil servant in charge, or study more in the subject that one wants to learn to build and develop potential in managing lifelong education to be of more efficiency. This shows that self-education of non-formal education facilitators is not patterned. Also, each non-formal education facilitator has one’s own technique in developing oneself in order to apply knowledge and skill in building potential in managing life-long education differently.

Finally research will suggest that the pattern and form of learning in self-developing in order to build potentials in managing lifelong education in both parts are Visible and Invisible visible potential can show like Knowledge is what a person knows about a specific topic and skills are the thing that people can do well and Hidden potential it a personality as trait, motive, attitudes,values beliefs by Megginson and Pedler (1992) Process to development enhancing self-development of non-formal education facilitators in Thailand for make people in community have lifelong learning and

sustainable communities. As The National Education Act B.E. 2542 (1999), and its Amendments (Second National Education Act B.E.2545 (2002)) principles are education shall aim at the full development to Thai people in all aspects: physical and mental health; intellect; knowledge; morality; integrity; and desirable way of life so as to be able to live in harmony with other people.

Research question

1. What are the components and processes of self-development for non-formal education facilitators to enhance lifelong education management potentials?
2. What are The Self-development learning model that can enhance lifelong education management potentials of Non-formal education facilitators?
3. What are the factor, Conditions and limitation that influence to the success of implementation The Self-development learning model to enhance lifelong education management potentials for Non-formal education facilitators?

Research objectives

1. To analyzing the components and self-development learning process of non-formal education facilitators for enhances potentials of lifelong education.
2. To develop the Self-development learning model to enhance lifelong education management potentials for Non-formal education facilitators.
3. To study the factor, conditions and limitations resulted from using the Self-development learning model to enhance lifelong education management potentials for Non-formal education facilitators.
4. To propose the policy and knowledge to recommendations about a self-development learning model to enhance potentials of lifelong education management for non-formal education facilitators to non-formal education facilitators.

Scope of the study

Population and sample:

Researcher has chosen a study sample by purposive sampling and snowball samplings are Non-formal education facilitators of the Office of the Non-formal and Informal Education in Sub-District. Who work at the Provincial office of non-formal and informal education in Chonburi Province. That divided in 3 groups as

1. Director of The provincial office of the Non-formal and Informal Education and Supervisors of the Provincial Office of the Non-formal and Informal Education.
2. Non-formal education facilitators
3. Professor in university who expert about Non-formal education Facilitators.

Variables used in the study:

Variables studies in this research include: Independent variables: the Self-development learning model to enhance lifelong education management potentials for Non-formal education facilitators. And Dependent variables which are Non formal education facilitators can enhance lifelong education management potentials.

Content:

The content involves the components and the process of a self-development learning that collected systemic reviewing literature or documentary study and from 21 experts from Delphi technic (Open-ended Form)

Expected benefits and application

1. Non formal education facilitators can enhance lifelong education management potentials that involves 2 forms are visible potentials as knowledge, skills, etc. and invisible potentials are attitudes, personal characteristics and motivation, etc.
2. Knowledge and information that got resulted from phase 1-3 can recommendations and guideline to make non formal education facilitators develop themselves and sent to “The office of the non-formal and informal education” to enhance potentials or bring to use with training program of non-formal education facilitators.

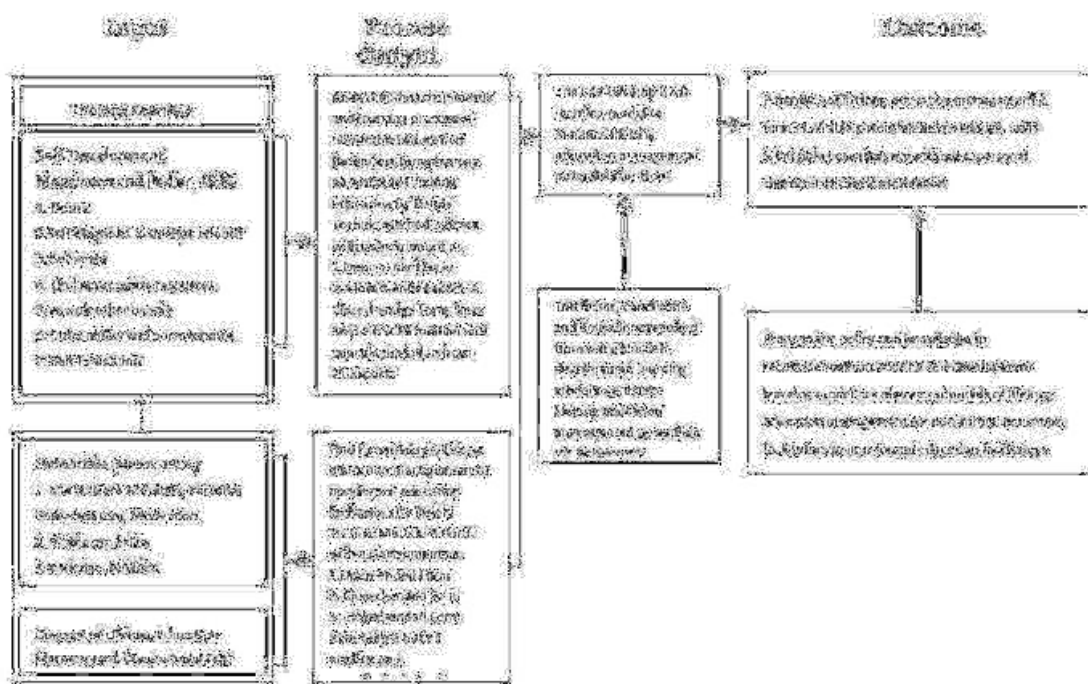
Conceptual Framework

Figure 2: Conceptual Framework

Methodology of enhancing self-development and potential of non-formal education facilitators

This study uses Delphi Techniques and Quality research method. Researcher designed this study by dividing it into four phases as follows,

Phase 1, First step had to analyzing the components, the elements, and learning process of non-formal education facilitators for enhances potentials of lifelong education management from systemic reviewing literature or documentary study about Lifelong learning education, Self-development, Potentials for enhance lifelong

education management, non-formal education facilitators in Thailand. Then a field visit at the provincial office of the Non-formal and Informal Education in Chonburi province to interview and collecting characteristic of non-formal education facilitators. Second step using Delphi technique 3 times by interview the experts and sampling group 21 people are 1) Director of The provincial office of the Non-formal and Informal Education 2) Supervisors of the Provincial Office of the Non-formal and Informal Education 3) Non-formal education facilitators 4) Professor in university who expert about Non-formal education Facilitators.

Phase 2, Collecting all data and information from first phase for develop to create a self-development learning model to enhance potentials of lifelong education management for non-formal education facilitators.

Phase 3, To test a self-development learning model to enhance potentials of lifelong education management for non-formal education facilitators and study the factors, conditions, and problems of using a self-development model to enhance potentials of lifelong education management for non-formal education facilitators. In this phase researcher will be applied a self-development learning model to enhance potentials of lifelong education management for Non-formal education facilitators to sampling group in Chonburi province by using study Case by Case method.

Phase 4, Gathering the results of phase 1-3 propose the policy and knowledge to recommendations about a self-development learning model to enhance potentials of lifelong education management for non-formal education facilitators to non-formal education facilitators. Use outcome to propose the policy recommendations for non-formal education facilitators to enhance potentials of lifelong education for applying with their work or life.

Research findings

Researcher studied on Phase 1 are analyzing the components, the elements, and self-development learning process of non-formal education facilitators for enhances potentials of lifelong education management from systemic reviewing literature and field visiting found as.

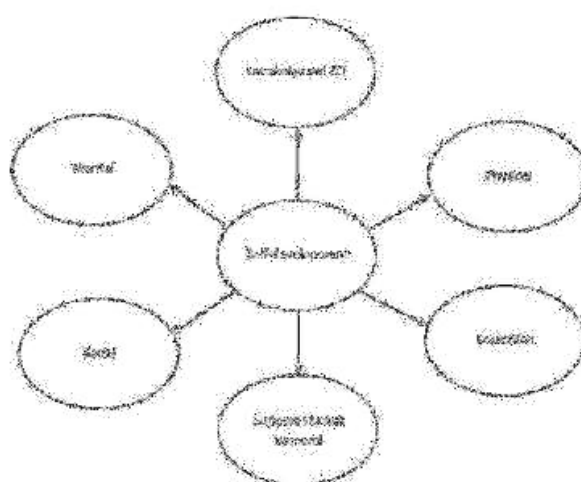


Figure 3: Components of self-development
(Sangan suthilertarun, 2000)

Research found first aim is The component of self-development learning that can support and enhances potentials of lifelong education management of non-formal education facilitators that have experts say about it are Sangan suthilertarun, 2000 said self-development have 6 components are 1. Knowledge and EQ development, 2. Physical development, 3. Mental development, 4. Social development, 5. Education development, 6. Develop yourself for support market demand.

And The Office of the Basic education commission, 1998 said about the components of self-development are 1. develop in occupation 2. Physical develop 3. Mental develop

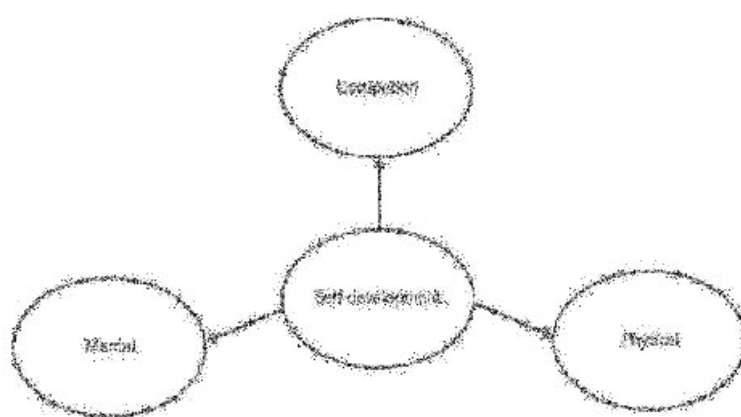


Figure 4: Components of self-development
(The Office of the Basic education commission, 1998)

So the components, the elements, of non-formal education facilitators for enhances potentials of lifelong education have 6 components are 1. Develop about EQ and Knowledge 2. Develop about Physical 3. Develop about mental 4. Develop about Social 5. Develop about Education in occupation 6. develop yourself for support market demand.

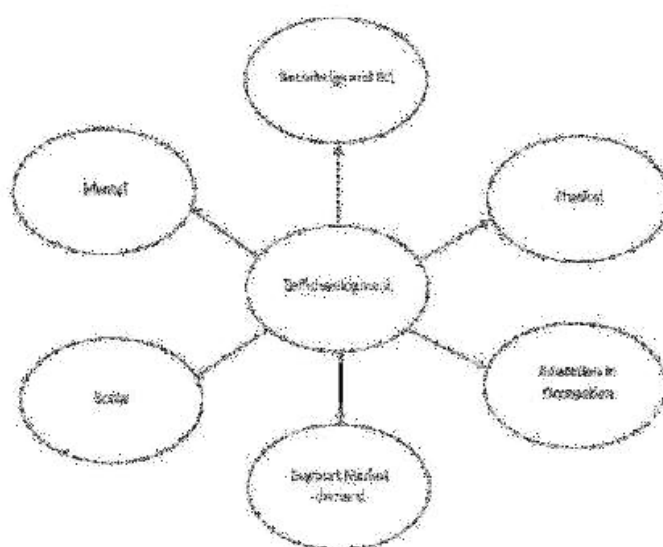


Figure 5: The component of self-development learning to enhances potentials of lifelong education management of non-formal education facilitators

And next aim found was analyzing self-development learning process of non-formal education facilitators for enhances potentials of lifelong education management. By systemic reviewing literature from self-development concept of Cooper (1973), O'Connor (1980), Boydell,T (1985) and Megginson and peddler (1992) and field visiting found the processes that most suitable with enhances potentials of lifelong education management of non-formal education facilitators have 8 processes are 1. Desire to learn, 2. Self-diagnosis/find problem, 3. Set goals and plan for learn and develop yourself, 4. Finding appropriate resources and media, 5. finding support of other people concern, 6. Attempt to do, 7. Self-evaluation, 8. finding new method and review

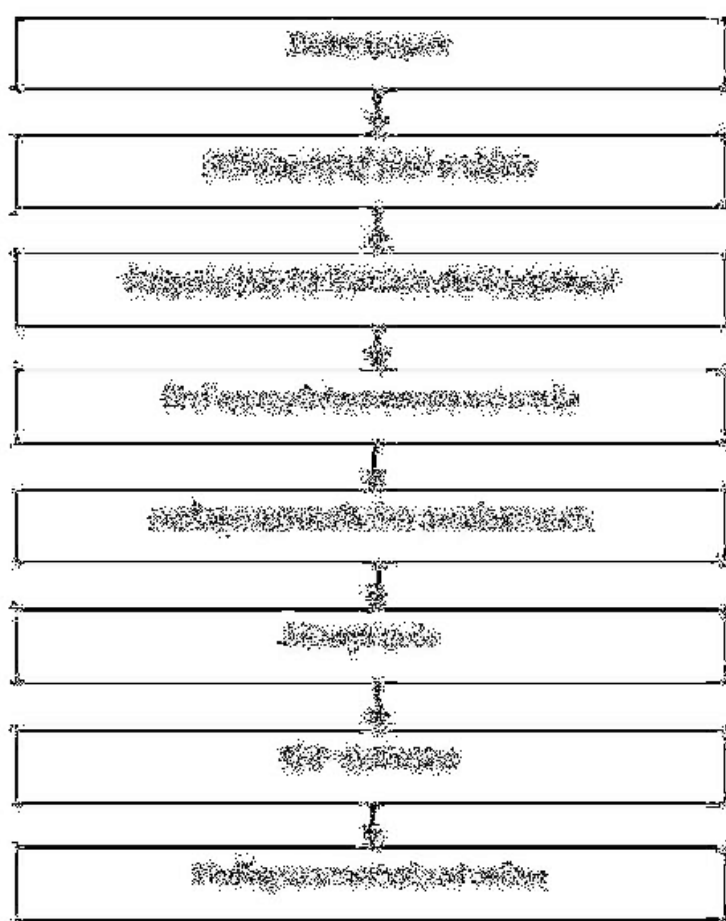


Figure 6: Self-development learning processes of non-formal education facilitators to enhances potentials of lifelong education management

After upper step then researcher will sent all analyzed resulted of the components, and self-development learning process of non-formal education facilitators to enhance potentials of lifelong education management from systemic reviewing literature and field visiting to 21 experts by using Delphi technique 3 times to prove all information and data.

Conclusion

Finally, the non-formal education facilitators who attained to enhancing potential of lifelong education management and self-development will gain information of the components and learning process of non-formal education facilitators for enhance potential of lifelong education management, to create the self-development learning model to enhance lifelong education management potentials for non-formal education facilitators. And get new knowledge and guideline of a self-development learning model to enhance potentials of lifelong education management for non-formal education facilitators' pattern. Include the factors, conditions, and problems of using a self-development model to enhance potential of lifelong education management for non-formal education facilitators that can apply to work.



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***The Design and Use Of Multimedia Storytelling
Book for Hearing Impaired Students***

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Abstract

Multimedia application of a multimedia storytelling book is useful and has many advantages for hearing impaired students. This paper presents information based on reliable literature reviews about the multimedia storytelling book design framework for hearing impaired students. The purpose of this research is to explore the application of a multimedia storytelling approach in teaching the hearing impaired. In addition, the paper aims to inform educators as to the importance of understanding the three aspects of this study: multimedia design, hearing impaired learning design, and interface design. This current study shows how these three aspects can be combined to furnish a multimedia storytelling book prototype for hearing impaired students. In the next phase the researcher will create the multimedia for hearing impaired students.

Keywords : multimedia storytelling book , multimedia application , hearing impaired student

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Introduction

Providing education to hearing impaired students is important for the development of Thailand. Although, schools must be able to teach children with physical disabilities and focus on this group of children, schools also need to develop appropriate teaching methods, that will enhance the development of hearing impaired students. Thus, the educational system in Thailand should not be confined to the hearing student. It must, also provide opportunities for children who are hearing impaired and who are considered disadvantaged. (Department of Education, 2003) According to a survey of the disabled population, by the National Statistical Office (National Statistical Office, 2012) 1,319,832 people out of the 65.4 million Thai population have disabilities, including 243,044 hearing impaired. This represents 18.41% of the total Thai disabled population. Therefore, to provide education for those hearing impaired students, the traditional public and private schools have established a special education program, which was established with the goal of providing a road to a successful, happy and normal life.

Thai law requires all children study basic education (Prathom 1 to Mattayom 3) to help develop manpower for the future of the country. Mathematics is important both for higher education and for everyday life. Mathematics is as a subject that begins with simple concepts and problems and continuously becomes more challenging. Mathematics involves rational problem solving and systematic thinking from simple concepts to difficult ones (Warinthorn, 2004) (e.g. addition, subtraction, multiplication, division). The importance of mathematics make it one of eight groups of subjects that students must learn. Mathematics is a subject that helped develop the idea that children (Sucha, 1982) can think creatively, rationally, and can analyze problem or the situation carefully, help in forecasting that outcome, solving the problems or situations effectively. Mathematics also helps students, forecast outcomes, solves problems, and apply their skills to daily life situations. Although mathematics is compulsory for students with hearing impairments, the test of the national basic education level (O-NET) Level 2 includes both the hearing and hearing impaired. The National Institute of Educational Testing Service (Ministry of Education, 2001) found that of the eight groups of subjects students study, students averaged a lower scores than normal students in all subjects areas. This was especially true in mathematics where students with hearing impairment scored only 34.5 % on average compared with hearing children. This points out that the division in mathematics courses is the lowest compared to other subjects

This study includes interviews with, mathematic teachers (Angkana, 2012) and (Jaruwan, 2012) in Thug Mahamek school for the deaf on 26 July 2012. The study found that mathematic achievements (Angkana, 2012; Jaruwan, 2012), mathematic skills (Surin, 2002) and lower achievement (Furth, H. G., 1981) for deaf student was consistent (Meadow & Schlesinger, 1976). In Meadow & Schlesinger's research, they found that hearing impaired students cannot clearly, and accurately receive learning content because they often forgot the lesson content, and as result, the students have to guess about the content of teachers' lectures.

The way to solve problems in mathematics for students with hearing impairment is to help the student acquire a basic knowledge of mathematics such as addition and

subtraction. The research related to students with hearing impaired students including interviewing teachers found that hearing impaired students have the ability remembering images (Piyaporn,2013). The researchers suggest one way to solve the problem is create multimedia-based instruction. This can improve mathematical skills. The present findings posit that multimedia helps students understand content that cannot be described in words. It is widely used to present information so that people of all levels can understand quickly and accurately. The students learn more efficiently, develop creative thinking skills and understand concepts easier. Furthermore findings indicate that media of instruction in mathematics for students with hearing impairment can be successful. As a result, the researcher designed a framework to enhance the mathematics skills of hearing impaired students.

Content of design framework



Figure1. The multimedia storytelling book design framework for hearing impaired

This research summarizes the multimedia storytelling book for hearing impaired students in three steps. Three steps follow the e-book design framework (Parton, 2006) : multimedia design , hearing impaired learning design and interface design. In the next phrase I will create the multimedia for hearing impaired students.

- **Multimedia design**

The multimedia design is implemented for the hearing impaired to support literacy, mathematics and communication. Also included are tips for creating multimedia design :

- Use sign language (Anderson-Inman&Horney, 2007) and (Adamo-Villani, N., J. Doublestein, & Martin, Z.,2005)
- Use graphic, images and video (National Association of State Directors of Special Education , 2007; Loeterman, Paul ,&Donahue, 2007)
- Students who have a hearing impairment require visual images to support their learning and to enhance their understanding of content. (Gentry, M. M., Chinn, K. M., & Moulton, R.D.,2005)

- Use of paintings, drawings, photographs or prints can be classified as a media of instruction. (Dowliby and Lang, 1990)
 - Using pictures from the story , the student can learn and understand content. (Parton, B. S. , 2006)
 - The images should be bright colors, not black or brown that give the feeling of depression. Images should be clear and create a smooth picture , and the images should have aesthetic qualities and illicit emotional tenderness. (Roskos K.,2009)
 - The multimedia design should be interactive between students and the media. (Mana Prateepornsak, 2006)
- Hearing impaired learning design
The hearing impaired learning design is the guideline to support the hearing impaired student and learning style :
 - A strong primary relationship between child and parent leads to strong self identity and more appropriate peer interactions.(UNESCO, 1987and Marc Marschark and Peter C. Hauser, 2011)
 - Support from parents on social issues increases the child's social independence and increases socialization with peers and motivation to socialize. (Padden, Carol A.; Humphries, Tom (Tom L.), 2005)
 - The hearing impaired cannot hear but they can see so they can use the multimedia storytelling book for learning. (Miller, Kevin J. , 1998)
 - Deaf and hearing impaired use sign language for communication. (Marschark, M., Leigh, G., Sapere, P., Burnham, D., Convertino, C., Stinson, M., Knoors, H., Vervloed, M. P. J., and Noble, W. , 2006)
 - Deaf parents identify with their children, provide appropriate modeling in relating with other deaf individuals and encourage autonomy within their children. (Lane, Harlan L.; Richard Pillard and Ulf Hedberg, 2011)
 - Use of visual and spatial images , sense of sight and the visualization of objects and helps create internal mental images/pictures.(Carney,R. and Levin , J. , 2002)
 - Use content and function of sign language, which is important in the early years for the deaf child. (UNESCO,1987)
 - Use imagery instruction to facilitate learning . Students are more successful in recalling and retaining information. The ability to create mental images is a part of cognitive learning . (Kosslyn, 1981) and (Hodes, C. L., 1992)
 - C . Interface design
The interface design is the guideline to support the hearing impaired student when using the multimedia storytelling book :
 - Icons for children should be designed so they represent actions or objects in a recognizable manner and easily distinguishable from each other. (Kim, M.Y., 1995) and (Druin, A. & Solomon, C., 1996)
 - Icons should also be sized so that children can easily click on them. (Shneiderman B. and C. Plaisant, 2004)

- Use of text should be minimized for children. (Theng, Y., Nasir, N., Thimbleby, H., Buchanan, G., Jones, M., Bainbridge, D., & Cassidy, N., 2000) and (Bilal, D., & Bachir, I., 2007).
- Design multimedia and an interface that is familiar to the children in school and daily life. (O'Keefe, E & Solman, R., 1987)
- Design interface in a way that allows the user to focus on what is most content important. The size, color, and placement of each element work together, creating a clear path to understanding to interface. (Borgna, G., Convertino, C., Marschark, M., Morrison, C., & Rizzolo, K., 2011)
- User interface design for children, designers should: Use highly visual menus, icons, animation, and create an environment that has many guidelines to prevent errors. (Grammenos, D., A. Paramythis and C. Stephanidis, 2001)

Application to the prototype

This study follows the multimedia storytelling book design framework for the guideline in developing the prototype. This study examines the effect of multimedia use on hearing impaired children's ability to learn math using a multimedia storytelling book. During the development of the prototype, each step was tested with hearing impaired students who were the targeted users. The results of the testes were evaluated by teachers in the deaf school. From the evaluations, the strengths and weakness of the prototype were accessed and the comments by the teachers were used to improve quality and flexibility of the users. Formal evaluation for the complete prototype was conducted. Example of the prototype are shown in Fig2 , 3 ,4 ,5 and 6.



Figure 2. Content Screen Title



Figure 3. Content about menu



Figure 4. Content about story



Figure 5. Content about counting sign language



Figure 6. Content about exercises

Conclusion

This paper examines in three steps the usability design of the multimedia storytelling book based on a literature review; multimedia design, hearing impaired learning design, and interface design. This current study also provides guidelines for students' use of the multimedia storytelling book. The book for hearing impaired was designed as an educational tool to support hearing impaired students and teachers in Thailand's school for the deaf. The first step of the framework of the multimedia storytelling book has been designed. The current design covers math numbers from one to twenty. Future studies should increase the math numbers to one to one hundred because the Thai department of Education has set the math standards for grade one students at one to hundred.

Acknowledgements

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The logo for the International Association of Frontiers Researchers (iafor) is centered on the page. It features the word "iafor" in a light blue, lowercase, sans-serif font. The text is enclosed within a circular frame composed of two concentric, slightly irregular arcs. The outer arc is a light blue color, and the inner arc is a light red color, creating a subtle, stylized circular border around the text.

***Analyzing Impact Of Formally Taught Life Skills' Curriculum On
Self Esteem And Thinking Skills Of Early School Children***

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Sadaf Nazir, Silver Oaks School, Pakistan

The Asian Conference on Education 2014
Official Conference Proceedings

Abstract

There is a rapidly developing trend of anxiety and depressive disorders; the level of prevalence of such disorders is at 34% in urban Pakistan. Given this alarming level of anxiety and depressive disorders and the evidence that intervention is mandatory for prevention, we have analyzed the role, if any, that educational institutions can play in providing preventive tools that will facilitate in coping with diverse situations that pose challenges leading to disorders. Our study is an attempt to investigate: (a) the impact of structured, taught and activity based curriculum for life skills with focus on self-esteem and thinking skills; (b) the differences in impact, if any, by gender. Out of total population of 3000 students, 220 students of Grade 1 (age 6-7 years) participated in the study. Five sample sets were taken, with identical numbers for both genders. Experimental design was pre tests, followed by 30-week program intervention and subsequent post tests in order to measure the changes in the self-esteem and thinking skills of early school children. The instruments used were Rosenberg Self-Esteem Test and Drawing and Conservation Tests for assessment of thinking skills. T-Test and ANOVA were used to evaluate the significance of impact of intervention. Based on this research: (a) it is conclusively clear that structured intervention enhances thinking skills (40.2%) and self-esteem (31.6%); (b) it can be reasonably deduced that improvement level is not directly correlated with the base level skill; (c) it can be intuitively determined that while prolonged intervention is expected to lead to a continuous improvement, the skill development over time is not likely to be linear. Based on our findings, it is deemed necessary and recommended that: (a) more targeted research be conducted to determine the level of intervention, on self-esteem and thinking skills, at which a significant correlation exists to treat this intervention as a prevention tool against developing mental disorders; (b) on concluding such research, it may be used to form the basis of prescriptive policy and law making for changing the early education curriculum to include mandatory life skills education as one preventive intervention against avoidable mental disorders caused by inability to manage stress and frustration.

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Introduction

Within the fast changing world of globalization and change, in Pakistan, there is a rapidly developing trend of anxiety and depressive disorders. Mirza & Jenkins suggest that in urban Pakistan, the level of prevalence of such disorders is at 34% and is linked to relationship problems, financial difficulties and low educational level [1]. Also, the argument that health will automatically improve with economic growth, alone, is not supported by evidence. WHO study suggests that diseases will not go away without specific investments in health interventions [2].

Given this alarming level of anxiety and depressive disorders and the evidence that intervention is mandatory for prevention, we have set about analyzing the role that educational institutions can play in developing tools, amongst young children, that will facilitate them in avoiding falling prey to suffocation and stagnation associated with instability and frustration. These tools, we have assumed, are skills associated with thinking and self-esteem, which are jointly called life skills. These skills, we believe, are indispensable for students to cope with diverse situations that pose ever changing challenges causing anxiety and depressive disorders [3, 4, 5].

Human beings are inherently blessed with these life skills, though most of these remains hidden, latent, underdeveloped or unexplored, due to various reasons. All over the world, educational institutions are considered influential in polishing and developing these skills, though other social institutions such as family and peers also play an important role. Studies show that the positive family environments offer opportunities for personal autonomy and encourage nurturance of thinking skills, which are associated with the positive outcomes such as self-esteem, satisfaction with school and student teacher relations, self-reliance, positive school adjustment and advanced moral reasoning [6]. Parental styles also affect self-esteem and overall personality of children [7]. However, in most of the third world / developing countries, the parenting style is coercive, authoritarian and not aligned to the children needs for autonomy and input. This kind of parental style is associated with self-consciousness and lowered self esteem [8]. Stakeholders of education are recognizing that developing life skills in children, from an early age, is now a needed invention - developing self-esteem and thinking skills should be an affirmed objective of education as it enables the students to think for themselves [9]. The natural next question, then, is when and how to work on shaping these life skills. This question has been answered by many social and natural scientists, where they suggested that early childhood (age 6-10) is the most crucial period of one's life. Early childhood period is most significant because it provides a strong foundation for rest of the life. Intervention during early childhood can change the life (quality) trajectory of an individual [10]. Through these years, children forge a personal identity, a self concept and an orientation toward achievement that will play a significant role in shaping their relative success in life [11]. Children, especially in their early childhood period, have an ability to readily acquire knowledge and skills. In this process, education (and by extension, educational institutions) play a key role [12].

In previous practices, life skills were amalgamated in some traditional curriculum subjects like Mathematics, History & Geography [3, 13, 14]. Lately, focused life skills programs have been implemented across many countries, with half of this implementation taking place in the United Kingdom and the United States. No

substantial work has been done in Pakistan to develop thinking skills and self-esteem of the children. Higgins et al., in 2005 [15], reported that only one such study has been conducted in Pakistan.

Our study is an attempt to investigate: (a) the impact of structured, taught and activity based curriculum for life skills with focus on self-esteem and thinking skills; (b) the differences in impact, if any, by gender. In order to draw relevant and actionable results, we have used T-Test and ANOVA to evaluate the mean differences between the pre-test and post-test scores to identify the significance of impact of intervention on thinking skills and self-esteem.

Materials And Methods

Experimental design

Quasi-experimental design was used to conduct the study with pre and post tests [16]. Before giving treatment (i.e. intervention through a structured life skills' taught program), a pre-test was conducted. After pre-test, all intact groups from Grade-1 were given treatment, so that some students should not feel themselves being deprived from the treatment. The treatment was in the form of structured, taught and activity based curriculum for life skills which, we called "Silver Oaks Model Curriculum (SOMC) for Life Skills". This model curriculum was designed by combining various models and techniques i.e. Philosophy for Children (P4C) [17, 18, 19]; Cognitive Acceleration [20]; Cooperative Learning [21]; and Murk's Self Esteem Enhancement Techniques [22]. This treatment was given for thirty weeks and then post test was conducted to analyze the impact of treatment. The design of study is represented in Figure 1

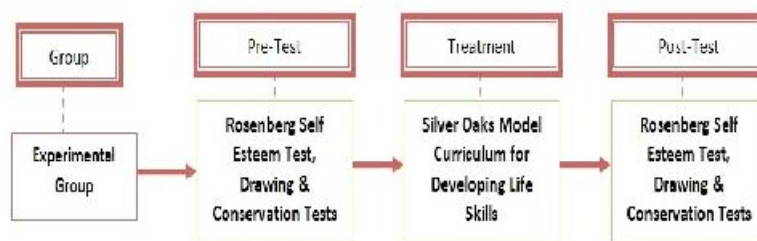


Figure 1 Experimental Design of Study

Sampling

Five sample sets were taken from five different schools in various areas of Rawalpindi, Pakistan. Each sample set included 44 children (ages 6-7). A total of 220 children participated in the study - 116 boys and 104 girls. Data of only 28 children per sample set, with identical numbers for both genders, who were present at the time of both pre and post tests, was analyzed.



Figure 2 Map indicating sampling points at different sampling sites
Instruments of study

Three instruments were used in this study to conduct pre and post tests in order to measure the changes in the self-esteem and thinking skills of early school children. The instruments were: (1) Rosenberg Self-Esteem Test [23]; (2) Drawing Test [24, 25, 26]; (3) Conservation Test [26] for the assessment of thinking skills. Self-esteem test included a standard questionnaire to assess the self esteem of the children. Drawing test included water level and plumb line tasks. For the task, pre-printed sheets were provided. The sheets had pictures of bottles and jars and children were required to show water level and plumb line respectively. Conservation test included the Piagetian conservation of number, liquid amount, solid and weight. These tests measure the cognitive development from late pre-operational to mid concrete level. There were five tasks in the conservation test: one related to conservation of numbers; one related to conservation of liquid amount; two related to conservation of solid amount and one related to conservation of weight. Considering thinking skills of early school children, most of them, perhaps, are either at preoperational or concrete operational level. Concrete operational level is identified by the schema of operational thinking leading to conservation, classification and reversibility. Hence, our use of Conservation Test, in conjunction with the Drawing Test that is developed for children ranging from pre-conceptual to late concrete level, for result verification.

Table 1 Interpretation of Drawing Test Scores

Raw Scores	Piagetian Level	Description
0-3	Preconceptual	0
4-9	Early Preoperational	1A
10-13	Late Preoperational	1B
14-18	Early Concrete	2A
19-21	Mid Concrete	2A/B
22	Late Concrete	2B

RESULTS

We carried out this research to study the impact of “Silver Oaks Model Curriculum (SOMC) for Life Skills” (the only available structured program being implemented at an educational institution) on thinking skills and self esteem of early school children.

Impact of SOMC for Life Skills on Self-Esteem

Results depict that self-esteem has improved in all sample sets across all five schools (see Figure 3), irrespective of gender. The range of improvement is from 11.1% to 61.5% and average / mean improvement is 31.6%. Overall improvement in boys is 34.7%, higher than girls at 28.8%.

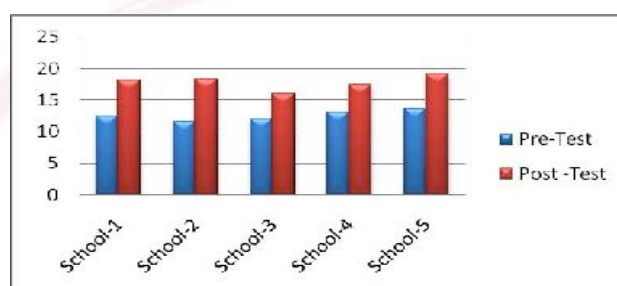


Figure 3 Pre-test and post-test scores for self-esteem assessment

Pre-test base level self-esteem in girls was higher by 6.7% than boys, although improvement in boys is more. Post-test self-esteem development of girls is still marginally higher i.e. by 1.98%.

In school-4, where pre-test level of girls and boys was identical, improvement in boys is higher i.e. 61.5% versus 46.2% in girls (see Figure 4).

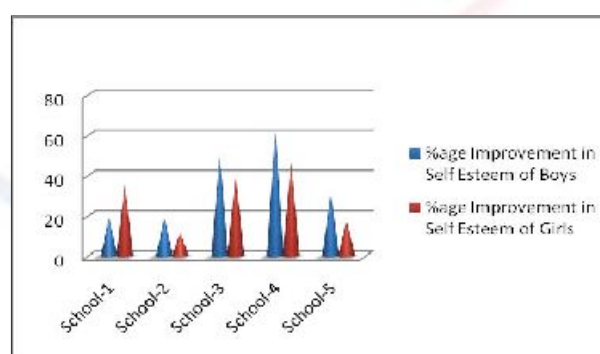


Figure 4 Percentage improvement in self-esteem

Except one set, where it was equal, in all other four data pairs, girls had a higher pre-test score. Post-test results indicated that intervention is more effective on boys in four schools. However, in one school, intervention is more effective on girls.

Impact of SOMC for Life Skills on Thinking Skills

The results of drawing test revealed that thinking skills in all sample sets across five schools (see Figure 5), irrespective of gender, have increased.

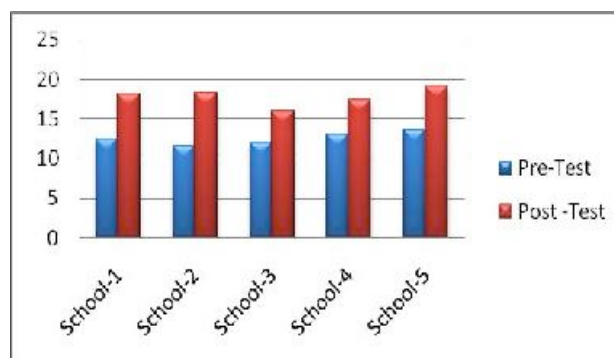


Figure 5 Pre-test & post-test scores for thinking skills assessment

Range of improvement, irrespective of gender, is from 13% to 72.7%. Overall improvement in boys is 55.9%, higher than girls at 26.5%.

Pre-test base level thinking skills in girls, compared to boys, are higher by 15%. However, post intervention, thinking skills of boys have exceeded those of girls by 7%. In school-4, while pre-test result of girls and boys was identical, improvement in boys was slightly higher i.e. 38.4% versus 30.8% (see Figure 6).

Except one school, where pre-test score is equal, in other four data pairs, thinking skills of girls were higher. Post-test indicates that intervention has enhanced the scores of boys in four schools, completely reversing the pre-test trend. In the fifth data pair (School-3), the improvement in boys is higher than girls, although the absolute scores of girls are still higher.

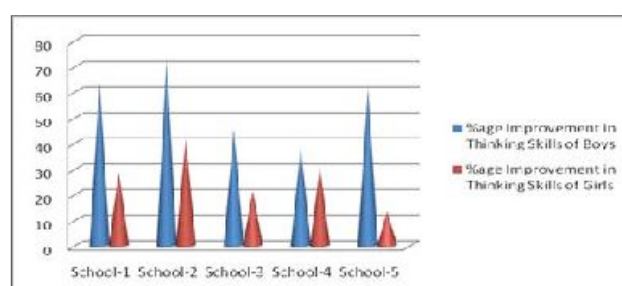


Figure 6 Percentage improvement in thinking skills

The conservation test conducted in mixed gender groups reconfirmed the findings of drawing test for thinking skills. The level of improvement is varying across schools within the range of 0.3 times – 1.2 times (see Figure 7).

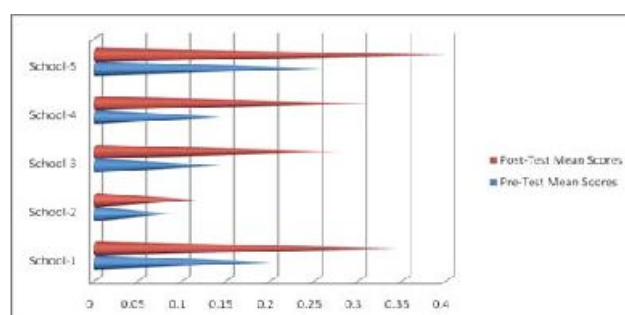


Figure 7 Pre-test & post-test scores for thinking skills assessment (Conservation Test)

T-Statistics & ANOVA

T-Statistics and ANOVA were applied to the data of all three tests to find the mean difference between the results of pre-test and post-test. The results of T-statistics and ANOVA for all three tests revealed that the maximum level of significance i.e. p-value = 0.00, 0.00, & 0.13 for self esteem test, drawing test and conservation test respectively, which is < 0.05 . This indicates that there is a significant difference between the mean scores of pre-tests and post-tests. The confidence interval of the difference for all three tests was found to be 95% (see Table 2).

Table 2 Paired Sample Test for Self-Esteem

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pre-Test 1 - Post-Test 1	-5.000	2.219	.593	-6.281	-3.719	-8.432	13	.000
Pair 2	Pre-Test 2 - Post-Test 2	-2.429	1.555	.416	-3.326	-1.531	-5.844	13	.000
Pair 3	Pre-Test 3 - Post-Test 3	-6.357	1.946	.520	-7.481	-5.234	-12.225	13	.000
Pair 4	Pre-Test 4 - Post-Test 4	-6.500	1.506	.403	-7.370	-5.630	-16.145	13	.000
Pair 5	Pre-Test 5 - Post-Test 5	-3.357	1.499	.401	-4.223	-2.492	-8.379	13	.000

Result & Interpretation

After intervention, the impact was significantly high amongst both genders. This result is supported by another study conducted by Shyer & Adey in 2002 [27], where these life skills were developed in the children of age 5 through interventions provided over a period of one year. Many other studies have revealed that the improvements in self-esteem and thinking skills are directly linked to the intervention, not to non specific factors [28, 29].

Improvement in boys is found to be more, as compared to girls. This is also consistent with the study [30, 31, 32], which indicated that brain growth patterns of girls and boys are different. The decrease in the growth of boys' brain does exist, beginning at about 4.5, 7.5, 9.5, 12 and 15 years of age. These decreases are followed by rapid increases called "spurts". Another study [33] reported that brain spurts in boys occur at 6-7 years and 11-14 years, which supports the results of our study, as children between age 6-7 were taken as an experimental group.

On average, the control experimental data indicated that the base level of girls was higher than boys. This is due to the fact that the brain spurt in girls occurs in ages: 1.5, 2.5, 7.5, 10.5, 14.5 & 16.5 years [34]. By the time they had reached age 6, they had already gone through two brain spurts versus boys, who had only one brain spurt after 4.5 years of age [30].

Irrespective of gender, the impact of intervention on thinking skills, at 40.2%, is higher than that on self esteem at 31.6%.

After intervention, while girls have more improvement in self-esteem than thinking skills (a result also supported by another study done by Puala et al., in 1999 [35]), both skills have improved. Boys, on the other hand, have equally significantly high impact on both thinking skills and self esteem.

Based on this research: (a) it is conclusively clear that structured intervention enhances thinking skills and self-esteem; (b) it can be reasonably deduced that improvement level is not directly correlated with the base level skill; (c) it can be intuitively determined that while prolonged intervention (5 years) is expected to lead to a continuous improvement, the process of enhancement of skill development is not likely to be linear.

Conclusion and Recommendations

Before drawing our conclusions, two references need attention: a) Ability of school children, to detect mental disorders after being given health education, improves [36]; b) A coherent mental health policy with a strategic implementation plan is essential for enhancing economic and social capital [37].

Based on previous research and our study, our conclusions and recommendations are as follows:

1. Introducing a structured and well-researched program in the early school years, to develop self-esteem and thinking skills, will play a significant role in preparing children for inclusive, reflective and productive citizenship;
2. 5 years intervention of SOMC for Life Skills is projected to lead to a 55% to 65% enhancement (based on linear progression assumption) in self-esteem and thinking skills respectively. However, there is no way to determine the actual or maximum impact on improving of these skills, as progression is not likely to be linear but compounded;
3. In light of the 34% presence of anxiety and depressive disorders in Pakistan, and based on our findings, it is deemed necessary that: (a) more targeted research be conducted to determine the level of intervention, on self-esteem and thinking skills, at which a significant correlation exists to treat this intervention as a prevention tool against developing mental disorders; (b) on concluding such research, it may be used to form the basis of prescriptive policy and law making for changing the early education curriculum to include mandatory life skills' education as one preventive intervention against avoidable mental disorders caused by inability to manage stress and frustration.

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Investigating Students' Problems in Understanding their Personal Qualities and Skills for Cover Letters – A Self-Assessment Approach

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Abstract

This paper explores students' problems in presenting their personal qualities in cover letters for job application and examines the effectiveness of self-assessment approach in countering these problems. This study adopts the action research approach, and the research methods used are content analysis, individual interview and self-assessment feedback. The research procedure consists of a three-stage approach. The researchers comprise four English instructors who also act as participant-observers in their language classrooms and collaborators in this action project. The objective of the research is to identify the problems faced by the selected learners in writing relevant information on their personal qualities and their strategies in overcoming the problems based on their own self-assessment feedback. Primarily, this study focuses on the presentation of both technical and soft skills in the cover letters. Based on the content analysis and the students' self-assessment feedback, it was found that generally, the cover letters produced in the post-intervention demonstrated clearer and much more effective content. Specifically, it was found that students were able to do their own self-assessment by providing relevant and specific personal information that promotes personal qualities and skills in their cover letters.

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Introduction

This paper investigates students' problems in understanding their personal qualities for cover letters and how the knowledge about self-assessment approach helps them to gather relevant personal information in the process writing of cover letters for job application among six second language learners who took a workplace communication course at a Malaysian public university. In particular, this study is an action research project. The research methods used are content analysis and individual interview. The research procedure consists of the three-stage approach, the pre-, while- and post- intervention stages. In the premise of this study, action research, similar to other forms of inquiry, is perceived as value laden (Herr and Anderson 2005) as it enables changes in the classroom learning with subsequent monitoring. The researchers consist of four English instructors who also act as participant-observers in their language classrooms and collaborators in this action research project.

The main objective of conducting this action research is to identify the problems faced by students in writing relevant information on personal qualities to display professionalism. It is also to investigate whether students' use of the self-assessment approach help them to gather relevant personal information problems or errors in the selected students' cover letters and to provide the necessary teaching and learning input and strategies to counter the problems identified.

This paper consists of eight segments. First, this paper will present the background of the study. Second, a brief background of literature review is presented, followed by third, a brief description of the course, participants and teachers. The fourth segment outlines the research objectives and research questions. Fifth, the research methodology, methods and procedure are explained briefly and subsequently, the sixth segment will explain the analysis of the findings. Seventh, implications to classroom contexts will be highlighted followed by the final section, the conclusion.

Background of the Study

Malaysian workplace and employment scenario: the mismatch of workplace requirements

The increasing unemployment rate among the fresh graduates in Malaysia is a worrying trend. Majority of them are ignorant of the expectation from them in the employment market. They lack understanding of the term employability which is a set of achievement skills, understanding and personal qualities that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy (Yorke, 2008). There is a gap between student's perspective of employability and employers' perspective, which needs immediate bridging.

Based on the group's previous research, the findings show that students cannot sell themselves through cover letters. Thus, in this research, the aim is to explore student's problems in writing relevant information that promotes character building/personal

qualities to display professionalism in composing cover letter for job seeking in the industry.

The full *Graduates' Work: Organisational change and students' attributes* 2012/2013 report states that undergraduates can develop their skills through their programme of study and work-experience opportunities. Students will analyse their personal and interactive qualities that are required for success in the workplace. According to *Personal Life Skills Centre Handbook* and the OCR document '*Admin Guide: Vocational Qualifications*' (A850) 2011, students will have the opportunity to audit personal qualities through self-assessment and feedback from peers and teachers in order to plan for success in the workplace. This study employs self-assessment approach through class activities and inviting managers from the industry to present talks on the professional qualities that employers most commonly seek in employees.

Brief overview of literature

In writing a cover letter, Whitmell (2010) states candidates to stop telling employers they are a 'creative and resourceful team player' because he claims that it's what everyone else writes. Instead, he asks potential candidates to highlight specific skills, achievements and relevant personality traits. He added that a cover letter links the resume to the specific requirements of the job and the company. Rather than repeating information from the resume, candidates are advised to grab the attention of the hiring manager by highlighting and expanding on relevant personality traits, strengths and experience.

Adam Kaveney cited in Whitmell (2010) also states that a cover letter is a great opportunity to let the personality shines through. To quote he says, "Blend in personality traits with the skills/accomplishments that will be of interest — especially if they add extra context to your application. Adding this sort of personal information gives the reader a bigger picture than just a summary of the facts on your CV."

According to Curtis (2009), after you have introduced yourself and your professional background, expand on key strengths by providing more details that support the first paragraph. In the second paragraph, she explains how a person's skills and achievements will translate into success for the prospective employer. For example, in writing for Information Technology (IT) cover letters, it is extremely important to incorporate the person's soft skills. Soft skills are communication, interpersonal, and presentation skills. An unbeatable IT cover letter explains how you have used both technical and soft skills to affect positive change.

Depending on the position says McSween (2014), there are specific skills necessary to perform jobs in different fields. He states that candidates should be knowledgeable about graphic computer programs. The cover letter should provide in-depth information about the technical skills, including education, language and computer skills. He gives an example. To quote he says, "In my last position, I worked extensively with a proprietary database management program to track the company's inventory."

McSween (2014) also highlights the importance of Personal Character Traits. He added that a cover letter should describe a person's personal traits by highlighting his or her strengths and work style. He further advises candidates to use descriptive words that will best display his or her skills that will stand out from the crowd. Employers are interested in learning more about your personal character and how you will succeed working for their company. In a cover letter, he says you can write, "I am a quick learner and enjoy working in a team environment."

Consequently, synthesizing information and ideas about their personal qualities, technical skills and soft skills and experiences to suit their chosen job advertisements prove to be a daunting task when they are composing the cover letters. This is because these skills involve selecting the most relevant ideas and information and subsequently, organizing and synthesizing these ideas and information and later, further transforming and reworking these ideas and information to fit the requirements of the job advertisement and workplace contexts.

Besides that, since the course was a university course therefore, the students also need to follow the procedures dictated by the course where they had to deal with instructors and discuss their writings with them during conferencing sessions and underwent other evaluation tasks. Therefore, it is interesting to see how teacher intervention during the continuum of the students' writing process in composing their personal qualities in cover letters using the self-assessment approach will assist students in improving the final versions of their technical skills and soft skills in writing their cover letters.

Brief descriptions of the course, participants and teachers

In this study, the course involved Workplace Communication II (WCII) course. This paper focuses on six students/participants and four teachers who are also collaborators and participant-observers in this action research study.

Before taking this course, these students had already taken the compulsory Academic Communication I course, which assisted them with their needs for academic skills. Students are required to pass the course as a pre-requisite for their graduation requirements. Once they have completed the course, those students who attained grades A or A- for Academic Communication I are required to take the exit course, which is WCII. Similarly, this course was offered as a compulsory subject and students need to obtain passing grades.

WCII is as an exit course, which complements Academic Communication I as WCII is offered to equip the students with the necessary workplace knowledge and skills as preparation for their industrial training exercises and future working needs. WCII course is offered twice a week with two-hour session each, for fourteen weeks in a semester. This course comprises two major components, first, the job application component and second, the Project component. However, based on this study's objectives and aims, this study will only investigate the first component, the job application component, with a focus chiefly on the students' skill in writing relevant information on personal qualities in their cover letters to display professionalism. This study will not consider the sub-component, which is resume writing.

In this paper, the focus will be on the selected six undergraduates, who were second language learners from three different faculties. 1 students from the Faculty of Economy and Management (FEP), 1 from the Faculty of Science and Technology (FST) and 1 from Faculty of Islamic Studies (FPI) who were undertaking WCII. The table below provides a brief summary of the learners' backgrounds. The learners are coded as digits to ensure anonymity and privacy.

NO	STUDENT	YEAR	MUET BAND
1.	1	2	3
2.	2	2	4
3.	3	2	3

The researchers of this study were the English instructors of the four selected English language classes of Workplace Communication 2. These instructors play a three-pronged role in this study, first, as class instructors, second, as participant-observers and third, as collaborators of this study. Most of the teachers have taught English as a second language for more than 20 years. The courses are Proficiency, Academic and Occupational and courses dealing with young and adult learners.

Next, the research objectives and research questions are outlined in the following section.

Research objectives and research questions

The research objectives of this study are as follows:

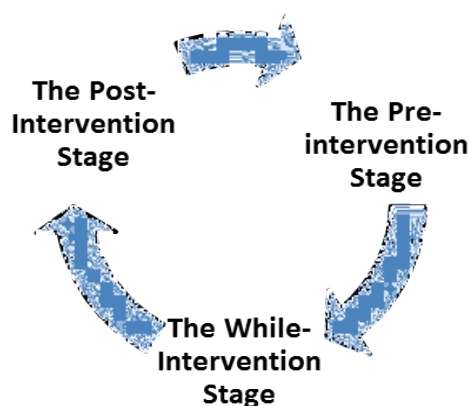
1. To investigate the problems faced by students in writing relevant information on personal qualities to display professionalism.
2. To investigate how the knowledge of self-assessment approach helps students to gather relevant personal information.

The research questions of this study are:

1. What are the the problems faced by students in writing relevant information on personal qualities to display professionalism?
2. How the knowledge about self-assessment approach help students to gather relevant personal information?

Research methodology

In broad, this study adopts the action research methodology. There are two research methods employed which are first, content analysis of the selected students' cover letters in writing relevant information on personal qualities in both pre- and post-interventions. Secondly, individual interviews with the selected students/participants to find out whether the students have used the self-assessment approach to gather relevant personal information to be included in their cover letters. In brief, the research procedure in this study encompasses three stages.



The three-stage cycle

The diagram above illustrates the three-stage approach adopted by this study, which comprised the pre-, while- and post interventions. In brief, in the pre-intervention, learners wrote the cover letters in class on their own without assistance from their teachers or peers. In the while-intervention, the instructors gave relevant input on the required personal information that students need to include as part of content in their cover letters that will project professionalism. In the post intervention, students re-wrote their cover letters based on the input they received from their respective teachers and their self-assessment strategies.

Prior, each of these students had to search and select one job advertisement that best suit their areas of specialization. Also, all chosen job advertisements had to be approved by their English instructors before the students could proceed using them as part of their job application process.

In the pre-intervention stage, the researchers cum participant-observers chose the first lesson in Week 2 to conduct the first round of draft writing of the cover letter in their respective classes. The selected learners were given one hour in class to compose their cover letters based on their selected job advertisements. At this stage, it is presumed that these learners had yet to be formally taught the professional format and convention of a cover letter and in particular, the relevant personal information required. At the end of this first lesson, the researchers collected all the drafts and marked them accordingly. The next segment will discuss the findings of the first drafts of the students' cover letters.

Analysis of the findings

Based on the analysis of the findings, generally there were positive changes in the content of the cover letters produced by the students. The discussion of the analysis will be divided into two categories, firstly the problem in writing relevant information on personal qualities to display professionalism and secondly, the effectiveness of students' self-assessment strategies in helping them to gather relevant personal information in improving their cover letters.

In this first segment of analysis, the paper will discuss the students' problems in writing to improve the content focusing on personal qualities and skills in cover

letters. The discussion will answer the first research question, *What are the the problems faced by students in writing relevant information on personal qualities so as to display professionalism?*

The findings discussed in this section were based on the students' first drafts of their cover letters written during the pre-intervention stage. The researchers collected and analyzed these drafts in terms of the students' presentation of skills in writing their personal qualities. Basically, the teachers analysed and focused chiefly on the second, third and fourth paragraphs in the cover letters. These paragraphs represented the students' educational background, technical skills and soft skills. The table below summarized the identified problems in their cover letters.

The table summarizes the students' personal qualities and skills that have been identified in the pre and post cover letters. The findings consist of these three areas: First, the selected students lacked awareness about the importance of identifying relevant personal qualities and hence, did not include them in their cover letters. Second, these students also did not know how to go about organising the relevant information in the required paragraphs. Third, these students also did not give details or elaborations for their personal qualities. The table shows the summary of students' problems in writing their personal details in cover letters.

Subsequently, based on these findings, the teachers/participant-observers designed an intervention input for class lesson/activity that deals specifically with the problems identified. This class activity was carried out during the while-intervention stage. After that stage was completed, the teachers conducted the post-intervention stage where students re-wrote their cover letters based on the teachers' intervention. Based on the analysis of these re-written cover letters, several findings were made. These findings are presented in the next segment.

		STUDENT 1 (S1)	STUDENT 2 (S2)	STUDENT 3 (S3)
PERSONAL QUALITIES	PRE	No mention	No mention	Highly motivated Like challenges
	POST	Self-esteem Honesty Leadership Tolerance Understanding enthusiasm	Team player Independent Efficient commitment	Independent Highly motivated Like challenges
SKILLS	PRE	No mention	No mention	No mention
	POST	Communication counselling	Interpersonal	Computer Accounting Communication

Specifically, as stated in the table, it was found that all the selected students performed poorly in their attempt to write the relevant information on personal

qualities and skills during the pre-intervention stage. It was identified that the reasons behind this failure to do so are multipronged.

As shown in the table, the selected students lacked awareness about the importance of identifying relevant personal qualities and skills in their cover letters. Next, these students did not give details or elaborations for their personal qualities. In addition, these students did not know how to go about organising this information in the required paragraphs.

A case in point, student (S3) only managed to simply highlight his or her skills without further substantiating and elaborating the points. In her pre-cover letter, she merely mentioned some of the qualities without further elaborating. Moreover, the skills were messy and not properly organized. However, in her post cover letter, she was able to organize her ideas well by mentioning all relevant skills.

On the other hand, most of the points in student (S2) cover letter were irrelevant to the job applied. She mainly highlighted the company's reputation. For the post cover letter, she was still writing about the company but she added some of her personal qualities. In the case of student (S1), none of the details provided reflect the students' background and skills in his/her pre cover letters. However, student (S1) made a remarkable improvement in his/her post cover letter by including both personal qualities and skills.

Some of the reasons of their failures to identify and present their personal qualities and skills clearly and in organized manner in their pre cover letters were revealed during the individual interviews conducted immediately after the pre-intervention stage. All students indicated that their inability to write effective and relevant information on personal qualities were due to lack of knowledge and exposure. The students have never written any cover letters before even though some have actually had work experienced. From the feedback, they did not have to write any cover letters when they applied for the job.

In this second segment of analysis, the paper will discuss the effectiveness of students' self-assessment strategies. The discussion will answer the second research question, *How does the knowledge about self-assessment approach helps students to gather relevant personal information?*

Immediately after the pre-intervention stage, the first individual interview was conducted. Below are some of the responses given by the students. A case in point, when the students were asked whether they know how to go about writing a cover letter, some of the responses given are;

S1 – “No, I searched during class using smartphone.”

S2 – “I know a little about format but not anything about content.”

These responses indicated clearly that some of the students did not have the relevant knowledge that would enable them to make informed strategies about how to go about writing a clear and effective cover letters. The finding also shows that some students resorted to other learning resources for instance using the smartphone to surf for

information or samples. However, one student revealed that his or her past experience somehow assisted him or her in writing the cover letter,

S3 - "I can remember some of the format because I used to write cover letter in Malay"

This finding suggests that even if the knowledge of writing cover letters is in another language, students can still utilise that knowledge and apply it in the new context of writing a cover letter in the English language. This also strongly supports schema theory that previous knowledge or experiences assisted students to tackle problems in new contexts.

Interestingly, student (S2) on the contrary, explained that she did some guessing work when she disclosed, "I guess that it should be formal because write to company and the content should briefly explain about myself why I apply the job". This is an interesting finding because it also indicates that despite having no previous knowledge or background on the format and convention of a cover letter, the student was engaged in some 'calculated' guessing work about how to go about tackling the task of writing a cover letter. In this case, the student rationalised that since the task involved writing to a company, this automatically made the task formal in nature.

Broadly, it was found that most of the students gained awareness from the teachers' intervention given during the class. During the second individual interview conducted immediately after the post-intervention stage, the students indicated positive answers when referred to writing their personal qualities. All the students were able to do self-assessment by providing relevant and specific personal information that promote personal qualities and skills in their cover letters. This is shown in some of the students' reflection of themselves. Below are some of the responses given by them:

S1 - "I looked back at activities and programs that I have participated"

S2 - "I figure out whether fulfill requirements, skills and personal qualities"

S3 - "I think of my experience, my advantage and assessed myself before listing down my knowledge and capabilities to suit the job requirements"

Additionally, based on student (S3) statement, to quote, "the content should briefly explain about myself why I apply the job". It can be inferred that the student also went on to theorise that since the cover letter is a job application document, it is only logical that the cover letter should contain brief information about her personal details on why she had chosen to apply at the company. This strategy of self-assessment reveals that all students have the ability to include their personal qualities and skills when writing their cover letters.

Generally, the analysis revealed that the teacher intervention had successfully socialized learners into acquiring English for Occupational purposes and also, the format, structure and content required for writing a cover letter. The analysis also revealed that there was a significant improvement in the patterns of cover letters written in the post-intervention stage compared to the ones written in the pre-intervention stage. However, at the same time, it was also discovered that despite being given intervention, some learners were still unable to produce clear and concise

personal qualities and skills in their cover letters. It was found that some of the contributing factors that hindered their progress were related to lack of learner-readiness, and knowledge of and familiarity with workplace contexts and requirements.

Implication to the classroom context

The findings of this study suggest that there is a significant value in the teacher intervention in assisting learners to improve on their skills of writing cover letters. Two indicators reveal this; the selected students' self-assessment feedbacks and the general improvement of the content in terms of personal qualities and skills in their cover letters produced after the intervention.

Some of the key discoveries made that can be included in this section are firstly, self-assessment approach reveal students' problems and their related strategies that enable them to cope with writing cover letters which are new experiences/unfamiliar tasks to them. Secondly, teacher intervention assists the selected students in becoming more aware of the importance of identifying their personal qualities and skills and highlighting them in a much clearer and more organised and effective ways in their cover letters.

Conclusion

In retrospect, as shown by this study, teacher intervention plays an important role in facilitating learners to do become more aware of their own learning when they engage in self-assessment approach. Teacher intervention also enables the students to identify their personal qualities and skills required by the job advertisement of their choices. Thus, summarily, these findings demonstrate that the teacher intervention is generally effective in assisting the selected students to focus on their personal qualities and skills and become more empowered and independent in their own learning processes.

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The logo for the International Association of Forum (iafor) is centered on the page. It features the word "iafor" in a light blue, lowercase, sans-serif font. The text is surrounded by two large, thin, curved lines that form a partial circle. The top-left curve is light red, and the bottom-right curve is light blue, creating a stylized, abstract frame around the text.

Participative Management As A Strategy For Enhancing Job Satisfaction Of Teachers: The Case Of South African Teachers

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Abstract

Participative management and shared decision-making are increasingly finding their way into schools. This signifies a radical change for many teachers and school principals that could lead to either an increase or decrease in teacher morale and job satisfaction. This paper investigated the efficacy of participative management as a strategy in enhancing job satisfaction of teachers. The study was conducted on twenty-four secondary schools in Dzindi Circuit of Vhembe District in Limpopo Province. Adopting a qualitative research approach, the study used interviews as the research instruments to gather data from school principals and teachers at the twenty-four sampled schools. Purposive and snowball sampling methods were used to sample research participants from twelve schools that employed participative management and twelve schools that did not employ participative management. The results revealed that the increasing emergence of participative management strategies for school management reflect the widely shared belief that flatter management and decentralized structures have long lasting effects on the job satisfaction of teachers. The study also suggests that school principals should be offered management courses frequently so that by implementing participative management, quality teachers could be retained in our schools.

Key Words: Participative management, participative, management strategy, job satisfaction, school principals, teachers.

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Introduction

The birth of democracy in South Africa demanded an increased efficiency and productivity in all sectors of the country. Education sector although limited in its contribution to the national economy was also affected by the requirement of accountability (Nelson, 1983:230). This democracy led to the establishment of a new educational dispensation, which in turn resulted in change. Change is a process (Miskell & Miskell, 1994:121) and it usually leads to anxiety, uncertainty and feelings of insecurity among individuals. This is the situation that happened to teachers in South African schools who were affected by the introduction of Curriculum 2005, the rationalization and redeployment, loss of skills due to voluntary severance packages, uncertainty with regard to retrenchment of temporary teachers and budget constraints.

The above scenario on educational changes had an impact on the attitude, morale, performance and job satisfaction of teachers. This, it would seem that a degree of uncertainty and anxiety prevailed among teachers, which in turn influence their levels of job satisfaction. Champoux (2000:151) reveals that it is important that school principals should understand each and every need of their staff so that they are able to provide a means of satisfying them so as to increase their production and enthusiasm at work.

Organ and Bateman (1986:16) assert that school principals at all levels are responsible for the production of sustainable results, strengthening instructional capacity, expand access to teaching and learning resources and improve the quality of school environment. They are required to enhance organizational, instructional, resourcefulness of teachers in their schools. They should strive to reduce disastrous school environment conditions and work ethics that demoralized teachers to a point of feeling low job satisfaction and enthusiasm. While they face multiple challenges to produce results, they cannot adequately face these challenges and achieve results by themselves. They have to rely on the efforts of their staff and colleagues, day in and day out, thus, a high-quality teaching staff is the cornerstone of a successful educational system.

Most school principals who have achieved good and sustainable results recognize how much their achievements are due to group effort involving their staff members. These staff members, perhaps, generate new ideas or helped to improve a management system in the school or may have simply stayed committed to their work under difficult conditions. Whatever the situation might be, overall performance of a school is apt to be strong and can be sustained when both school principals and teachers are motivated, are committed to the mission of their organization and work energetically (The Manager, 2002). They should show up, take responsibility, cooperate with colleagues and make things happen in the school.

Teachers' motivation to perform well is influenced by many factors including the management strategies used in the school. For this paper, the researcher shall discuss participative management as a strategy by school principals to enhance the job satisfaction of teachers in their workplaces.

Research has shown that participative management strategies if utilized properly can significantly affect the teachers' desire to work and ultimately produce good results.

For this reason, it is critical that school principals learn ways to enhance the job satisfaction of teachers to optimal work output. Enhancing the job satisfaction of teachers is the responsibility of school management team (STM) at all levels who oversee teachers on a day-to-day basis (Leithwood, Jantzi & Steinbach, 1999:12; Ministerial Review, 2004:85).

Research Objectives and Key Questions

The major objective of this study was to identify and explore how participative management can be used as a strategy in enhancing job satisfaction of teachers in schools. In order to address the initiative to utilize participative management as a strategy in improving the job satisfaction of teachers, the study sought to answer the following practical and theoretical questions:

- (i) Are South African school principals employing participative management strategies?
- (ii) How do teachers in South African schools perceive the participative management strategies used by their school principals?
- (iii) What is the effect of participative management strategies employed by school principals affect teachers' job satisfaction??

Theoretical Framework

Three different theories underpin this study: literature on management strategies; social constructivist theories and literature on job satisfaction. Management theories and job satisfaction theories are complimentary theories that may be used to shed light on how school principals can understand participative management as a strategy in enhancing job satisfaction levels of teachers. Maslow's needs theory (Maslow, 1943, 1954, 1989), which states that human needs are influential in motivation and job satisfaction was used as a guide. Prinsloo (2003:149), noted that the need to earn and to be self-supporting underpins the drive to study and to qualify for a profession. School principals should ensure that teachers receive their salaries on time. If needs such as these (psychological), are satisfied, teachers can participate willingly in management decisions and contribute effectively to school goals. Also Herzberg's two-factor theory (Herzberg, 1966; Herzberg, Mausner & Snyderman, 1959) was of significance since it stated that the aspects of work that people do result in greater job satisfaction thus people are motivated by factors which are inherent in the work itself. From these theories and others, several key principles emerge that underpin the need for participative management in enhancing job satisfaction among teachers in schools.

These include the following:

- Participative management as it will be exposed attempts to improve and make schools function better through the nurturing of a professional culture which offers choice, authority and responsibility through more decision-making powers and a more participative structure at school level (Bezzina, 1997:194);
- Participation is not only about taking part in decision-making processes but it is also about being valued (Lilyquist, 1998:80), teachers feel rewarded when they are part of the decision-making process;
- Deeply woven in the fabric of participation is the assumption that it leads to greater efficiency, effectiveness and job satisfaction (Leithwood, 1996 in Beckmann & Blom, 2000:2).

Many school principals are reluctant to involve teachers in decision-making because they fear that they may lose control but participation does not imply reckless involvement as everyone does not have to be involved in everything (McLagan & Nel, 1995:111). Research by Bell (1999:59) argues that school principals can neither manage schools alone nor take the responsibility of motivating teachers to achieve objectives and complete tasks without support from their colleagues, thus they must actively involve them.

Literature Study

The participative mode of management

The participative management is a style of organizing management, which recognizes the rights of employees individually or collectively to be involved with the management in areas of the organization's decision-making (Bendix, 1996:553). In other words, it is a management where everyone becomes a responsible partner in the effort to make an institution successful and it requires everyone to broaden his/her competencies. It attempts to flatten the hierarchy that exists in school leadership and to allow a horizontal interaction to take place to give teachers real decision-making power with respect to the management of the school (Beckmann & Blom, 2000:4; Isabirye, 2002:69).

Research studies have shown that participative management has the following advantages:

- It increases the rate of employees' professional development (Kumar & Scuderi, 2000:62);
- It enhances job satisfaction (Aryee & Chen, 2006; Kim, 2002);
- It enhances personal motivation of employees (Van Wyk, 1995:3);
- It leads to high performance work practices (McLagan & Nel, 1995:28); and
- It increases employee commitment and sense of belonging (Gaziel, 1998:28).

Given the aforementioned advantages, participative management in schools can take the following forms:

- Inviting staff to share in the decision-making process of the school by participating in activities such as setting goals, determining work schedules, and making suggestions;
- Increasing the responsibility of staff (job enrichment);
- Forming self-managed teams;
- Creating quality circles or quality-of-work-life committees; and soliciting survey feedback.

In schools, Welrich, Cannice and Koontz, (2008) contend that principals who use participative management as a strategy to enhance job satisfaction among his/her teachers consults with them on proposed actions, decisions and encourages participation from them. This type of principal ranges from the person who does not take action without subordinates' concurrence to the one who makes decisions but consults with subordinates before doing so. Khaparde, Srivastava, and Meganathan, (2004) research indicated that successful schools that adopted participative management in running day-to-day activities of their schools gave people autonomy but also made them accountable for successful completion of tasks, followed

democratic methods of taking decisions, gave priority to the welfare of students, maintained supportive relationship with teachers, attempted to establish linkages with parents, set up higher and higher goals for themselves and the school, adopted innovative pedagogical methods and evaluation devices, and recognized good work of the teachers.

Working in a participative management work environment tends to foster more interaction among teachers, team members and requires individuals who have robust social skills (Lawler, 1992). Some researchers such as Argyle and Lu (1990); Hills and Argyle (2001) contend that social interaction can be a major source of pleasure and happiness for highly extroverted individuals who in turn generate positive moods and ultimately overall job satisfaction (Tkach & Lyubomirsky, 2006). Nadeem (2012:3) also had the opinion that involvement in decision-making improves the understanding of the issues involved by those who must carry out the decisions. And that could be based on the following assumptions:

- People are more committed to actions where they have been involved in the relevant decision-making;
- People are less competitive and more collaborative when they are working on joint goals;
- When people make decisions together, the social commitment to one another is greater and thus increases their commitment to the decision; and
- Several people deciding together make better decisions than one person alone.

Research Design

A qualitative research design was chosen to permit the researcher to understand the participants' views on participative management and job satisfaction. In particular, a case study approach was implemented to understand the personal meaning that participants give to participative management and job satisfaction. As such, a case study becomes an inquiry in which the main focus is on one phenomenon regardless of the number of sites involved in the investigation (Welman & Kruger, 2001:182-183). Such an approach strives to understand participants' awareness, perceptions and interpretations of their lived experiences (Steyn, 2011:12). This study also takes into account an interpretivist research paradigm because it focuses on experience and interpretation (Henning, 2004:45).

Purposive and snowball sampling (Welman & Kruger, 2001:63) was done by obtaining the list of school principals and schools in Dzindi Circuit from the Vhembe District and Dzindi Circuit Manager. A total of 72 participants were finally chosen: 24 school principals (16 males and 8 females); 48 teachers (20 males and 28 females).

Study Instruments and Data Collection

Aligned to the study data collection, the researcher used a combination of individual and focus group interviews. These interview guides were constructed with the aid of the research questions to capture responses of participants. Some of the question items were also developed following a literature review on participative management and job satisfaction. The interview guides were designed in such a way that: one is for the school principals, that is, individual interview and the other one for teachers, that is,

focus group interview. These interview guides were pilot tested with two school principals and eight teachers. According to Gray (2004:205) interview questions must be accurate, simple and unambiguous because it is a 'one-shot' attempt to gather data. After pilot testing, the wording in the interview guides were reviewed and modified to reduce ambiguity and ensure clarity, comprehensiveness and simplicity of terms and items guided by the responses of these ten participants.

The interviews were carried out after school teaching hours at the study sites. It was ensured that all participants were informed about the purpose of the study, their participation was voluntary and were free to withdraw from the interview any time without being asked to give reasons, and that no name should be mentioned or any form of identification and that anonymity will be upheld all the time.

After pilot testing, the real qualitative data was generated through the aforementioned individual and focus group interviews. An individual interview is a one-on-one encounter with the participant and this was designed for school principals because they might have unique problems and experiences with participative management strategy which they might not share should other principals be present as well as they have different and varied school climates and environment they create. So school principals were individually interviewed and the data was tape recorded with interview notes as a backup.

Data was also generated from focus group interviews. A focus group is a technique that brings together a small homogeneous group of participants for a discussion under the moderation of the researcher to ensure adequate focus on the research topic (Speziale & Streubert, 2003:29). In terms of selection of participants for the focus group interviews, the groups at each school site comprised of post level one teachers and teachers serving on the school management team (SMT). This ensures that the views, opinions and experiences of a cross-section of teachers were elicited.

Data presentation and analysis

This case study was conducted to explore how participative management can be used as a strategy for enhancing job satisfaction of teachers in schools. The study generated qualitative data in the form of verbatim narratives from school principals and teachers. In analyzing such data, the researcher sought to make sense out of the accumulated information, which was in line with what Vithal and Jansen (2003) asserted that qualitative data analysis is the search for general statements about relationships between the data. Data analysis, therefore, included exploring the meanings that were depicted by and inferred from the quoted statements. The statements made by the principals and teachers were juxtaposed to identify their relationships and explain how participative management strategy can be utilized to enhance job satisfaction. The researcher, therefore, made use of thematic data analysis (Ryan, Coughlan & Cronin, 2007:742) for inductive interpretation of the expressed views of principals and teachers. As Harper and Mncube (2010) maintain, data analysis is a process of bringing order, structure and meaning to a mass of collected data. Therefore, interview transcripts were prepared and the data were categorized into themes, and categories.

Research Findings and Discussion

Data from principals' and teachers' interview responses revealed that there is dominantly preference by principals either to use or not to use participative management strategies in their schools. Teachers' responses concurred that principals still have preferences on when to use and when not to use participative management strategies. In the following section, the researcher presents and interprets the captured data on principals and teachers which were categorized into the following identified themes:

- (i) Use of participative management strategies by school principals
- (ii) Teachers' perceptions of participative management strategies used by school principals
- (iii) Benefits of participative management strategies to both principals and teachers
- (iv) Participative management strategies and job satisfaction

Participative Management is an open form of management where employees are actively involved in organization's decision making process (Wagner, 1999:42). Data from this study revealed that participative management strategies are applied by the school principals who understand the importance to human intellect and seek a strong relationship with their teachers. They understand that the teachers are the facilitators who deal directly with the learners and satisfy their needs. On the other hands, some principals were reluctant to involve teachers in decision-making because they fear that they may lose control, yet studies have shown that participation does not imply reckless involvement as everyone does not have to be involved in everything (McLagan & Nel, 1995:111).

Use of participative management strategies by school principals

Principals who participated in this study revealed that they use preferences when it comes to participative management as a strategy. This opinion came to light when they were responding to a question that required them to express how South Africa school principals employ participative management strategies.

When responding to this question, one of the principals said that: ‘

Sometimes I come up with my decision that I will have made on my own, and I my teachers have to implement it because it is a directive from the higher office and higher authority. Sometimes I meet with the SMT and take decisions and such decisions have to be implemented by the teachers in the lower ranks, no questions asked, they don't have to ask anything. It is policy; it's a directive (P1).

This response showed that the principal here has no regards for making his/her teachers participate in decision-making. In some instances, he/she seems aware of the need to involve other stakeholders in decision-making hence sometimes involves the SMT.

In the same vein another principals had the following assertion: *I decide alone, sometimes when I feel like I do consult teachers (P5).*

Both these principals revealed that they know the participative management but they do as they feel like doing even contrary to principles of school based management

enacted by South African Schools Act (Act 84 of 1996). This SASA, No 84 of 1996 and the National Policy Act, No 27 of 1996 require all teachers [educators] to participate actively in the governance and management of their schools with the view of providing better teaching environments. It appears like school principals are not increasingly allowing their teachers to actively take part in decision-making.

Contrary to the above responses, other principals who use participative management strategies concurred on consistence on the use of participative management strategies. One of the principals had this to say:

'If there is a problem which warrants my [principal] attention, I do not simply solve the problem alone. If it is a minor problem, I call the site steward and some members of the SMT where the problem is solved. I do not simply take a decision alone. If it is a decision that needs the SGB, the SGB is the one the body that takes the decision. For example, we usually have a crisis of the school tour fees, we know that we need money in the school but because the parents do not afford to pay the amount, which is needed it is the SGB that has to decide together with parents on this issue. That is why I say I do not take my decision to be the final one I involve other decision-makers (P4).

The above principal is aware of the enacted policy by South African education system, which mandated active participation of all teachers [educators] in the management and governance of schools. It can be understood to say that teachers under such a principal are seen as self-directed professionals who can develop a strong sense of responsibility and commitment and can be involved in the management processes of schools.

The responses of these school principals [P1 and P5] manifests that some principals do not prefer to use participative management strategies and the results reflect that in such schools there is less or no involvement of teachers in the school management or decision-making processes. The response of P4 which might represent those principals who use participative management strategies seem to feel that participative management strategies do not only create conducive teaching environment for the principals to get the job done but also facilitates the teachers to work for the betterment of the school. The study here manifests the principals who use participative strategies allow their teachers to share responsibilities and contribute their input in decision-making processes of the school, which eventually benefit them. Teachers from the school where the principals do not use participative management strategies had also the following to say with regard to the above question:

'He does consult teachers with regard to making decisions as long as the decisions are not related to the financial matters of the school (CLT, 4; FG1).

The results here reflect that there is selective implementation of participative strategies depending on the mood of the principal. At one stage, if things favor him/her there is participation by teachers.

Another teacher acknowledged the following statement:

'Sometimes he decides autocratically, and the teachers grumble to show that they are not happy with such decisions. He once decided to introduce [mentions the subject] without informing teachers and teachers were very angry. I also remember another time when he came early to school and most teachers were late, he came to me and took the gate keys and locked the gate and they were

stranded outside ... The teachers were again furious with that decision (CLT, 6: FG1).

The responses such the one above, reveals that some school principals do not prefer to use participative strategies and the effect is that there will be less participation of the teachers in the school management or decision-making processes. As a result, the principals in such schools are prone to authoritative style which leads us to conclude that there is either a communication gap between the school principal and the teachers or some authoritarian conduct which does not allow them to permit teachers to participate in the school affairs and decision-making processes. The above responses revealed that school principals are aware of their expected demonstration of participative management strategies in their schools but they only use preferences.

Teachers' perceptions of participative management strategies used by school principals

The teachers who participated in this study expressed their views on how they perceived the participative management strategies used by their principals. Some of their views are stated below:

- (i) Those whose principal did not use participative management strategies had the following recorded:

Principal decides alone without consulting teachers. He is the only decision-maker in the school (CLT, 3: FG1).

This implies that the school principal decides alone in all areas that needs decision-making processes. Teachers take initiative and make decisions only in their subject department that help their HoD and not the school principal to develop pedagogically.

This was confirmed when one of the respondents said in the interview: *'Teachers are only involved in their subject committees and not actively involved in decision-making and are excluded on matters involving finances of the school (CLT, 2: FG1).*

Through these responses, teachers in this study demonstrated the perception that the principals in their schools do not value teacher participation in decision-making processes of the school. These teachers felt that school principals should realize that their status as principals is dependent on the support of their teachers.

- (i) Those whose principals do use participative management strategies had the following recorded:

The principal allows teachers to have their voice in decision-making processes of the school. Our principal is sometimes okay sometimes he manages the school badly. He speaks a lot about democracy and change sometimes he applies it sometimes he goes alone without consulting anybody. The way our school is managed is different from other schools. We had an incident where we agreed to start school at half past seven but to the teachers' surprise the principal changed the time to seven o'clock without consulting anybody. When asked about this unbecoming move he told us it was too hot for the school to start at half past seven and that was not discussed with us. He always talks about change all the time but he doesn't get affected by the change. Sometimes when we complain about this tendency he manages the school well for two weeks or so and later

reverts to his old ways. Sometimes he tells us 'don't forget I am an old man' (CLT, 1:FG2).

Responses from participants showed that teachers are highly involved in decision-making processes in the school. The interviews revealed that some principals use participative management strategies with some restraint at times.

The point of preferences was also argued by another interviewee when he said:

The principal combines both autocratic and democratic leadership and management styles. He is very democratic and straightforward but sometimes as a leader sometimes you have to be autocratic if things do not go well. Sometimes you have to be rigid; he has good relationship with his teachers (CLT, 6:FG2).

Teachers are sometimes consulted, take initiatives and make decisions in school management or decision-making processes. This was confirmed when one of the interviewees said in the interview:

'I think he has a style of ... an 'all inclusive ...' very participatory...in which all teachers are given opportunity to take part in decision-making. There is a site steward from the union and then there is everybody, not everybody belongs to the union. I see from time to time the management of the school talks to the union people on issues that relate to the day-to-day administration of the school and sometimes we all gather and take a decision with consensus where everybody is allowed to take part and influence the decision that is being taken. So in answering the question, I may say the leadership style is such that everybody is given an opportunity to take part, influence the decision-making, air their views, ... at the end of the day I see people owning up the decisions that have been taken ... it is very easy to implement such things because everybody owns it (CLT, 4:FG2).

The teachers' responses indicate that there is use of participative management strategies in these schools. Teachers are involved in various management activities of the school. From these statements, the researcher can conclude that the perceptions of teachers on the participative management strategies used by principals depend on the school principal's style of management. Therefore, the researchers interpreted the described perceptions to mean that where principals used participative management strategies, the moral and confidence among teachers seem to be high which would lead to work satisfaction.

Benefits of participative management strategies to both principals and teachers

Generally, this was the most attended section with all participants agreeing on the benefits of participative management strategies to both principals and teachers. All twelve school principals alleged that participative management strategies have enormous benefit to school principals and teachers. One of the principals stated that participative management develops teachers' management skills which they can use when they themselves become leaders. The participant had the following to say:

'I can say that this management style is quite benefiting especially to teachers, because teachers get knowledge of how to deal with school management. They get knowledge and they can use their knowledge even tomorrow when they find themselves principals. It also shows that teachers are valued in the school..... it

gives and encourages teachers to work hard and also to participate freely in the activities of the school. It also contributes to high teacher moral and increased job satisfaction (P4).

Another principal acknowledged participative management as promoting and encouraging a sense of belonging and commitment among teachers:

'Well, participation has more advantages like in our school. It enables teachers to work as a team. People are working together just because of this democratic participation prevails in the school. It encourages and fosters positive relationships among the teachers in the school. I can say this leadership brings commitment and togetherness. When teachers are working together in a mutual understanding they tend to be committed and make quality decisions with a consensus' (P1).

Participants at teachers' level contend that participative management promotes a sense of ownership and confidence among teachers. A sense of ownership and confidence in decision-making processes were identified as the results of participative management at school. This management strategy also discourages the creation of potentially disruptive informal groups in the school. According to one teacher respondent, the following was revealed:

'Now once the teachers are taking part in the actions or decision-making processes of the school it makes them happy. And they feel ownership of that decision they take. So participative management promotes collective effort among teachers in the school.... Participative management discourages informal groupings in the school. These are groups that emerge in a school and tend to destroy good relationships among teachers. It enables principals to delegate tasks to their subordinates because when people are working in a collaborative environment they are able to share responsibilities (CLT, 3: FG2).

Although some theoretical and empirical researches (Somech, 2006; Blasé & Blasé, 1994) support the overall benefit of a participative management work environment, the results of this study demonstrated the intervening effects of principal's personality and preferences. Sergiovanni (2007:77) contend with the opinion that when teachers feel comfortable with the system of management in place, they show commitment to their work, ownership and a sense of pride in their workplace. As one respondent puts it, in an atmosphere conducive to individual effort, teachers are not forced to work but do so in order to help the school perform (c.f. CLT, 4; FG1).

Participative management strategies and job satisfaction

Some participative management studies have usually concentrated on the relationship of participation to job satisfaction, which is defined as positive teacher attitudes and beliefs regarding several aspects of the job or the profession (Somech, 2010:183; Organ, 1990:140). Evidence from this study suggests that participative management strategies increases teachers' job satisfaction (cf. P5; P6). This was illustrated by one of the teachers when she said:

'I believe job satisfaction is greatly enhanced if teachers believe that they are listened to and that their contributions have been incorporated into the decision or plan of the school decision-making processes (CLT, 6; FG2).

Similarly, one principal had the following to say:

‘...through participation, teachers gain new confidence in their teamwork efforts and insights to resolve school problems (P3).

From the above responses of the study participants, it can be concluded that a number of school principals practice participative management strategy because they feel it does not only create conducive school environment for the school principals to get the job done but it also facilitates the teachers to work for the betterment of the school. Other school principals, due to certain personal and administrative constraints, do not practice participative management strategy in their school environments. However, organizational behavior studies show that participation and creativity are crucial to unleash people's talents and generate a compelling sense of purpose. Research indicates that teacher value is increased when the teacher participation is improved because strategies that increase participation will reduce stress, create energy, and motivate people to contribute to the success of the school (Bush, 1999:240; Kumar & Scuderi, 2000:61; Wall & Rinehart, 1999:50; Hallinger, Murphy & Hausman, 1993:36).

Conclusions

The findings in this study show that the increasing emergence of participative management strategies in schools reflects the widely shared belief that flatter management and decentralized authority structures have long lasting effect on the job satisfaction of teachers. By taking a leaf from the school principals who used participative management as a strategy to enhance job satisfaction of teachers where this case study was conducted, it is therefore, the researchers' contention that if the present generation of principals all over could learn to utilize participative management strategies, teachers could become more satisfied with their work and work environments. The principals should be aware that participative management has a positive influence on performance, satisfaction and strain for teachers in general.

It was, however, possible to outline certain guidelines that can be used in implementing participative management as a strategy in enhancing the job satisfaction of teachers. Such guidelines include the following:

- School principals must be trained in order to gain a firm grounding in the participative management, this will encourage them to have a positive attitude towards change and embrace it so that they can encourage teachers to become active participants in school decision-making processes;
- Teacher participation is one way in which the school can grow and learn, in-service workshops on teacher participation in school decision-making processes must be conducted by the Department of Education or organization that has interest in education in order to equip teachers and principals on this post-modern trend of management;
- Schools must set up participatory structures which will help all stakeholders in the schools to work towards achieving their schools' goals, e.g. staff development teams, sub-committees for dealing with diversity and so on in the schools (Department of Education, 2000:27);
- Management strategies of school principals and the SMTs must be in such a way that they allow for real participation of teachers in decision-making processes and not mere tokenism.

Final Remarks

Participation is often referred to as a high risk undertaking for the school principal involved (Lindelow, 1989:153), probably because of the misconceptions associated with it. There is, however, reason to believe that the participation risk is worth taking. Conley (1991:282) asserts that when teachers do not participate, they tend to report more dissatisfaction, more stress and less loyalty to principals. The benefits of participation clearly outweigh any disadvantages (Harber, 1993:299).

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***Cloud Computing for Collaborative Knowledge Construction:
A Case with Google Drive***

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Abstract

Usage of mobile technology in daily life has been developed to be a part of the cultures in many countries especially in a metropolitan city. Students nowadays bring their mobile devices to classroom and prefer to use their own devices whenever it is possible. With the advanced technology development and high connectivity to the Internet through wireless networks in school, it becomes common that students and teachers are bringing their own mobile devices (e.g. smartphones, tablet computers, and laptop computers) to classroom for personal, teaching, and learning purposes. However, it has been challenging for teachers to engage their students in classroom teaching when students bring their mobile devices to class as a distraction. How could we take the advantage of this mobile technology for our classroom teaching and learning, and enhance the student engagement in our classroom instructions? Since the choice of the technology tool heavily depends on the popularity and commonality of the tool, making a right choice of educational technology can have a high sustainability and penetration rate. In this presentation, we will present a case study in Hong Kong of how to make use of Google Drive application to engage students in the classroom activity. The pedagogical practices can be applied to K-12 and higher education. Through this study, we can observe that students are no longer locked in a classroom; instead their mind can be unlocked to accept further knowledge with advanced technology.

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Introduction

Usage of mobile technology in daily life has been developed to be a part of the cultures in many countries especially in a metropolitan city. Students nowadays bring their mobile devices to classroom and prefer to use their own devices whenever it is possible. With the advanced technology development and high connectivity to the Internet through wireless networks in school, it becomes common that students and teachers are bringing their own mobile devices (e.g. smartphones, tablet computers, and laptop computers) to classroom for personal, teaching, and learning purposes. However, it has been challenging for teachers to engage their students in classroom teaching when students bring their mobile devices to class as a distraction. How could we take the advantage of this mobile technology for our classroom teaching and learning, and enhance the student engagement in our classroom instructions? In addition, how could teachers provide a better learning activity to help students explore and discover new knowledge through their own effort? What learning activities could provide reflective experience to the students? Finally, what are the learning theories behind these practices in the classroom?

Among many current cloud-computing solutions on the Internet, Google Drive is one of the most common public cloud platforms to provide Software as a Service (SaaS). Although this software is not made to target on educational use, teachers can be creative in making use of this popular platform and turn into an educational technology easily. Google Drive supports both browser and native mobile operating systems (e.g. Apple iOS and Google Android). In my point of view, the choice of the technology tool heavily depends on the popularity and commonality of the tool. Making a right choice of educational technology can have a high sustainability and penetration rate. In my case, I intend to ask students to bring their mobile devices to use (or use the iPads provided by me) because the lecture hall is designed to have no computer. With their own mobile devices ready on hand, we can immediately engage students in my lecture. In this paper, I will discuss a recent case in my own classroom teaching of how to bring Google Drive and its application into my classroom. My lesson plan was designed based on the idea of Zone of Proximal Development (ZPD) by Lev Vygotsky, a Russian psychologist in working on sociocultural learning theory. Through the collaborative knowledge construction approach, I argue that students can be more engaging in my classroom discourse and create a learning community. With technology, I believe students are no longer locked in a classroom; instead their mind can be unlocked to accept further knowledge.

Cloud Computing as Educational Technology

As previously mentioned, Google Drive is a cloud computing platform which allows users to connect and access information through the cloud servers anywhere at any time as long as the Internet connection is provided. With wireless network connectivity, users can use their mobile devices to access their information stored on the Google Drive while on their move. Originally, Google Drive was previously called Google Doc, and it was developed so as to provide office suite applications such as word processing, spreadsheet, and presentation. A few years ago, Google has enhanced the features in this platform as a cloud storage to store these documents as well as other types of files. Thus, they have changed their name to Google Drive (Google, 2014).

One of the features Google promotes is the collaboration through the platform. In Google Drive, it allows creators to collaborate a working document with others without the synchronization issue. For example, suppose two students want to collaborate on a field trip proposal. If these students are asked to work on it separately, then they have two files existing in their own computers. When they finally want to put it together, they may realize there are duplicated ideas and it is difficult to consolidate these two separate files into one. But if they use Google Drive, they will be able to work on the same file at the same time, and they can see who is editing on which parts simultaneously. This will significantly reduce their time in collaborating on the same topic and document. More importantly, users can access to Google Drive through their smartphones or mobile devices as long as they run on Apple iOS or Google Android system.

Another way to collaborate is through the Google Form in the Drive. Google Form allows non-technology savvy to create online submission form instantly without knowing how to program with HTML codes or other languages. It provides a quick way to collect data from multiple users at the same time. When someone submits data using the pre-designed form, the data will be stored in a separate spreadsheet file as a database for further analysis. To help quickly offer instantly feedback to the form creator, Google Form also provides a “Summary of Responses” readily to present statistical figures or tables. As a teacher, I desire to gather data from my students in a classroom, and summarize their data into information so as to become knowledge. In this case, if a teacher carefully designs the lesson, Google Drive can become a powerful tool to transform data into knowledge in a collaborative approach. To take the advantage of mobile technology, I also introduce the usage of QR code into the lecture so as to embed the link of my designed form into a QR code. That way students can scan the QR code while on their site and access to the form without typing the web address to their mobile devices.

Google Drive and QR code technology are both useful and commonly known to the students. It is reasonable to assume students to be able to use the technological tool to assist their learning, rather than focusing on learning how to use the technology. Besides, teachers are able to create these tools quickly and easily anywhere they may be, and bring them to their classroom as long as the Internet connection is available. Although these tools are not originally designed for learning, teachers can easily turn them into powerful instruments for a better learning and engaging environment. In addition, it is more flexible and elastic when the technology is not particularly designed for a particular educational usage. Teachers can introduce their creativity and imagination into their teaching design and pedagogy.

The Underlying Learning Theory

Based on the learning activity designed in my lesson, there are mainly two theories behind the practice, namely the Zone of Proximal Development (ZPD) and Multiple Intelligence (M.I.). In this section, I will explain these two theories in details. The practices based on these theories will be discussed in the later section.

Zone of Proximal Development (ZPD)

In my previous work, I discussed the importance of ZPD in the learning process of children (Wong, 2014). Vygotsky believed that children quite often stay in their cognitive stage where they could solve problem independently, and he called the stage

as zone of actual development. In contrast, children sometimes could solve problems under circumstances with external supports, and Vygotsky called this stage as zone of proximal development. From this point of view, he proposed that children's learning happens when they put efforts while in the ZPD. Children cannot handle and perform tasks successfully in this zone, but they can succeed when they receive aids from peers and teachers. The following figure illustrates three different zones for children throughout their learning and cognitive process. Vygotsky proposed that children learn very little from performing tasks they can already do independently (Kozulin et. al, 2003; McDevitt & Ormrod, 2007). Instead, they develop primarily by attempting tasks they can accomplish only in collaboration with a more competent individual, which means the children attempt tasks within their zone of proximal development. In other words, when children are being challenged, this is when they can learn and acquire more knowledge.

In fact, we can design how to make sure of the understanding of children's ZPD and apply to educational practices to help children accomplish challenging tasks and activities with suitable assistance. One concept or technique is called scaffolding. Palinscar (1998) suggests that in the context of research about the negotiated nature of teaching and learning, ZPD with scaffolding is "probably one of the most used and least understood constructs to appear in contemporary educational literature" (p.370). Actually, the term scaffolding is used to "describe the guidance or structure provided by more competent individuals to help children perform tasks in their ZPD" (McDevitt & Ormrod, 2007, p.215). In fact, the scaffold is an external structure that provides support for the workers until the building is strong enough to support itself. After the building is stabilized, the scaffold becomes less necessary is removed at the end.

Crane (2014) has mentioned, "In a traditional teacher-centered classroom setting, where the role of students is reduced to objects receiving instruction from the teacher who dispenses knowledge to them, social interaction is limited to a one-way dependency. In the model developed by Vygotsky, roles of the teacher and student are interdependent and they both are subject to cognitive development. The role of a teacher is to serves as a guide or coach that provides assistance to a learner working on a challenging task within her or his ZPD. The teacher is needed to offer support, encouragement and design tasks to stimulate a learner's development." It is true that as teacher we are obligated to know how to build a scaffold for students to guide and stimulate them through a challenging but feasible task. Thus, they will learn or discover a new knowledge based on their previous understanding.

Multiple Intelligence (M.I.)

Howard Earl Gardner was born on July 11th in 1943 and is an American developmental psychologist (Chung, 2014). He came up with the theory of M.I. which has a strong impact on how school can design their curriculum and instructions targeting on the needs of individuals. The theory of M.I. by Howard Gardner is also an interesting framework to help teachers understand the intelligence among individuals. Recognizing the uniqueness of individuals can bring advantages into a classroom teaching because new knowledge can be collaboratively constructed through social interactions with technology. Without the understanding of the importance of individuals, we may wrongly design a scaffold only targeting on individual needs, rather than on the learning community as a whole where everyone

can contribute to the knowledge discovery or formation. So the theory of M.I. is particularly importance in the design of my teaching practice.

Gruenkemeyer (2014) discussed that “M.I. is a social cognitivist theory based on the belief that every person possesses eight different types of intelligence. Gardner refers to M.I. as relatively independent mental faculties. No two people have the same intellectual profile; each person uses the combination of intelligences differently. The theory recognizes a broad swathe of human capacities, including ones from the arts and from the realm of human intercourse that have traditionally been considered nonintellectual and perhaps not even cognitive.” No doubt, the theory suggests that the intellectual profile is formed by multiple types of intelligence. If we design a learning activity which can gather effort and thoughts from different individuals, then we can fill in the gaps of others.

Gruenkemeyer (2014) also mentioned that, “Gardner argues that technology can be used in order to enhance and implement the M.I. theory in education. Particularly, Gardner believes that online learning opportunities are very beneficial and applicable to the M.I. theory and improve learning. The online experience is an active experience for motivated learners and is changing the way people take in information. Because of the wide range of resources available with technology, Gardner argues education can be transformed for the better, but only if the technology is used appropriately. Digital devices, according to Gardner, provide an engaging experience and can appeal to the eight different intelligences.” Thus, learning collaboratively with the resources on the Internet can easily construct knowledge according to the theory of Gardner.

The Technology in Practice

In this section, I will explain how I have implemented into a real classroom teaching based on the idea of ZPD and M.I. In this semester, I am teaching a general education course “Technology, Entertainment and Mathematics” formed by 15 students coming from math major and other. The course is about finding a relationship between mathematics and the latest technology development and entertainment encounters. Most of the students probably know that calculator is an invention of mathematicians, but they may not have thought that computer science is a field contributed mainly by pioneers who were mathematicians. Instead of me presenting the historical backgrounds of these mathematicians directly, I decided to distribute a list of these mathematicians through the Google Drive and Wikipedia. Students in the lecture hall were asked to access to the list through capturing the QR codes, and four of these mathematicians linked to their Wikipedia pages were assigned to each student to read in class. Then, they were asked to summarize their profiles into the following categories, namely Gender, Name, Origin, Date of Birth, Educational Achievements (both undergraduate and graduate studies), and Major Contributions in Computer Science. The summary was submitted to my customized Google Form, and then I was able to use the “Summary of Response” to present the collaborative results statistically. From the statistics, students could see clearly that the majority of the early pioneers of computer scientists are mathematicians with degrees in mathematics. At the end, questions were asked to follow up on their reflections about the results, and students were able to agree together from their personal research experience instantly during the class.

Besides Google Drive and QR codes, I made use of mobile technology and other equipment in the designed lecture with intervention. Students were asked to bring their own mobile devices to the lecture and complete the activity by using their personal devices. I provided my department's iPads to some of these students upon their request because their own devices might be too small or not fast enough. Also, the statistical results were constantly updated and shown on the projector screen so students can immediately see their contribution to the class. From my informal observation, students kept peeking on the interim statistic to see if their contribution made any difference. Meanwhile, I encouraged the students to discuss together about their own results when they were searching the information. During the lesson, no student reported that they had any difficulty to access to the Google Drive, use the QR code through their mobile devices, access to the WiFi network, and reviewing the information on the Internet.

Critical Reflection

The lesson made use of the idea of providing the cloud-computing platform as the scaffold to assist the students to use their learned skills and knowledge about mathematicians and conclude that computer science is a theoretical and practical field contributed by the early mathematicians. Instead of having a student or the teacher to summarize and analyze the profiles on behalf of the whole intelligences, the task was distributed to each one and used their intelligence to summarize, analyze, and present to the community. To quote it again, "Gardner believes that online learning opportunities are very beneficial and applicable to the M.I. theory and improve learning" (Gruenkemeyer, 2014). One idea implied by the M.I. theory is distributive and collaborative knowledge construction. Instead of believing that someone has all necessary intelligence, the idea suggests everyone can contribute to the knowledge base somehow. Although some students could not complete reading all the profiles of mathematicians during the class, the anonymity shown on the screen could help relieve the stress of students in completing every single task.

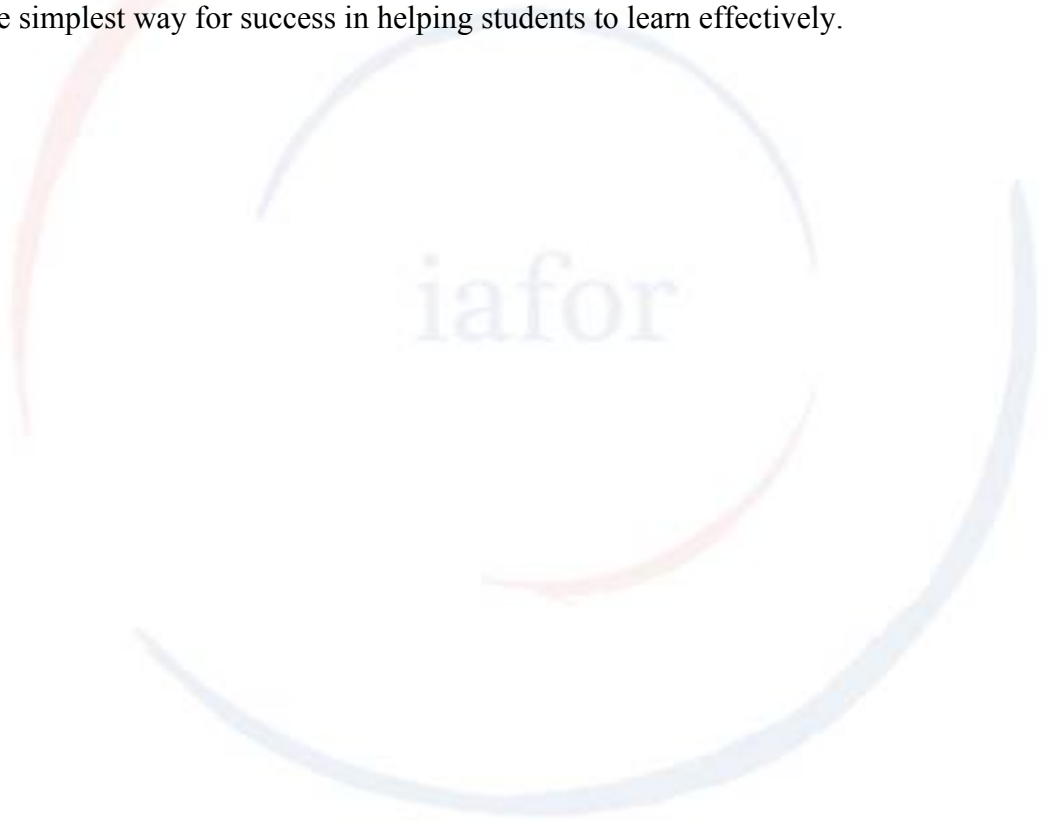
Furthermore, the cloud computing technology allows students to access to information even when they leave the classroom. After the class, I left statistical results on the Google Drive so students could access to it after class. Although I did not keep track of who completed all the submissions or accessed it again after class, the option is available for further design of the course. In fact, I could have invited the students to continue to submission after the lecture, and generate a completed figure. Since the objective of helping students recognize the contributions of mathematicians in computer science was achieved, I decided to keep the information as it was. Nonetheless, the students were actively engaged and they participated in the learning activity without seeking for extra credit. The motivation came from their intrinsic desire to contribute to the community rather than the extrinsic bonus. I think that is a good indicator that the built scaffold is successful to assist students walk through the ZPD and become independent learners in this regard. Instead of the teacher serving as the assistant, the technology can serve as a major role in helping students complete an assigned task to build new knowledge as the outcome.

In my opinion, I believe that this activity is not suitable for students to complete individually outside of the classroom because the immediate discussion was necessary to reinforce the idea. Although it was possible to extend the distributed construction to

outside of classroom, I wanted to make sure students can instantly read the statistic and discuss with me who also serves as a major assistant role in the ZPD.

Conclusions

In the conclusion, Google Drive is mainly used in my intervention to illustrate the idea of ZPD and M.I. in the cloud environment. Originally, this cloud technology along with QR code is not originally designed particularly for education. Yet, it possesses every element that can be turned into an educational technology elastically. Certainly, some other cloud applications have been designed with pre-defined purposes, but the flexibility for customization is limited and it ends up with so many different apps for different purposes. If there was a unified platform where teachers can easily build new applications on it while commonly adopted by students using across platforms, it would be more useful and flexible. At the end, I think educational psychology is the foundation of the usage of educational technology for learning and teaching, and the underlying theories guide the designer and educators in technology-aided learning. Through this experience, we can see that simple tool can be already the simplest way for success in helping students to learn effectively.

The logo for the International Association for Frontiers in Education Research (iafor) is centered on the page. It features the word "iafor" in a lowercase, sans-serif font. The text is surrounded by a large, faint, circular graphic composed of several overlapping, curved lines in shades of blue and red, creating a sense of motion or a globe.

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***Ethical Decision Making in Education Systems in Times of Transformation:
Codes of Ethics and the Potential Benefits of Deontology,
Consequentialism, and Mixed-Consequentialism***

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Abstract

In times of transformation, the issues of equity, social justice and social change require careful review in educational institutions. Effective educational leaders need a firm understanding of ethics in addition to technical and administrative skills (Starratt, 2004). Personal values, including religious reasoning, may lead to decisions that cause conflict and are not in the best interests of all stakeholders. Clearly stated guidelines and a code of ethics that all stakeholders help to create can enhance the ethical decision-making process (Gordon & Sork, 2001). Teachers may be willing to follow guidelines if school leaders consult with teachers in the creation of a code of ethics. Educational leaders and teachers are role models for students and need to make decisions based on caring for the needs of all students (Gorman & Pauken, 2003). Moral reasoning alone is not sufficient for the decisions that educational leaders make in diverse communities. Three general approaches to ethical decision making are available to educational leaders. Deontology is a rules-based system of ethics that emphasizes the importance of duty and of respecting rules for moral conduct, regardless of the consequences (Beckner, 2004). A rules-based approach to ethics may help to create consistent guidelines for school leaders and administrators but might not be useful in unusual or complex circumstances. Consequentialism is an approach to ethical decisions that focuses on creating the maximum benefit for the largest number of individuals. Mixed-consequentialism provides a useful framework for educational leaders in increasingly complex and diverse communities and educational environments.

Keywords: ethics, deontology, consequentialism, guidelines, educational leaders

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Introduction

Moral reasoning alone is not sufficient for the decisions that educational leaders make in diverse communities. Three general approaches to ethical decision making are available to educational leaders. Deontology is a rules-based system of ethics that emphasizes the importance of duty and of respecting rules for moral conduct, regardless of the consequences (Beckner, 2004). A rules-based approach to ethics may help to create consistent guidelines for school leaders and administrators but might not be useful in unusual or complex circumstances. Consequentialism is an approach to ethical decisions that focuses on creating the maximum benefit for the largest number of individuals. Mixed-consequentialism provides a useful framework for educational leaders in increasingly complex and diverse communities and educational environments.

Deontology

The branch of ethics known as deontology is based on the Greek word for obligation, *deon*, and promotes the assumption that reason can be used to determine duties and what is universally right (Micewski & Troy, 2007). Rather than a branch of ethics, deontology may be viewed as a transition between ethics and formal laws and legal codes (Dina, 2013). Kant created a rule-based deontological system in which good will was the only form of absolute good and an act was only good if good will was present (Beckner, 2004). However, good will may be difficult to define precisely in every situation. Kant created the term “categorical imperative” to describe a fundamentally good act that a person would wish to be made a universal rule (as cited in Beckner, 2004, p. 52). Unfortunately, reaching universal agreement with all of the stakeholders in an educational institution on what precisely constitutes a categorical imperative may be difficult. Deciding on what qualifies as a categorical imperative appears to involve a great deal of subjective judgment, which was Kant's main criticism of consequentialism (Beckner, 2004). Regardless of the ethical approach that educational leaders employ, leaders need to be aware of and evaluate their own subjective judgments and the reasons which lead to such judgments.

Deontology is a strict, rules-based system which requires individuals to obey the established rules of conduct regardless of the consequences (McNaughton, 1993). Deontological, rules-based approaches to ethical decision making might be more appropriate and effective in relatively simple situations involving a small number of students, staff members, or community members in which all participants are able to agree quickly on the most ethical decision to take. For example, punishing a student for committing a violent crime or stealing could involve a deontological approach. General agreement could likely be found among the majority of stakeholders that such conduct is wrong and should be punished. Few normal, intelligent people would wish stealing or violence to become universally acceptable. Therefore, school leaders can employ a rules-based approach when dealing with common disputes or crimes involving students or teachers.

Litwack (2003) notes the importance of an ethical code of conduct. Educational leaders can create a code of ethical conduct for a school after close consultation with all stakeholders, including members of the community. Leaders can identify a need to modify or change school rules related to ethics by keeping in close contact with the

ethics and values of increasingly diverse communities. The concept of ethics encompasses the customs and beliefs of a particular culture or group of people (Dina, 2013). In diverse communities, an ethical balance needs to be found between a wide range of practices and beliefs. Ethics and morals are often used as synonyms, but morals are more closely associated with clearly defined patterns of behavior, while ethics deals with general principles (Francisco, Maria & Maria, 2008). Administrators who adhere to a deontological approach in decision making believe that what is right in a particular case is more important than the consequences that may result from a decision (Propheter, 2012). However, responsible administrators need to consider the full range of potential consequences of their actions and not focus exclusively on a narrow set of predefined, inflexible rules in their decision-making processes.

Consequentialism

Consequentialism emphasizes the morality of the results of an action and is a branch of teleology (Beckner, 2004). In situations that require an ethical decision, a teleological approach focuses on the results of a decision. Teleology is a type of relativism and a branch of ancient Greek philosophy whose supporters believed that all lives have an ultimate purpose (Beckner, 2004). Decisions in an educational environment that require a teleological or consequentialist approach may include complex issues that involve large numbers of stakeholders, including staff, students, and members of the local community. The ethical issues may be too complex for leaders to address by simple rules-based approaches that require some universal agreement. Situations that involve a wide range of conflicting ethical viewpoints in a diverse community might require a focus on common goals and desired outcomes that a majority of community members would support. For example, getting school sponsorship and funding from a private fast-food company might be a complex and controversial issue that could generate a wide range of ethical questions in the community and among the teaching staff. In consequentialism, all alternative decisions must be carefully reviewed and only the decision which provides the greatest benefit to the largest number of people can be chosen (Roth, 1999). Extensive consultation with all stakeholders can lead to an agreement on common goals and objectives before school leaders make an ethical decision.

The utilitarian movement, a form of consequentialism, began in the eighteenth and nineteenth centuries, and utilitarian philosophers such as David Hume and Jeremy Bentham believed that the means justified the end and that the maximum good for the largest number of people was the most important objective in decision making (Beckner, 2004). Bentham believed that a precise, scientific system of ethics could be created by calculating the amount of pleasure (positive effects and benefits) and pain (negative effects) resulting from a given action (Beckner, 2004). The assessment process in educational institutions often involves ethical decision making and positive and negative consequences for large numbers of students (Kienzler, 2004). One complex contemporary ethical issue with which educational leaders must deal may be the issue of standardized testing. Standardized testing may meet the needs of the majority of students, but ethical leaders must also seek creative solutions to address the needs of students who do not benefit from standardized testing.

Modern society has become increasingly complex and diverse, and rules-based systems of ethical thought do not seem capable of effectively classifying every

possible action in a useful and meaningful way. Democratic governments tend to employ utilitarian approaches in decision-making, focusing on consequences and creating benefits for a majority of citizens rather than for a small, elite class (Beckner, 2004). Ideally, educational institutions should seek to provide numerous, significant benefits for the largest possible number of students and stakeholders. The large amount of subjectivity involved in predicting consequences and potential benefits is a weakness in consequentialist schools of thought (Beckner, 2004). The poor judgment of unethical or heavily biased leaders may call the entire decision-making process into question and weaken trust between an educational institution and stakeholders.

Mixed-Consequentialism

An effective compromise between extreme forms of consequentialism and deontology may provide decision makers with the flexibility necessary to meet new challenges. Responsible managers of an organization need to consider the consequences of actions while referring to basic rules or guidelines. Numerous references to indirect types of consequentialism exist in the literature on the subject of ethical decision making (Mendola, 2006). Various frameworks which combine aspects of consequentialism with deontological approaches also exist in the literature (Helm, 2005). Strict adherence to rules may lead to undesirable outcomes, but a basic framework of rules can help to promote a consistent and well-balanced decision-making process. Some rules or guidelines can provide a useful framework for utilitarian approaches (Tomlinson, 1991). Decision makers must strive to identify all stakeholders and to consider the full range of potential consequences of decisions on various individuals and groups (Zakaria & Lajis, 2012). Mixed-consequentialism may be the most useful approach to ethical decision making for school leaders, providing basic rules and guidelines while also recognizing the importance of the consequences of decisions in educational institutions.

Conclusion

An organization or institution as a whole possesses ethical dimensions and responsibilities, and the needs of individual members require careful consideration in decision-making processes (Berg, Csikszentmihalyi, & Nakamura, 2003). The working environment of an educational institution may be highly ethical with a transparent, collaborative decision-making process or the environment may be dysfunctional, poorly managed and led, and subject to widespread unethical behavior. An ongoing dialogue between schools and the community can help to create an ethical environment.

An effective system of ethics values caring and empathy between individuals, and the views of scholars who value the importance of individual ethical choices are similar to the views of Aristotle. Aristotle based virtue ethics on the development of a strong individual character capable of independently making wise and ethical choices (Beckner, 2004). School leaders require training and experience to make wise decisions and a sense of empathy for the needs of all stakeholders. Stephan (2003) notes that in a survey of four hundred American college students, the vast majority of respondents believed that right and wrong depend on individual and cultural differences. Effective educational leaders would be wise not to rely exclusively on

either a rules-based or results-focused ethical decision-making process in diverse and complex educational environments.



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***The Effect of Using Games and Puzzles on the Achievements
of Mentally Retarded Pupils in Multiplication Tables***

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Abstract

The mentally retarded pupils face a big problem to remember multiplication facts. For that reason, this research tries to measure the effect of using games and puzzles on their achievement in multiplication tables.

This research tries to answer these questions:

- What are the games and puzzles that can be used in the teaching multiplication table for mentally retarded pupils?
- What is the effect of using it on their achievement in multiplication table?
- Which one has a greater impact on pupils' achievement of the multiplication table?

The results showed that:

- Each of the games and puzzles has an impact on increase students' achievement in multiplication table.
- There was no significant difference between the mean of two experimental groups in posttest.
- But the pupils loved Puzzles more than games because the puzzles depending on drawing art.

Keywords: (Games, Puzzles, Mentally Retarded, Multiplication Table)

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Introduction

The progress of any nation can be measured by the amount of care for the pupils with special needs such as mentally retarded pupils. Mentally retardation problem faces all nations, but in different levels. In Egypt, this kind of pupils have special schools. They have also special curriculum.

Students with mental retardation have difficulty remembering information. As would be expected, the more severe the cognitive impairment, the greater the deficits in memory (Heward, W. L.: 2014). These Characteristics affect deeply in their learning ability, especially when they study multiplication tables. This problem will lead to more problems when they study other topics such as multiplication of decimal numbers (Watarai, Y., 2012), or study measurements (Rahaman, J. and others, 1965:2012).

A systematic search of the literature from 1989 through 1998 was conducted to identify and analyze mathematics interventions for students with mild-to-moderate mental retardation. It was found that the focus of instruction has shifted from basic skills instruction to computation and problem-solving instruction. Techniques such as constant-time delay, peer tutoring, time trials, and direct instruction proved beneficial in improving mathematics skills. Further, students with mental retardation learned to employ cognitive strategies successfully when these techniques were included (Butler, F. M. and Others, 2001: 20-31).

There is an importance to use art approach for mentally retarded pupils teaching because this approach can help these pupils to develop their visual awareness and their ability to think independently (Kelchner, 1991:141). Bonsangue suggested that the teacher can teach multiplication operation to mentally retarded pupils by using practical activities which called wrap-up activities (Bonsangue, P. and Reymond, A., 1996:36-38)

There are many studies in teaching multiplication to mentally retarded pupils such as:

- Singh and Agrawal study (2013): It investigated whether computer games help in teaching mathematics to children with mental retardation and whether computer games help equally both boys and girls. The results showed that computer games are useful for both boys and girls. But the boys seemed to benefit more from computer games.
- Kroesbergen, E. H. and Johannes, E. H. study (2005): It examined the effects of a constructivist mathematics intervention for students with mild mental retardation as compared to direct instruction. Multiplication automatically and ability tests were administrated before and after the four month training period. The results show that students in both conditions improved significantly during the training period. But the students with mild mentally retardation can profit from constructivist instruction, although direct instruction seems more effective.

According to the above, some considerations can be taken such as:

- The importance of using art with mentally retarded pupils.
- Games are useful with these kind of pupils.

Problem

The mentally retarded pupils face a big problem to remember multiplication facts.

This research tries to measure the effect of using games and puzzles on their achievement of learning multiplication tables.

The research questions are:

- What are the games and puzzles that can be used?
- What is the effect of using them on learning multiplication table?
- Which one has the greatest impact on pupils learning of multiplication table?

Limitations

The research limitations are:

- Research applied on sixth grade mentally retarded pupils.
- Games and puzzles are used for teaching multiplication tables 2-5.
- All puzzles depend greatly on drawing familiar shapes for the pupils.

Importance

This research can:

- Offer some educational games and puzzles which can help mentally retarded pupils to learn multiplication facts.
- Help mentally retarded pupils to enjoy learning math.
- Normal pupils could be benefited from using these educational games and puzzles

Hypotheses

This research tries to satisfy the following hypothesis:

1. There are statistical, significant differences between the mean scores of the first experimental group and control group in post achievement test in favor of the first experimental group.
2. There are statistical, significant differences between the mean scores of the second experimental group and control group in post achievement test in favor of the second experimental group.
3. There are statistical, significant differences between the mean scores of the first experimental group and second experimental group in post achievement test in favor of first experimental group.

Definition of Terms

1. **Mentally retarded pupil:** The pupil who have IQ between 50-70.
2. **Game:** It is a kind of activity which have these characteristics:
 - Played by two or more players.
 - Have some rules must be followed.
 - Can be played several times.
 - One player must be winner.

- Enjoyable.
- 3. Puzzle:** It is kind of activity which have these characteristics:
- Have a problem.
 - End by solve the problem.
 - Practices individually or in group.
 - Practice is done one time.

Method

The research method can be described in the following steps:

1. Determine the objectives of teaching multiplication tables unit in sixth grade textbook.
2. Develop the following educational materials:
 - Design 25 games with rules in multiplication tables until 5.
 - Design 29 puzzles in multiplication tables until 5.
3. Carry out a pilot study for these games and puzzles on a sample of mentally retarded pupils.
4. Modify the games and puzzles according to the results of the pilot study .
5. Develop achievement test in multiplication facts until 5.
6. Choose three equivalent groups from sixth grade of mentally retarded pupils .
7. Apply an achievement test in multiplication table on the three groups (pre-test).
8. Teach multiplication table to the three groups as following:
 - Teach the first experimental group by using the games.
 - Teach the second experimental group by using the puzzles.
 - Teach the control group by using ordinary method.
9. Apply the same achievement test in multiplication table on the three groups (post- test) .
10. Analyse the results.

Overview on games:

All the games (25) was built with the following considerations:

- It should be similar to familiar games.
- Simple rules.
- No costs.
- Attractive

The following table shows the different kinds of these games:

Table (1) shows the different kinds of games

The name of game	Dominoes	Ladder and snake	Monopoly	Cards	Tic Tac toe
Multiplication-Table 2	1	2	3	4	5
Multiplication-Table 3	6	7	8	9	10
Multiplication-	11	12	13	14	15

Table 4					
Multiplication- Table 5	16	17	18	19	20
Review	21	22	23	24	25

The previous table shows that 25 games can be divided into five kinds of familiar games for pupils. These kinds are: dominoes, ladder and snake, monopoly, cards and tic tac toe.

Sample of one game:

This game is tic tac toe game with some modifications to be suitable for help pupils to remember multiplication facts.

Game objective:

After the pupils playing this game many times ,they will be able to memorize the multiplication facts of table 2.

Game tools:

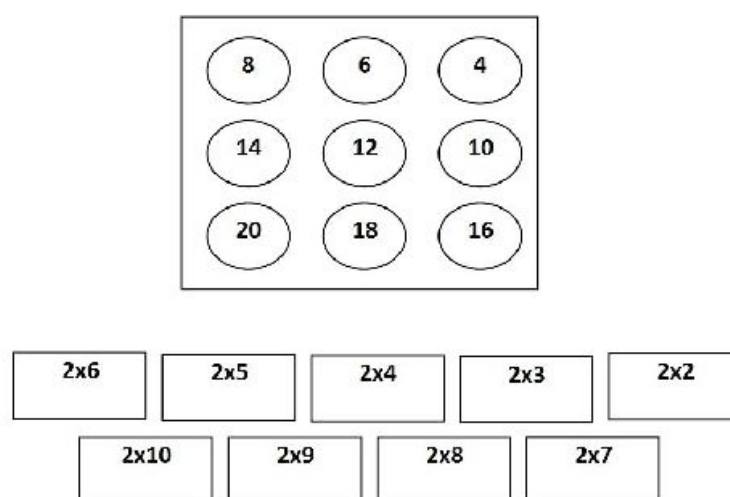


Figure (1) show tools of Tic Tac Toe game after modifications

The tools of this game are:

- One board contains 9 cells which have the results of multiplication facts of table 2.
- 9 cards contain some problems of multiplication table 2.
- Two crayons with different colors.

Numbers of players:

Two players.

Game steps:

- Each player chooses one color crayon.
- First player choose one card randomly.
- Calculate the result of multiplication problem.

- Colored the cell, which contains his result with his crayon color.
- The second player follows the same steps.
- The two players exchange the roll.

Winner player:

The winner player is the first player who can colored row or column or diagonal with his color.

Overview on puzzles:

All the puzzles (29) in multiplication tables was built with the following considerations:

- Should use drawing shapes.
- Shapes should be familiar.
- No hard thinking.
- Short distance between drawing points.

Sample of one puzzle

puzzle steps:

1. The teacher ask his pupils the puzzle question such as:
"Something we cannot walk in the street without it?"
2. All responses of the pupils were accepted and wrote in the black board without any comment and the pupils will know the solution of this puzzle after follow these procedures:
 - The teacher ask his pupils to solve all these problems:

(1) $3 \times 6 = \dots$	(2) $4 \times 10 = \dots$
(3) $3 \times 5 = \dots$	(4) $2 \times 7 = \dots$
(5) $3 \times 9 = \dots$	(6) $4 \times 6 = \dots$
(7) $5 \times 9 = \dots$	(8) $4 \times 8 = \dots$
(9) $2 \times 9 = \dots$	(10) $5 \times 6 = \dots$
(11) $4 \times 9 = \dots$	(12) $5 \times 8 = \dots$
 - The teacher distributes this card for each pupil:

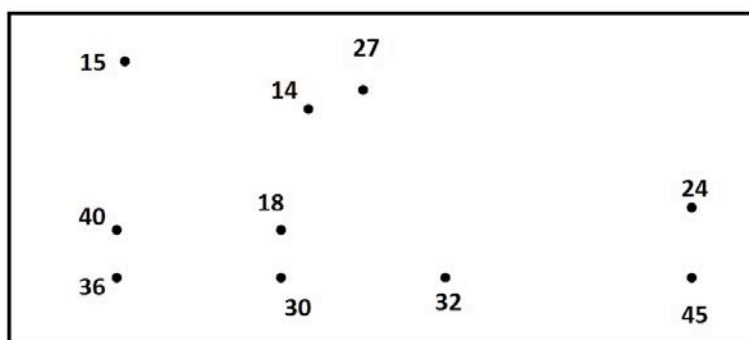


Figure (2) show the puzzle card

- The teacher asks them to connect the dots according to the order of the problems results.
- If the problems results is right and his connecting right, the pupils will get the shape of the puzzle solution as follows:

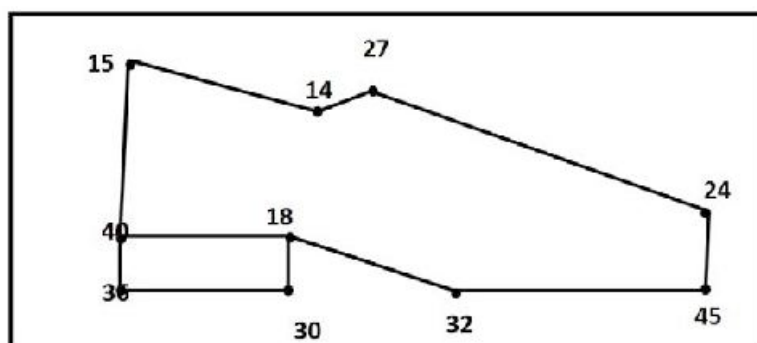


Figure (3) shows the puzzle solution

- All the pupils will know that the puzzle solution is shoes.

Results

- To satisfy the significant differences between the score means of the post test for the three groups, one way analysis of variance (ANOVA) was made for the three means. The results can be shown in the following table:

Table (2) shows the one-way ANOVA of score means for these three groups

Source	Sum of squares	df	Mean Square	F	Sig.
Between groups	637.544	2	318.772	5.71	0.009
Within groups	1339.435	24	55.81		
Total	1976.979	26	374.582		

The previous table shows that There were statistically significant differences between group means as determined by one-way ANOVA ($F(2,24) = 5.71, p = 0.009$) in post-test which can be traced to games and puzzles.

- To satisfy the first hypothesis, Mann–Whitney U test was carried out to know the significant differences between mean scores ranks of first experimental group and control group in post-test. As shown in the following table:

Table (3) shows the significant differences between mean Rank scores of first experimental group and control group in post-test

N1 Control	N2 First experimental	U_1	U_2	U	Critical value at $P = 0.05$	significant
8	9	58	14	14	15	significant

The previous table shows that the smallest U value is less than the critical value at $P = 0.05$ and therefore there were significant difference between the two groups in favor of the first experimental group.

- To satisfy the second hypothesis, Mann–Whitney U test was carried out to know the significant differences between mean scores ranks of second experimental group and control group in post-test, as shown in the following table:

Table (4) show the significant differences between mean Rank scores of second experimental group and control group in post-test

N1 Control	N2 second experimental	U_1	U_2	U	Critical value at $P = 0.05$	significant
8	10	68	12	12	17	significant

The previous table shows that the smallest U value is less than the critical value at $P = 0.05$ and therefore there were significant difference between the two groups in favor of the second experimental group

- To satisfy the third hypothesis, Mann–Whitney U test was carried out to know the significant differences between mean scores ranks of first experimental group and second experimental group in post-test, as shown in the following table:

Table (5) show the significant differences between mean scores of first experimental group and second experimental group in post-test

N1 First experimental	N2 second experimental	U_1	U_2	U	Critical value at $P = 0.05$	significant
9	10	59	31	31	20	Not Significant

The previous table shows that the smallest U value is greater than the critical value at $P = 0.05$ and therefore there were no significant difference between the two groups; first experimental group and second group.

Although there were no significant difference between the two groups, but through the responses of the pupils during their practice, the researcher noticed that the pupils loved the puzzles more than games. May be they loved puzzles because it depended deeply on drawing art. (some pupils says: Oh we are artist).

Conclusions

According to the results of the present research, the following conclusions can be made:

- Using games and puzzles helped the mentally retarded pupils to learn multiplication tables.
- There is no difference between using games and puzzles in learning multiplication tables.
- Both games and puzzles have the same effect on the achievement of mentally retarded pupils when learning multiplication tables.
- The pupils loved the puzzles more than games because it depends on drawing art.

Recommendations

According to the results of the present research, the following recommendations can be made:

- All these games and puzzles should be included in the teachers guide mathematics textbooks in elementary stage as enrichment activities.
- The teachers should use these kinds of activities as a tool to teaching mathematics.
- Since these games and puzzles are effective for the sixth grade mentally retarded pupils, then it will be effective also for the normal pupils.
- The teachers in elementary stage need to get some training to design similar games and puzzles in different mathematical concepts.

Suggestions for Further Research

Following up on the results of the present research, the following researches are suggested:

- Studying the impact of these games and puzzles on the attitudes of the pupils toward learning mathematics.
- Developing more games and puzzles to help pupils learn mathematics in advanced level.
- Measuring the effectiveness of using games and puzzles for teaching other mathematical concepts.

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***Developing Problem-Solving Skills and Pair Programming Strategy for a
Fundamental Computer Programming Course***

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Abstract

Many studies have shown that when learning programming students don't have basic problem solving skills and don't know how to create algorithms. Our overall Objective of this study was to help students develop the foundational capabilities needed to become successful programmers and to help students learn effective programming skills. The main focus of this paper is a literature review research relating to problem-solving skills that help students practice more efficient analysis, planning and design skills for the development of programs. A problem-solving activity consists of five processes: analysis to understand; development the plans, carrying out the plans, evaluation the plans and reflection on the problem-solving process. These activities have used the method of pair programming activities to enhance teamwork and communication during learning. The processes of activities were consistent with program learning. This research was experimental pilot for the quality of learning framework, which the results show that, the students improved programming skills and the satisfaction of learner on high level in process.

Keywords: Problem-solving skills, Pair programming, Fundamental Computer programming

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Introduction

Programming is a basic course for students in the field of computer and Information Technology. Learning to computer program is a difficult process for many students. The difficulty of the process causes a high failure rate in many schools. Several authors have discussed different reasons for such problems (Sloane, 1988; Gomes, 1998; Soloway, 1989; Jenkins, 2002; Lahtinen, 2005). A study by Mikum (2013) and Gomes (2007) found that students don't have basic problem solving skills and don't know how to create algorithms. Developing problem solving skills should be a priority.

There are many studies that show a positive effect between computer programming problems solving ability (Battista, 1986; Kurshan, 1985). Problem solving is essential to computer programming and requires multiple abilities that students often don't have (Gomes, 2007). And according to Craig further research has suggested teaching lab between teachers and students should have learned in the problem-solving process. The process of developing problem solving skills helps to improve the students' ability to understand and plan for problems.

However, another important part of learning to program is the happiness of the students while learning. Many researches have reported how enjoyment of learning programming will increase the learning environment in the class (Mikum, 2014). Pair programming, which it has helped create an environment for learning programming better and including of benefits that it help to programs of higher quality, helped improve retention, understanding of the programming process, and other (Laurie Williams, 2010; Mikum, 2014).

However, the developing of programming skills to strive to improve the quality of the students should have developed to be continuously. The purpose of this paper is to propose a practical strategy of Problem solving activities and pair programming for improving the fundamental computer programming course.

Background Principles

Pair programming

Pair programming involves a type of learning in which two programmers combine efforts on the same problem, algorithm, design, code or test, and work together at the same computer (Williams, 2010; Anderson, 2012; Cockburn, 2000; Ma, 2004). One student, the driver, is assigned to design, write the code and test programs. The other student, called the navigator, watches to see if the driver makes mistakes and then gives advice to help fix the mistakes. The communication between the driver and navigator is important. And it is a good idea to switch roles between the drivers becomes the navigator (Williams, 2002).

When teachers choose to use the pair programming technique on learning programming course, learners will benefit both, in terms of, the development the programming process and their feelings about their studies. For instance, Students get higher quality programming when pair programming is used. The work in pairs planning, sharing ideas and combining solutions increases the cognitive knowledge of the of programming process, as well as helps students learn programming better, get

happy feelings about learning in general and increases students confidence in their programming skills (Han, 2010).

Choosing the right partner in pair programming is essential to success. According to Grigori Melnik (2002) and Dean Sanders (2002), the skill levels of the learners are necessary to achievement in their program. Lynda Thomas (2003) found that choosing a good pair programming when a partner is capable of the same skill levels. Or the choosing a pair programming of students is the job of students chooses their partner (Mikum, 2014). When they completed programs, they get switch roles for this will spread information and knowledge will be spread throughout their pair (Williams, 2003).

Problem-solving skills

Learning programming is based on development of the student's problem-solving ability (Gomes, 2007; Vanlengen, 1990). The authors define the "problem" using a definition from Gil Pérez et al. (1988) who consider the problem as a situation where the solution is not clear. Perales (1993) considers the problem as any situation that produces, on one hand, level of uncertainty, and on the other, an expression in search of a solution. According to Mayer (1998) it is a complex concept containing cognitive, metacognitive and motivational aspects.

A literature review of the problem-solving skills encourages us to find ways to improve this subject in terms of different knowledge domains.

For instance, Polya (1957), in his book "How to Solve It", describes ideas on how to enhance the student's problem-solving skills, which he thinks involve four-phases, namely: 1) understand the problem; 2) devise a plan - it often means looking at related or simpler problems; 3) carry out the plan and 4) look back.

Bransford and Stein (1984) presented the IDEAL model, and using the following steps: 1) Identification of the problem; 2) Definition of the problem with precision; 3) Exploration of strategies to reach the problem solution (based in previous knowledge and experiences); 4) Action, in the sense of the execution of the previously planned; 5) Learn (or Look back) relative to the observation of the effect of the carried through actions and learning according to the evaluation of the results of these actions.

Sternberg and Davidson (1989) suggested other steps: 1) problem identification; 2) selection of the mental operation to solve it with success; 3) internal and external representation of the information, in a clear way; 4) selection of an adequate strategy; 5) distribution of the available resources; vi) monitor the different moments of problem solving.

Pretz and Colleagues have divided the problem-solving process in yet other stages: 1) to recognize or to identify the problem; 2) to define and to represent the problem mentally; 3) to develop a resolution strategy; 4) to organize the knowledge concerning the problem; 5) to attribute mental and physical resources to solve the problem; 6) to monitor ideas so not to divert from the main goal; 7) to evaluate and correct the solution.

The University of Washington (2003) provides details that problem solving is an iterative, or cyclical process and describes the various steps to solve problem, namely: 1) Identify the problem; 2) Define the problem; 3) Collect, evaluate and organize information about the problem (Determine what information will be relevant, classify and categorize relevant information); 4) Create or select a strategy to resolve the problem; 5) Allocate resources to solve the problem (Encourage students to develop timelines, action plans, progress reports); 6) Monitor the problem solving process (Ask students to submit regular progress reports or updates to ensure deadlines are met); 7) evaluate the final solution (to evaluate their final solution about e.g., an accountant; a manager; a researcher).

Also Santucci offers synthetic forms of abbreviations FARE techniques and methods based on the original model of Polya, referring to the following stages: 1) Focusing on the creation, selection and definition of the problem, deciding and what is necessary to know; 2) Analyzing, by collecting reference data, determining the relevant factors, and generating alternative solutions (or action plans); 3) Resolving, by selecting one solution, developing a plan for update and persistence in the organization to reach the awaited result; 4) Execution, finding a solution, controlling the impact during the plan implementation (evaluation of the results).

Almeida (2004) describes the model of the problem-solving in the following five steps. 1) Recognition, definition and identification of the problem; 2) Analysis of the problem and generation of alternative solutions; 3) Development of plans; evaluation of the alternatives and selection of one of them; 4) Selection and effective implementation of the alternative solutions; 5) Evaluation and follow-up or solution testing.

Anabela Gomes and António José Mendes (2007) describe in their work how to solve programming problems. It includes the following phases: 1) Understanding the problem (to define the problem and understand the aspects that are not clear); 2) Characterizing the problem (Looking for a related or similar problems that students had solved the problem); 3) Representing the problem (Students represent problems and answer questions to demonstrate understanding more.); 4) Solving the problem (making decisions, designing a system to meet certain goals, diagnosing and proposing a solution); 5) Reflecting on the solution (examining solutions and looking for information or clarification; evaluation of solutions from different perspectives.); 6) Communicating the problem solution (to communicate solutions can help students to examine problems that were previously not understood, and can also reflect the solution on production).

For a better understanding of the solution process it would be useful to combine the various methods of synthesis from many authors. This study used the following five processes based on the methods of other researchers. This study is focused on using this synthesis in relation to computer programming. The guidelines of problem solving of many researchers are consistent with the practice of programming. They include the following processes: 1) analysis to understand; 2) development the plans; 3) carrying out the plan; 4) evaluation of the plan; 5) reflection on the problem-solving process.

Instruction Design

Problems on learning computer programming fundamentals are the students lack the problem solving skills and cannot to design algorithms (Mikum, 2013; Gomes, 2007). Be said that, when the students practices a problem-solving skills, that this skills will help to develop better programs. The steps of practice skills, which are consistent with the steps of programming and the pair programming determine a role with the problem-solving skills and pair programming expected to support their learning and understanding.

This study hypothesizes that if students practice the above steps on program learning, the steps will lead to the development of better programmers as well as increasing the quality of their programming.

Processes of Problem-solving activities

Problem-solving activities consists of five processes, namely analysis to understand, development the plans, carrying out the plan, evaluation of the plan and reflection on the problem-solving process, Figure1.

The pre-activities, the learner choosing a partner had conditions of pairing by divided grade point average are three levels, namely high, medium, low respectively (Wang, 2012), then the instructor assigns a problem to the pair learners and describes the role of learner and how to learn in the assignment. The pair programming means two programmer works together, one student is the driver and is responsible to design, write the code and test. The other one, called the navigator, is responsible to observe the work of the driver looking for mistakes and providing strategic suggestions.

Table 1: The roles in the problem-solving activities

Driver	A student who analysis, designs, writes the code and tests the assigned programs
Navigator	A student who watches to see if the driver makes mistakes and then gives advice to help fix the mistakes
Teacher	The teacher of a programming course, in charge of giving assignment, observation and brief in assignment and summarize assignments

The first processes, in analysis to understand, students get assignments from teacher and then the driver analyzes the problem programming on Input-Process-Output analysis (I-P-O Analysis). This encourages a more clear analysis by the students. This is a process to analyze and understand the assignment and can be divided into three items namely: input, process, and output.

In the input item, the driver analyses data and the values, defines variables and types of variables in the assignment.

In the process item, the driver plans an approach to problem solving and chooses the command or function to be used in programming.

In the output item, the driver designs the result of programming for a guide for the programming.

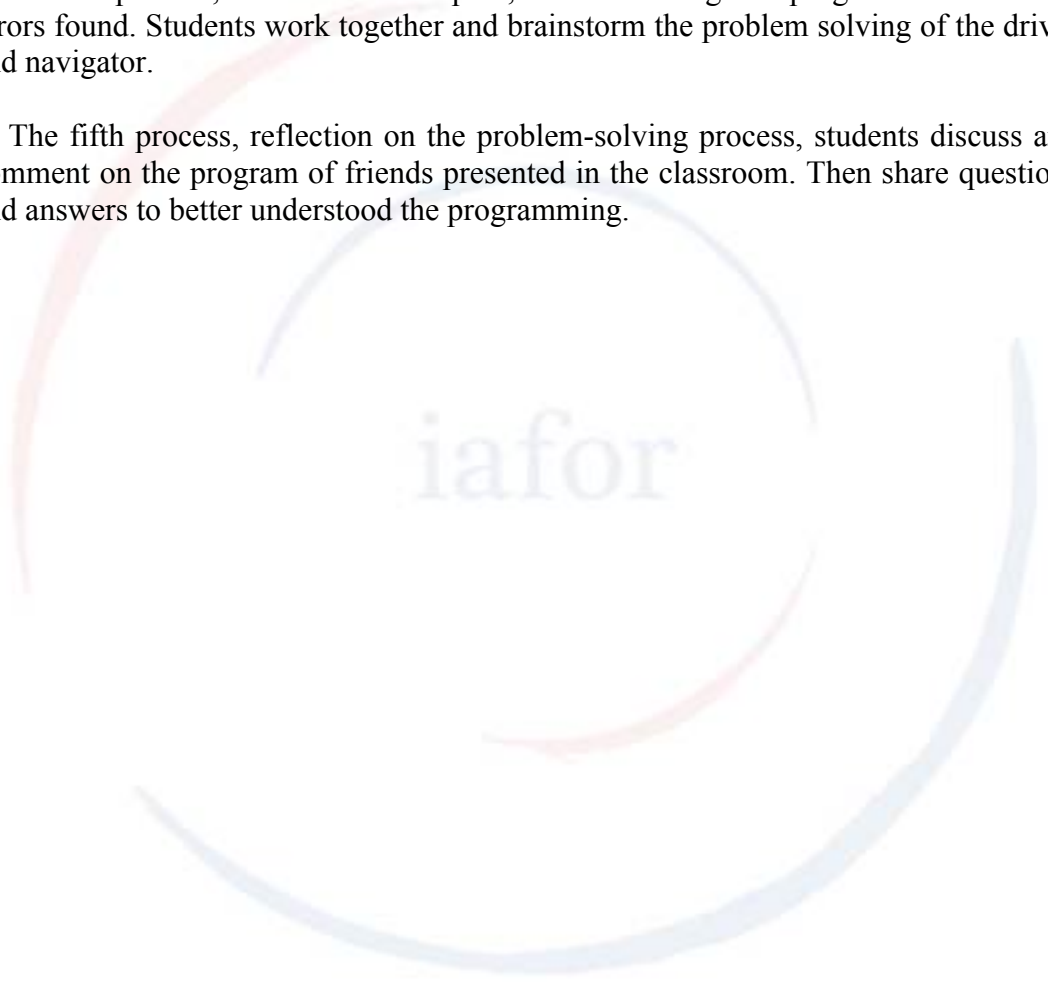
The entire process of analysis is issued by driver under observation of the navigator.

The second processes, in the development of the plans, the driver designs the programming on process planning, the flowchart design uses the swim lane technique, a symbol used in process flow diagrams, or flowcharts, to see differently the responsibilities for sub-processes. The driver describes the design of programs to the navigator before the driver writes the program. This processes helps guide the problem solving of programming.

The third processes, carrying out the plan, the pairs analyze the problem and design of completed programs. They start to code the program as designed by driver under the observation of the navigator.

The fourth process, evaluation of the plan, tests and debugs the programs based on the errors found. Students work together and brainstorm the problem solving of the driver and navigator.

In The fifth process, reflection on the problem-solving process, students discuss and comment on the program of friends presented in the classroom. Then share questions and answers to better understood the programming.

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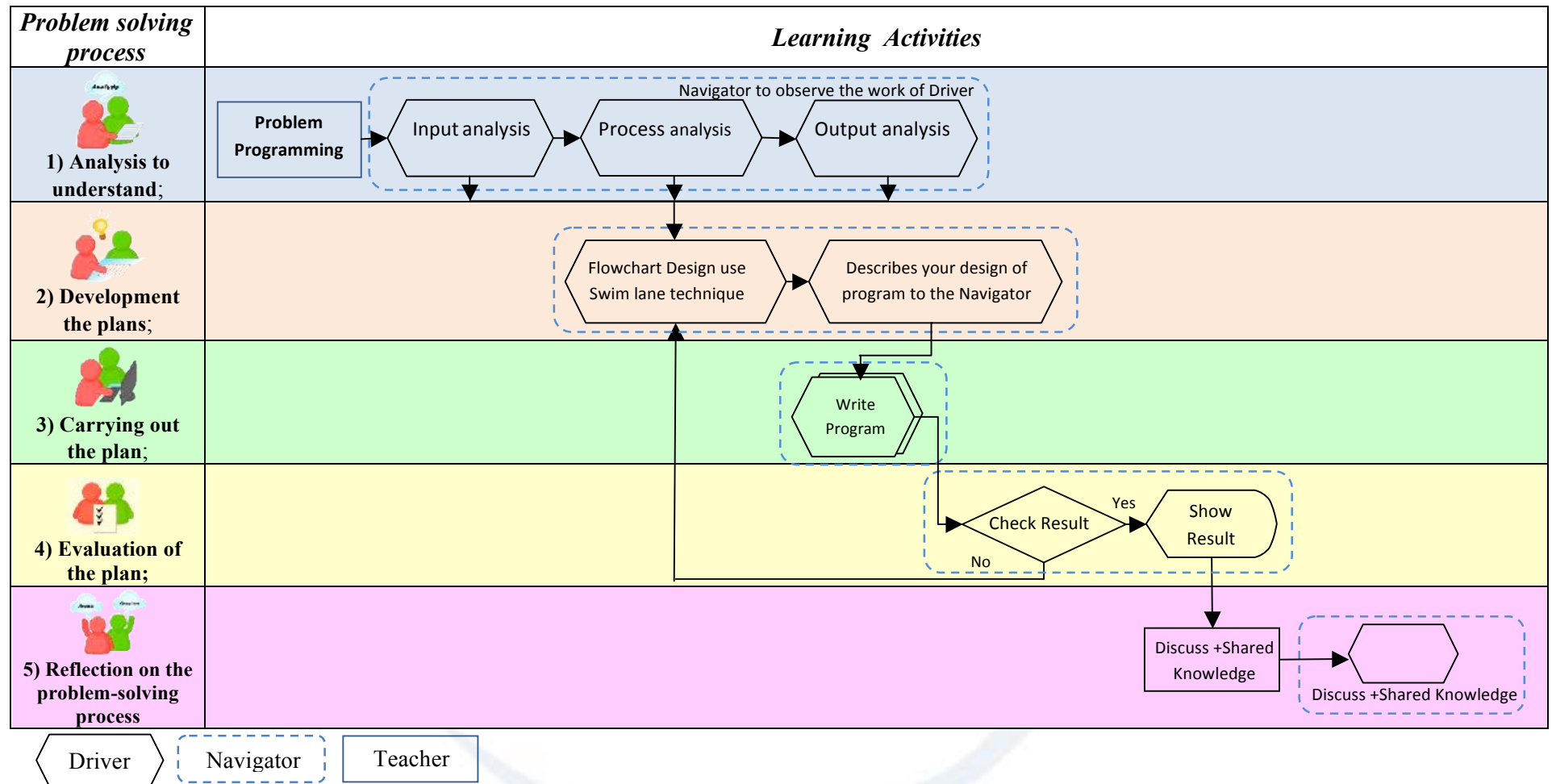


Figure1. Problem solving Activities and Pair Programming for improving the fundamental Computer Programming Framework (P³ framework)

Findings

Experimental Pilot

Literature reviews on various topics are basic knowledge of the concept for developing computer programming skills (Figure1.); the concept is practice for problem-solving skills, problem analysis, and design of program. And this concept was tested with the 10 freshman students in area of major Education Information Technology, Rajamangala University of Technology Thanyaburi. The result found that:

Table2. : Table shows the mean score according the test with pre-test and post-test

Test	$\bar{X}$	SD.	$\bar{D}$	SD. $\bar{D}$	t	Sig.
Pre-test	4.9000	1.37032	2.80000	1.98886	4.452	.002*
Post-test	7.7000	1.88856				

Table2. Shows the mean score in the test of students, post -test is higher than pre- test, and the difference was statistically significant ($p < .05$). The students improve programming skills on P³ framework.

Satisfaction of learner

This study explored the satisfaction of learning activity with the experimental pilot group on Figure 2.

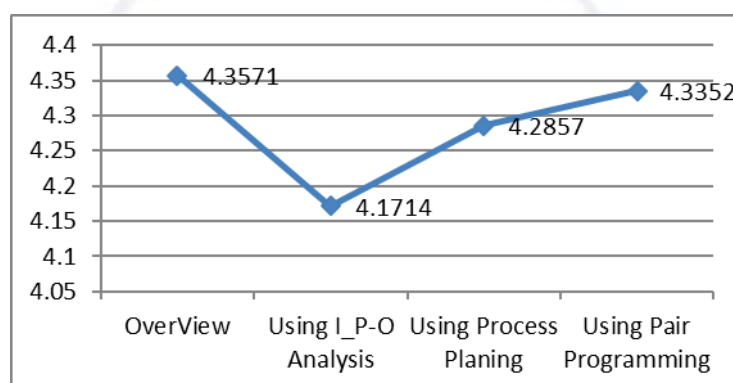


Figure2. Average of satisfaction

In satisfaction queries, there are four aspects. The students provided the average of satisfaction on high level in all aspects. An interesting finding is that on the high level, the students need to learn other subjects like the activity in subject and the students have opportunity to share knowledge and show ideas with their partners. The scores show that the students are satisfied with the learning activity.

Interview

This study involved interviewing the students. Students who participated in the interview said that the process of learning activity and working together helped them understand the problems of programming and designing better programs with flowcharts, it helped to have a guide to start their thinking process. Students also said that working together was a happy way to help with programming. They noted that they made friends who provided suggestions, shared knowledge and solved problems with their as a pair. Additionally, the pair work was more satisfying and increased the happiness of the developers.

Discussion

Various researches have the aim to develop programming skills of novice programmers. This current research aims are the same. Pair programming is a style of programming in which two programmers work together on the same process of

problem solving, which focuses on analysis to understand the problem and design programs. The learning framework helped them understand the problems of programming and better program design with flowcharts. Additionally, this process improves the quality of the analysis of problems, quality of the designing of programs and quality of code. It also was a positive experience for the students.

In this problems-solving process, the I-P-O Analysis encourages the ability to analyze problems better such as analysis of data, variable, and planning solutions. In addition, the process planning encourages clear plans in the designing of programs and increased the quality of code.

The switching role encourages students to practice communication, reasoning thinking, and sharing knowledge and encourages learning by doing and improves programming skills. And in areas, analysis problems and observation errors in programming occurred among participants who received the navigator role (Han, 2010).

The pairing with students of high-level skills that same level for programming together found that the pairing of the best and the student low-level skills for pair work together every process was slow as well. The pairs shared ideas and accepted criticism and the students were enthusiastic and willing to work in pairs. This also enhanced communication skills for the pairs (Wang, 2012).

Conclusion

Learning to computer program is a hard process for many students. The difficult process causes a high failure rate in many schools. This paper presents a learning framework using a problem-solving activity based on pair programming for improving programming skills.

When the learning framework was used in programming courses, it was found to have a positive effect on learning. The results showed the mean score in the test of students, post-test was higher than pre-test, see Table1. This table shows how the learning framework encouraged learning programming. The enjoyment of developers also increased.

Future work will be explore the learning framework in the area of programming to examine whether the development of programming skills leads to even better performance.

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Where Our Youth Are in the New Media World: Measures of New Media Literacy

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Abstract

The rapid penetration of tablet computers and smart phones has proliferated new media to mostly every aspects of our daily life. With the support of GPS and map applications, one can easily locate places and directions in a foreign country. People stay connected with their friends and families over instant message applications and social network platforms whenever they like, wherever they go. Distance is no longer a boundary of our social life, connectivity is. In these media-rich environments, youth, in particular, have the chances to participate in activities that are not passible in the face-to-face context. Recent studies showed that there is an increasing trend of school taking advantage of the new media affordances. This highlights the importance for educators and policy makers to understand where our youths are in terms of their capabilities to participate in the new media spaces. This capability can be conceptualized as new media literacy (NML). This paper presents information regarding a developed instrument to measure youth's NML based on the NML framework proposed by the most current research of Lin, Li, Deng, and Lee (2013). Reviews of literature related to NML will be shared and followed by the description of the development and validation of the instrument. Results show that the developed instrument is reliable and valid ready for subsequent data collection and comparative studies. Further discussion on highlights of unique contributions and directions for future studies will be discussed.

Keywords: New Media Literacy, Measurement, Instrument

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Introduction

The rapid penetration of tablet computers and smart phones has proliferated new media to mostly every aspects of our daily life. With the support of GPS and map applications, one can easily locate places and directions in a foreign country. People stay connected with their friends and families over instant message applications and social network platforms whenever they like, wherever they go. Distance is no longer a boundary of our social life, connectivity is. Jenkins, Purushotma, Clinton, Weigel, & Robison (2006) called this networked public giving birth to a participatory culture. Youth, in particular, are attracted by this new way of information consuming and prosuming (Ito, Horst, Bittanti, Boyd, Herr-Stephenson, Lange et al., 2008). In these media-rich environments (Lim & Nekmat, 2008; Phang & Schaefer, 2009; Potter, 2011), they have the chances to participant in activities that are not passible in the face-to-face context. For example, by experiencing virtual online identities, many youth has become experts in their interests-driven activities. These activities are mostly found in informal context (Ito et al., 2008). A recent study in Singapore found that schools are trying to take advantage of these new media affordances (Lim, Chen, & Liang, 2013). It is important for policy makers and educators to understand where our youths are in terms of their capabilities to participate in the new media ecology. This capability is conceptualized as new media literacy (NML) (Chen, Wu, & Wang, 2011).

This study aims to develop an instrument to measure youth's NML. We will first introduce the NML framework proposed Lin, Li, Deng, & Lee (2013) which grounded our foundation. Then, we will introduce the development and validation of the instrument. Results show that this instrument is reliable and valid. It is ready to be used for data collection and comparative studies. Finally we will highlight the unique contributions of this study and share our recommendations of directions for future studies.

Defining NML

A conceptual framework was proposed for NML consisting of functional consuming, functional prosuming, critical consuming and critical prosuming literacies (Chen et al., 2011). Lin et al. (2013) further argued that there are two major limitations of the above-mentioned framework by Chen et al. (2011). Firstly, the framework seemed to characterize the four types of NML in a relatively coarse way. Secondly, the framework did not distinguish Web 1.0 from Web 2.0, when Web2.0 plays a pivotal role in shaping a distinct participatory culture of media (Berger & McDougall, 2010; Gee, 2001; Jenkins et al., 2006; Thoman & Jolls, 2008). To address the above two limitations, a refined framework was proposed (see Figure 1) together with ten indicators to further unpack NML (refer to Table 1 for respective definitions). To properly reflect the new media orientation, Lin et al. (2013) differentiated prosuming literacy into that of Web 1.0 and Web2.0. Among the five indicators, distribution and participation belong to Web 2.0 exclusively, whereas skills Web 1.0. The remaining creation and production are further subdivided Web 1.0 and Web2.0. Detailed explanations and discussion of these indicators can be found at Lin et al. (2013).

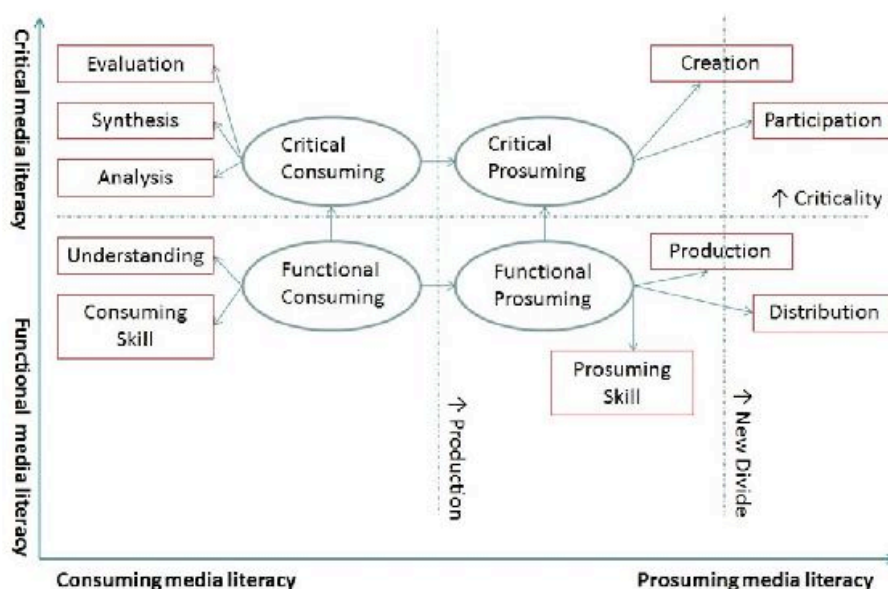


Figure 1. A refined framework of New Media Literacy. Adapted from “Understanding new media literacy: An explorative theoretical framework,” by T.-B. Lin, J.-Y. Li, F. Deng, & L. Lee, 2013, *Journal of Educational Technology & Society*, 16(4), p. 163. Copyright 2013 by International Forum of Educational Technology & Society.

Table1
Indicators and Definitions of the Refined NML Framework

Indicator	Definitions
Functional consuming literacy	
Consuming skill	A series of technical skills necessary for consuming media contents.
Understanding	The ability to grasp the meaning of the media contents at a textual level.
Critical consuming literacy	
Analysis	The ability to deconstruct media messages on its own.
Synthesis	This indicator bears much resemblance with Jenkins et al.'s (2006) appropriation, which refers to the ability to sample and remix media content in a meaningful manner.
Evaluation	This indicator includes individuals' ability to question, criticize, and challenge the credibility of media contents.
Functional prosuming literacy	
Prosuming skill	The set of technical skills necessary to produce/create media contents.
Distribution	This indicator refers the activities to disseminate information at hand.
Production	This indicator involves the activities to duplicate (partly or completely) or mix media contents.
Critical prosuming literacy	

Participation	It refers to activities to participate interactively and critically in new media environments.
Creation	This indicator refers to activities to create media contents especially with a critical understanding of embedded socio-cultural values and ideology issues.

Instrument Development

Likert-type scale, as a popular and widely used method, is generally regarded as a simply, reliable, and valid measurement on self-reported data. (Fabrigar & Wood, 2007) One of the important decisions to make when we develop the measurement scales is to decide what kind of Likert-type scale to use. In this study we employed three common types of Likert-type scale. The *independence* type of measure refers to the extent how a person can perform a task without help from others. A typical question could be “how much help you would need from other people” to perform the listed tasks. The responses range from “Only with other people’s help” (1) to “Without any help from other people” (5). The *agreement* type refers to the extent how individuals agree or disagree to a statement. A typical question could be “to what level do you agree” with the listed statements. The responses range from “Strongly disagree” (1) to “Strongly Agree” (5). The *frequency* type of measure refers to how often the individuals engaged in a certain activity or experienced a certain phenomenon. A typical question could be “how often do you do the listed actions” or “how often these situations listed below happened to you”. The responses range from “Never” (1) to “Very often” (5).

The items were developed based on the indicators in the NML framework (Lin et al., 2013). We consulted existing theoretical frameworks such as the expanded Bloom’s Taxonomy (Churches, 2007) and new media related surveys such as PISA 2009 (OECD, 2010) to craft the items. Approximately 200 items were drafted initially. A panel of 6 experts assessed and revised the items, of which 86 items were selected for the pilot survey. The items straddled among the 12 scales, which range from 4 to 13 items.

Participants for the instrument development were recruited using a two-level sampling method. The first level was volunteering sampling. We sent out invitations to all Singapore school principals through MOE. Four primary schools, three Secondary schools, and 2 Junior College agreed to participant within our proposed timeframe. The second level was systematic sampling. Participating schools were requested to select 40 students per grade level following a researcher-specified sequence of their student IDs.

Results

Three adjustments were made to the original draft instrument, namely item reduction, removal of the *Creation* scale and redistribution of items. The revised instrument includes four constructs with 10 scales and 62 items. The revised survey was used for a larger scale data collection on Singapore students.

We used descriptive statistics (i.e., means, standard deviation, correlation, and Cronbach's Alpha) and confirmatory factor analysis (CFA) to exam the quality of the items. Once flagged, these items were carefully examined. Items were removed only if there is presence of plausible reasons. As a result of this adjustment, 11 items were removed from Analysis, Synthesis, Evaluation, Prosuming Skill, and Participation. Consuming Skill, Understanding, and Distribution remained unchanged. During the item development stage, a debate centered on the scale of Creation arose. On one hand, creation is an important indicator as suggested in the literature. This scale must be included in critical prosuming to make it more encompassing. On the other hand, items based-on self-reported measures can hardly claimed to capture creativity. In most practices, it is usually judged by a third party. A tentative decision was made to include some items in the Creation scale in the original instrument. EFA was then preformed over the items in Creation and Production to evaluate whether there is a difference between items within these two scales. Results suggested that items only differ between 1.0 and 2.0 but not Creation and Production. Therefore, we have removed the scale Creation from the instrument and redistribute some of the items in Production.

The reliability of the instrument is established by internal consistency (Cronbach's alpha). Results showed that alphas ranged from .72 to .91 across different scales and .96 for the overall instrument indicating that the instrument is reliable.

Two types of validities were established. The establishment of the content validity was achieved by involving a panel of 4 experts in a series of meetings to decide the appropriateness of content of the items. In addition, construct validity was established by conducting CFA. The goodness-of-fit indices of the four scales and the indicators within each scale for the revised instrument were satisfactory based on suggested cutoff criteria from Hu & Bentler (1999). In sum, the instrument has been proven reliable and valid.

Conclusion and Discussion

This study reports our efforts in developing a self-reported instrument for measuring students' NML. The instrument was developed based on a refined conceptual framework from our earlier literature reviews. This study further operationalizes the framework into 10 scales. After the reliability and validity are established, the instrument is now ready for larger scale data collection. In the course of developing the instrument, there are two features worth mentioning. Firstly, we measured action frequency as a means of measuring "doing" rather than "knowing". Secondly, we included both specific terms and general terms into the items.

One feature of the instrument which is worthy of highlighting is our approach to measure 'doing.' A common limitation of survey type of study is that it heavily relies on self-reported data. As such, usually it is easier to measure "knowing" rather than "doing". In the constructs of consuming, how much one person knows would be sufficient to demonstrate one's capacity. However, in the constructs of prosuming, it is crucial not only to know, but also to do. For example, in the scale of participation under critical prosuming, we are interested in whether respondents report spam messages (e.g., "When I find a spam message, I report online.")

We were also faced with a dilemma how to keep a balance between generality and specificity. For example, shall the question be “I interact with others on Facebook” or shall the questions be “I interact with others in social media platforms”. The former is specific and clear. However, our concern is that it does not cover all possibilities. If a student does participate in a less popular social media platform, the student may choose a response which is less than the actual happening. On the other hand, the latter is more general and pitched at the right level because it does not really matter whether or not respondents interacted on a specific platform such as Facebook, as long as they are involved in any one. However, students may not be aware that the platform they use is one kind of social media. Our approach, therefore, is to use a combination of both. i.e. “I interact with others in social media platforms such as Facebook, Instagram, etc.”

After instrument is validated, we proceed to collect data on representative sample of Singapore students. The results would be used to establish the norms of Singapore youths and explore possible correlation between students’ NML and different demographic variables. Interested researchers may conduct international comparative studies to explore differences between counties.

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Evaluation of Knowledge, Attitude and Practice (KAP) on Mother Tongue-Based Multilingual Education (MTB MLE) Program among Grades 1 and 2 Public School Teachers in Lupi, Camarines Sur, Philippines

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Abstract

Mother Tongue-Based Multilingual Education (MTB MLE) in the Philippines is on its early stage of implementation. It aims to address the issue of language as a barrier in education mainly caused by contents of materials that are unfamiliar to learners. While there are many challenges in the implementation of MTB MLE, the success of this program lies greatly on the teachers who are tasked to carry out the strategies as provided for in RA 10533 or the Enhanced Basic Education Act. This study aimed to evaluate the knowledge on, attitude towards, and practice of MTB MLE of Grades 1 and 2 public school teachers in Lupi, Camarines Sur, Philippines. A survey method was employed with 51 randomly selected respondents. The result of the survey was validated through KII, FGDs, and class observation. The KAP of teachers will serve as basis for planning the interventions of DEPED in refining and strengthening its advocacy, communication, and capability building activities for the MTB MLE Program.

Keywords: Multilingual Education, Philippines, Evaluation, KAP

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Introduction

Mother tongue refers to the native language used by a person that is learnt first, knows best and uses most (UNESCO, 2007). The Department of Education has identified the use of Mother Tongue-Based Multilingual Education as a tool for combating barriers in education that are mainly caused by contents of materials which are unfamiliar to learners (Department of Education, 2012). Since the change in the medium of instruction in selected areas in the country is based on R.A. 10533 and Department of Education Memorandum Orders, the change in system, curriculum and classroom teaching practices were mandatory.

The program is determined to be on its early stage of implementation; the first batch of students and teachers who are greatly affected by the new curriculum are in the primary level particularly in Grades 1 and 2. The program implementation includes changes in the classroom setting especially with regard to the medium of instruction and learning areas being taught to students. Ideally, the guidelines written on the act as well as the orders imposed on memoranda ought to be practiced by educators in determined areas in the country.

Subsequently, teachers are part of the sector who are mandated to use the mother tongue as the medium of instruction, their presence in the teaching-learning experiences of Grades 1 and 2 students inside the classroom is vital in achieving positive or negatives effects on the learners part. That is why knowing their huge contribution in the implementation could help them realize that their attitudes and practices towards the MTB-MLE program plays a crucial role in the enhancement of the educational system in the country.

While Department of Education higher officials provide information that includes guidelines, reports, memorandum orders, instructional materials; teachers are tasked to put these information into practice. Teachers' function in the hierarchy of Department of Education is to directly implement the program in classrooms. The attainment of MTB MLE program objectives depends upon their knowledge, attitude and practice on the program. However, hindrances and difficulties are expected to arise in every newly implemented program. Thus, the study focuses on Department of Education's governance and program implementation on MTB MLE in Lupi, Camarines Sur Schools District.

Conceptual Framework of the Study

Following Yale's Information-processing theory, the five steps of messages leading to behavior change are contextualized in the study. The steps are as follow: message presented, message attended, message comprehended, message accepted, message retained, and behavior change.

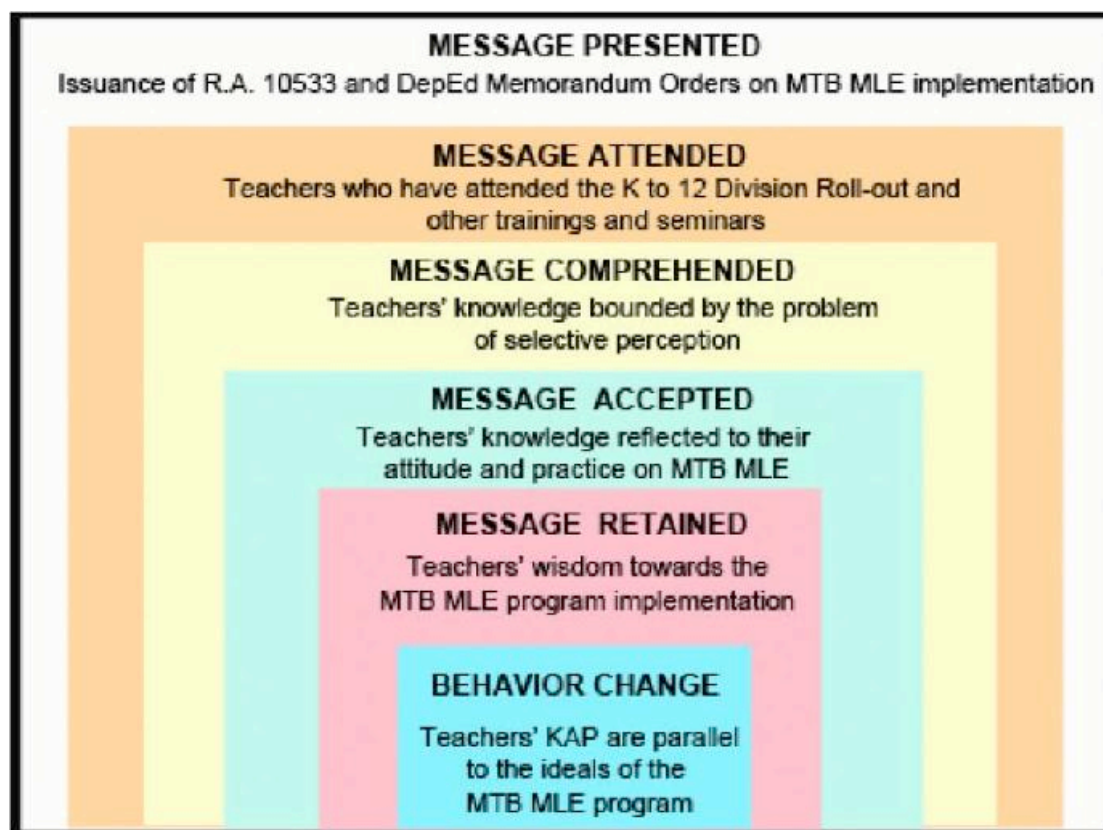


Figure 1: Conceptual Framework of the Study

Objectives

The primary aim of this study was to evaluate the KAP on Mother Tongue-Based Multilingual Education of public school teachers in Grades 1 and 2 in Lupi, Camarines Sur, Philippines. Specifically, it sought to: 1) assess respondents' knowledge about MTB MLE; 2) discuss their attitude towards the mandatory implementation of the program; 3) identify the teaching practices being used by the respondents; and 4) determine the relationship between teachers' socio-demographic characteristics, knowledge, attitude, and practices on MTB MLE.

Methodology

This study used an evaluative research design to assess the Knowledge, Attitude, and Practice (KAP) on Mother Tongue-Based Multilingual Education (MTB MLE) program of Grades 1 and 2 public school teachers in Lupi, Camarines Sur, Philippines. Data were gathered through a survey of randomly selected 51 teachers using self-administered questionnaire. Classroom observations, Key Informant Interviews, and Focus Group Discussions were also conducted to validate the survey results. The association of the four main variables of the study, namely: socio-demographic characteristics, knowledge, attitude, and practices were tested using Fisher's Exact Test.

Sampling Procedure

In order to ensure a representative sample of the population, simple random sampling was employed to determine the respondents of the study. Simple random sampling is the basic sampling method under probability sampling that is being used in quantitative studies.

The researchers employed to Chips and Paper Method in choosing the schools that will be part of the study. The sample included 51 out of the 71 teachers as the study's population. Thus, this means that the study covers 71.83% of the whole population.

Results and Discussion

Knowledge

It is worth noting that the individual score of the teachers on the knowledge test ranges from 2 to 13. There were 8 teachers who scored lower than 8. The mean score of the respondents is 9.55, the median is 10, and the mode is 11. The scores and rating of teachers are shown in Table 1.

The scores in the 15-item multiple choice quiz were categorized into knowledge levels as high, average, and low. Results show that 63% (32) of teachers have average level of knowledge on MTB MLE. Moreover, 22% (11) and 15% (8) have high and low levels of knowledge, respectively.

Based on interviews, teachers have mentioned that resource problem and communication barriers, such as distance and noise, cause the lack of knowledge. They were not directly provided with a copy of the memorandum but were asked to download it from the internet, however, based on the researcher's experience in the area, internet connection is unstable; thus, the chance to access the online material is problematic. Further, discussion with the teachers also revealed that the guidelines, as stated in MO # 16, can be subject to several interpretations. This implies that though teachers have read it, they may have interpreted it differently.

The level of knowledge attained by the majority of the respondents on MTB MLE implies that there is a need for improvement. While it is satisfactory to see that in the program's 2nd year of implementation, the knowledge of the teachers are classified as average, it would be better if all teachers have at least average knowledge level.

SCORES		LEVEL OF KNOWLEDGE
13, 13, 13, 13, 12, 12, 12, 12, 12, 12,	12, 11, 11, 11, 11, 11, 11, 11, 11, 11	High
10, 10, 10, 10, 10, 10, 10, 10, 9, 9, 9, 9, 9,	9, 9, 9, 8, 8, 8, 8, 8, 8, 8, 8	Average
7, 7, 7, 7, 7, 6, 3, 2		Low
Mean= 9.55	Median= 10	Mode= 11

Table 1: Scores and rating of teachers out of 15 multiple-choice questions

Attitude

Attitude towards the implementation of the program was measured with a five- point likert scale: Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, Strongly Disagree. Analysis was mainly based on the three main components of attitude, which are: cognitive, affective, and behavioral.

Teachers possess favorable attitude towards the MTB MLE program. Sixty percent of them strongly agreed that their role in the implementation is vital for success. Yet, gaps identified were the lack of funding and resources. It was also noticeable that 37% of the respondents are still undecided whether the change in curriculum is necessary for the system as a whole. Table 2 shows the percentages and mean scores of teachers' responses on attitude scale items on the survey (n=51).

Scale items	Scale item with which item is associated	Percentage	Mean	Rating
Teachers play a vital role in the implementation of the Mother Tongue Based Approach Education program.	SA	61%	1.35	Favorable
MTB MLE program develops the communication skills of students.	SA	61%	1.35	Favorable
MTB MLE program will help attain the goal "Every Child is a Reader and a Writer by Grade 1".	A	61%	1.73	Favorable
The use of mother tongue will help students grasp sound-symbol and symbol-sound correspondence.	A	61%	1.73	Favorable
MTB MLE encourages students to answer more often during class discussions.	SA	61%	1.35	Favorable
Mother tongue as medium of instruction increases "active" learning by students in the classroom.	A	61%	1.35	Unfavorable
Reading and writing skills are best developed using the mother tongue.	A	59%	1.85	Favorable
The training activities provided to teachers are sufficient.	D	51%	1.57	Unfavorable
MTB MLE program requires a huge amount of funding from the government.	SA	37%	1.41	Favorable
Teachers and parents are responsible to enhance the quality of learning of their students.	SA	67%	1.33	Favorable
I believe the transition from L1 (Mother) to L2 (English) is easy.	A	51%	1.89	Favorable
The time allotted for language transfer is enough.	A	41%	1.45	Unfavorable
The Department of Education should ask teachers' reactions about the MTB MLE program.	A	45%	1.93	Favorable
Teaching materials in mother tongue are better than in English.	SA	57%	1.59	Favorable
Program should be evaluated in the implementation of MTB MLE.	NA	37%	1.46	Unfavorable
The implementation of MTB MLE is not necessary because the old system works well.	NA	37%	1.46	Unfavorable

Table 2: Percentages and mean scores of scale items on the KAP Survey instrument

Practice

As a learning area, mother tongue is taught using the Bicol language. The teacher used L1 for story-telling, class interactions, and counting numbers. English words were used for appraisal such as 'good' or 'very good' while some class instructions were given using the Filipino language. All students are proficient in Bicolano because this is their mother tongue. They give good responses as the lessons were taught, as seen through their active participation and class interaction. However, as students interact more often, they create more noise.

The sequence of activities in the classroom is based on the provided teaching guide. Students are able to catch-up with the activities by referring to their learner's module.

According to an interviewee, teachers have mastered following the stages of lesson development. However, the resourcefulness in teaching is exercised when they have seen teaching guide and materials. Once they have determined the competencies to be developed, they can decide which approach to use, be it deductive, inductive inquiry, or experimental.

Test of Association

Using the Fisher's exact test, association between socio-demographic characteristics, knowledge, attitude, and practices were identified and explained. The association of the 15 knowledge questions with the 19 attitudinal statements was also determined. There were 27 significant associations identified. All values that could be associated fall on 5% level of significance.

In general, the two-tailed P value of knowledge and attitude scores yield to 0.0423. The association between high level of knowledge and favorable attitude, and low level of knowledge and unfavorable attitude is at 5% level of significance. Thus, there is a high probability that if teachers are highly knowledgeable on MTB MLE, then they are also likely to have favorable attitude towards it. On the other hand, if the teachers have a favorable attitude towards the program, then they are likely to seek information about the program to increase their knowledge level.

KNOWLEDGE QUESTION #	ATTITUDINAL STATEMENT #	FISHER'S EXACT
2	9	0.001
2	10	0.006
3	9	0.025
5	2	0.017
5	17	0.039
7	5	0.021
7	6	0.023
7	13	0.033
8	1	0.002
8	12	0.003
8	16	0.036

Table 3: Significant relationship between knowledge and attitude

Conclusions

Mother Tongue-Based Multilingual Education program is still at the development-stage hence it can still be enhanced through proper information dissemination techniques, sufficient funding, better quality of materials and creating a consensus in decision-making from small-scale up to the national-scale implementation of the program.

For the inputs in the conceptual model, the Department of Education must value quality and sufficiency of all. Results show that there is a lack in funding and modules while there is a need to improve trainers, teachers and school heads to provide in-depth trainings and seminars. In view of this, activities must also be done ahead of time to make sure that there will be enough time allotted for improvements and adjustments. If inputs and activities are improved, it will reflect on the outputs and intervene the outcomes towards success.

The importance of formative evaluation lies on the improvements and interventions that can still be made as the program implementation stages' progress. In terms of knowledge, teachers' shall still be given information thru proper channeling. Engaging them in activities will help in improving their understanding of the program. Further, attitude is more likely based on individual positioning, thus, the importance of valuing their needs, ease and preferences arises to solidify the association of the imposed guidelines and the existing situations in the schools. Like knowledge, skills can be enhanced thru trainings and seminars. Choosing trainers and facilitators play a crucial role in the attaining good outcomes out of activities.

Recommendations

For the teachers implementing MTB MLE program, the researcher recommends the following: 1) participate in DEPED activities; 2) create culturally relevant teaching materials; 3) use the most appropriate language in teaching students; 4) understand students' culture and environment; 5) study the MTB MLE program; and 6) provide substantial feedback to school administrators.

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Reevaluating the Relationship between Millennial Students, their Parents, and Professors When Teaching a Study-Abroad Course: Searching for More Success

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Abstract

When the new millennium approached, educators looked toward the 21st century with either excitement or concern. As a perfect time for of self-reflection, many universities and colleges began to pay attention to a new generation of students that began arriving on campuses in 2000. Since then, much of the research has focused on identifying their distinctiveness, how they develop, and their overall impact on campus life. Yet, what do the curiosities of this generation of students mean for foreign language learners; and in particular, for students who plan to study abroad? As campuses across the country continue to globalize their curriculum, how can professors help these students learn and make the most of international educational opportunities? Known for being naturally global in their thinking, this generation exhibits various attributes that are ideally suited for study abroad. Therefore, this paper focuses on how we turn perceived challenges of the millennial student population into benefits in the context of international educational experiences, specifically looking at how family plays an important component in the encounter. It is often said that parents of this generation are an obstacle to professors and campus personnel in their academic endeavors. But upon reflection, I believe this may not be true; and as such, I will examine how faculty can best utilize this perceived difficulty to reveal how, in fact, parents can serve as a real asset and viability to the success of a study abroad program.

Keywords: *Millennial students, study abroad, Family-Educator relationships*

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Introduction

As the magical year 2000 approached, many university educators anticipated the new century with either excitement or trepidation. In this environment of self-reflection, universities and colleges across the nation began to pay attention to the new generation¹ of students that began arriving on campuses in 2000. Reasoning for much of this interest stems from census data indicating that this generation will be the largest (U.S. Census Bureau, Jan. 2000). Even though the generation is going on fourteen years, much of the research still focuses on identifying their distinctiveness, how they develop, and their impact on campus life. It is only recently that researchers have started to examine the relationship between these students and how they learn. Yet, what does this generation of students mean for foreign language learners, and in particular, for students who study abroad? As campuses across the country continue to *globalize* their curriculum in new and different ways, how can we best help these students learn and make the most of international educational opportunities for universities and colleges? Inherently global and multicultural in their thinking, this generation exhibits various attributes that are ideally suited for study abroad, and as a result of this; faculty and administrators examine these questions of implications for type of study. Therefore, the focus here is on how faculty can turn the challenges of the millennial student population into benefits in the context of international educational experiences, specifically looking at the role family plays in the overall success of the student in the program. Often, the parents of this generation have been characterized as an obstacle to professors and campus personnel in their academic endeavors. As such, this paper examines how faculty can best utilize this perceived difficulty to reveal how, in fact, parents can serve as a real asset and viability to the success of a study abroad program.

Who are they? Characteristics of the Millennial Generation

One of the primary challenges for educators is to understand the unique characteristics of these students. Often referred to as the “Y Generation” or “Generation Next”, the identifying name that has come to dominate these students is the *Millennial Generation* or *Millennial students*. Neil Howe and William Strauss in their pioneering studies that began in the 1990’s sought to categorize the special qualities that these incoming college students possess when they reached college campuses as we entered into the new millennium. In their research they discovered seven distinct traits that distinguish them from previous generations. First, they are described as *special*. As a group, their parents and society have instilled in them that they are vitally important both personally and to the nation. This specialness also had led these students to have high expectations of themselves and those around them, which in some cases has been perceived as entitlement. They have constant need for feedback, reinforcement, and structure. Even so, these students feel that they have a sense of purpose because of the increased amount of attention that has been given to them. Secondly, they are *sheltered*. As a nation, the United States began in the 1980’s to implement a series of new laws intended to protect children, creating the most wide-ranging safety movement in America’s history and fashioning an environment

¹ For reasons of focus, I will not be discussing the concept of “generation.” For a concise understanding of the notion of generations and how it relates to the Americas, please consult: Howe, Timothy and William Strauss. *Generations: The History of America's Future, 1584 to 2069*. New York: Harper Perennial, 1997.

where the defense of children is commonplace. From “baby on board” window decals and “child-proof” caps on over-the-counter medications to amber alerts, the amount of regulatory legislation has created an environment of protection for the nation’s children. Moreover, these students are *confident*. Having solid relationships with their parents and high levels of optimism and trust, this generation often equates good news about themselves with their country. They are aware of their place in the nation and their perceived power and potential within it. Even so, they take fewer intellectual risks because a fear of failure. Also, they are *team-oriented*. As a result of team sports (soccer, football, volleyball, etc.) and a focus on group learning in schools, this generation has developed strong team instincts and bonds closely with their peers. As politics determined and attempted to reform educational policies throughout their lives, these students have become *achievers*. They have defined goals and believe that their potential has no limits. As a whole, they are anticipated to be the most-educated and well-mannered generation in the history of the United States. As a result of their desire to be the “best of the best,” these students are *pressured*. They endeavor to take full advantage of the opportunities that adults have provided for them, and therefore, they are pushed to study hard and avoid personal risk. They feel an undercurrent of pressure to excel in all that they do, and they want to do it all. This push is evident in the number of students that faculty and staff advise who have two or three majors, with a list of minors, extra-curricular activities, and sports. Lastly, this generation is *conventional*. This is conventional not conservative. These students take pride in their improved behavior and are more at ease with their parents’ values than any previous generation. They support convention or the notion that social rules can and will help the greater whole (Howe and Strauss, 1997, 2007). All told, these students possess qualities that at the onset may appear to be overwhelming or “high maintenance.” Yet, these traits also reveal a determined and purposeful group of individuals, who, at the core, have attributes that are desirable to many members of the faculty.

Millennials and their Professors

Now, fourteen years into having the millennial generation on campuses, their characteristics are established and well defined. While the millennial students began arriving on campus in 2000, the majority of the university and college professors teaching in campuses across the nation belong to another generation, and as such, they possess different qualities that can come into conflict with these new students. The greater part of these professors belongs to the Boomers or Gen Xers (Debard, 39). Therefore, the priorities and how the professors view areas such as education, careers, or parent-child involvement vary noticeably from that of their students. Whereas the Boomers desire to have freedom of expression in education, want to build a stellar career, and demonstrate a receding relationship with children; the Gen Xers have a pragmatic view of education, aspire for portability in their careers, and have a somewhat distant relationship with parents. It is against this background that the Boomers and Gen Xers meet the Millennials, who need structure of accountability in education, wish to build parallel careers, and have ever-present parents (Debard, 40). As we can see, the views are at times opposing and conflictive. Consequently, educators need to be able to step out of the comfort of their generational perspectives and be very cognizant of these students’ characteristics and views when planning for and developing programs for non-traditional learning opportunities. Recognizing

these differences is a key point when thinking or rethinking about how one can develop diverse areas for learning while on or off campus.

Universities and the Millennials

As previously mentioned, when this generation of student began arriving on campus, faculty, individuals in charge of student life, resident life, and within the educational administration earnestly took note. Faculty had to start addressing these students in a different way and offer them with a new notion of what the university or college experience could be. The idea of “one-stop shopping” became a call to universities as they moved at recruiting this generation of students and their parents. This concept provided a framework by which everyone involved with students could seek out new patterns of thinking about the college experience. No longer do we only talk about our outstanding curriculum and faculty. It is necessary to accentuate the positive in all aspects of university life: from Residence living in community to broad technological advances available and from internships to intermural sports, academic clubs, and international educational opportunities.

Even though this new attention to the university experience appears to draw away from the fundamental educational underpinning by which we have built our institutions, the reality is that if we approach it from a new perspective, we are able to see how they can add to it. Now, study abroad experience can take on a new significance and appeal to the students and their parents as another opportunity to learn. Both are not merely satisfied now with just a stellar education. Students need to have a variety of “experiences” during their time at university or college, which can translate into “marketable skills.” This notion of marketable skills, borrowing beneficially or not from the business world opens the door for faculty and staff to rethink the different manners that we can maximize education, which is the ultimate goal for all students. Moreover, this idea of garnering multiple benefits from a singular task appeals to both parents and students alike. Due to the continually rising costs of attending university or college, the investment in higher education is real and respected. Therefore, parents and students alike are trying to acquire more out of the university experience, and they have pushed universities to start offering more opportunities, if they want the tuition dollars or enrollments to continue. For this reason, when one thinks about teaching millennials, there is another set of parameters to take into account when looking at study abroad, especially if they are faculty directed or lead.

Millennials and Learning

Not only do millennial students exhibit unique characteristics in their lives, how they learn prompts faculty to reflect more on their approach to teaching in general and study abroad in particular. Robert Debard points out that “millennials are likely to invest themselves to meet high and clear expectations” (65). Linda Sax furthers this sentiment by stating that these “students, who have achieved academic success with relatively little effort [early on in their education], may have unrealistic expectations about what is necessary to be academically successful in college” (16). These two sides of expectations – rising to meet them and unrealistic in nature – require careful consideration by educators to create and foster new learning skills by a student population that already believes itself to be in an elite, unique group. This notion is

especially important when these students are confronted with an unfamiliar environment or country, such as in the case of study abroad. The harsh reality of not knowing “everything” hits hard and produces wide-ranging new challenges for this generation of students.

Therefore, in order to address these high expectations, as educators we have to rethink how we can engage students and their families in new ways which will allow the opportunity to gain a sense of accomplishment and purpose through study abroad. Whether it is about learning a different language or becoming absorbed into the new cultural encounters, their expectations about study abroad differ greatly. As such, they come individually and collectively to these new experiences with distinct, personal objectives. Their goals may be geared toward language fluency or cultural competency; and as a result of this variety, these students offer opportunities and challenges for the learning environment. Studying in a “foreign” location produces a new set of learning parameters, which can play into or against the high expectations of the millennials. The focus of the educator is to underscore the benefits that overshadow the problems. One way to accentuate these advantages of these students is in how we incorporate their families into the mix. By creating new ways of connecting with the curriculum to the student and their families, professors can now allow students to address some of the insecurities that their learning styles present, and we are now able to tackle their previous perceptions or misconceptions in a beneficial manner. Taking advantage of being in a new locale where students have not been previously, their academic framework for learning can be adapted to link them with the new material. Moreover, students can have equal baseline for learning.

Parents and Millennials

While there are many aspects of this generation of students that deserve attention, the role that parents and families play in the study abroad experience is crucial. More specifically, how faculty can take the perceived difficulties of parent’s involvement and turn them into benefits becomes even more necessary. The direction that professors take to involve the parents of a millennial student needs to be more comprehensive. From the onset of recruiting, through the pre-departure preparations, and during the actual study abroad experience and the return home, all represent areas where faculty needs to reticent of their role and how to include parents.

Along with a new generation of students, faculty and universities have to deal with a new generation of parents as well. They have been traditionally referred to as “helicopter parents”, a term coined by Cline and Foster in 1990. They are seen as hovering or over-parenting. These parents are involved at every stage of the educational process, including many of the decision-making steps. They are often considered as “micro-managers” and believe that because they “have done it before” they know better. Yet Roiphe points out that helicopter parenting is not the product of “bad or pathetic people with deranged values. [...] It is not necessarily a sign of parents who are ridiculous or unhappy or nastily controlling. It can be a product of good intentions gone awry, the play of culture on natural parental fears.” Remembering on how the government has played a role in this new role of parenting by instituting a series of new laws and regulations that has resulted in the society “over protecting” this new generation of students, it is not a far leap to see how partents, raised in that context, possess these characteristics.

As such, the need to get the parents “on-board” for a study abroad experience is paramount. Involving them from the onset provides opportunity for faculty to gain a strong support from one of the most important factors in the student’s life. Moreover, it is the parents who often pay for the education of the students, and as such, it is important that faculty include the parents from the beginning of the process. As with many “millennial parents”, it is necessary to underscore the value of this type of educational experience. The incarnations of that a study abroad experience can vary greatly depending on the university and the focus it has. Yet, each of them can provide new prospects for students (and their parents) who are looking to broaden their academics. Moreover, the variety of skills that a student can take away from an experience abroad reaches beyond the traditional academic realm. Therefore, faculty should maximize the value for both parents and students as they begin the recruitment process. Additionally, the application in the recruitment process has to include the parents. When recruiting or conducting interviews for a study-abroad course, two of the key questions in the application should be: “Have you talked with your parents about this educational experience?” and “Do you have the support of your parents for this program?” Moreover, it is important to continually remind students to share the information with their parent. By doing this, professors have the opportunity to involve the parents sooner, which will aid in the students having a positive outcome from it.

After completing the recruitment and acceptance phase, the pre-departure of the process begins. In this stage, we are preparing students prior to leaving the US for their study-abroad experience. Here, as in every other stage of the overall encounter, parents need to be a part. Like their children, many parents have engaged technology as a means of information and communication. As such, faculty must be willing to adapt. By incorporating many free, available technologies, faculty can create platforms to reach out to parents and inform them. Knowing that they will want to be involved in most aspects of their student’s lives, having access to information is comforting and indispensable at the same time. Currently, it is not required that faculty be computer programmers in order to create websites, blogs, or listserves. Whether through a Google account sponsored website or free online blog, we are now able to create new ways of communicating and keeping informed parents of these students.



Here, the very basic website provides information for parents so that they will be informed about what the student is learning and doing while abroad. And subsequently, they will be able to support their children and the faculty through the study abroad course. As these parents are continually connected to their children more than at any time previously, the mere act of including them into the communication circle allows what was once believed an intrusive parent into an active partner in education. By providing additional information through an electronic medium, faculty can assure parents (and students), given the “foreign” nature of this educational experience. A simple blog can further grant access to information, which can be viewed by participants and parents alike.



Like a website, the course or study-abroad blog offers the opportunity for faculty to communicate to both students and their parents. Moreover, it provides professors the chance to control information that is released and when. In turn, everyone is provided with the same information at the same time. As much as we would like students to give their parents up-to-date and complete information from pre-departure, informational meetings, or about what a student is learning while abroad, every faculty member understands that sometimes the best intentions are not always followed through. Therefore, a simple, informative blog can allow access to information and create a space for dialogue with parents (and students). This additional method of communication allows for a new collaboration with parents and students at the same time, and it can relieve a lot of the stresses found in a learning environment that can often be “flexible” and reducing the anxiety of the millennial’s desire for a structured learning space. Further still, the information is current and timely.

In order for a study-abroad program to continue to be successful, there needs to be reflection by the teaching faculty about the successes and the areas where improvements can be made. Here again, parents can help. By changing our perceptions about millennial parents and their role in the education of their children through study abroad offers faculty the chance to have a more positive, ongoing experience. While student evaluations have long been a standard for teaching, now, technology permits professors to extend to parents the chance to provide feedback as well. While it may not be traditional for faculty to reach out to parents in this way, I believe we are able to garner a lot of valuable information about how we best provide such an outstanding international experience to our students, especially when we think about the preparation we provide them. The questions can illicit information in

the areas where the parent is most present: access to information (before and during), understanding about the mission of the experience, and the value that study-abroad has in the lives of their children.

Conclusions

As Higher Education becomes more competitive and resources are continually reduced or limited, professors and universities need to support and offer educational opportunities for the student population. Study-abroad has long been regarded a valuable gem in education. Yet, it is important to adapt and change how we conduct these international educational experiences. How we engage the new generation of students that have been arriving on our campus requires a new way of thinking about how we teach them and through what mediums, and even more important, the need to include the family of the student in the “extended” experiences.

Taking this into consideration, the role that parents play in study-abroad becomes incredibly important. Encourage students to engage their parents in the mix before leaving and updating them through their time abroad. Professors can aid in and make the sharing more appreciated if they can reach out through current technologies to extend their modes of communication. Remembering what role parents can play in the lives of this generation of students, it is necessary to take this into consideration when taking a group of students abroad. Also, we are able to take what appears to be intangible – education – and make it more tangible by demonstrating how this experience has a true academic value. Including the parents in the communication cycle can do this. Leaving them to hear about it tangentially through their children is really leaving it up to chance. We need to be purposeful and direct in underscoring the inherent worth of study abroad, especially if it is a faculty-lead program. Furthermore, we are able to highlight the practical applications and skills that students are continually acquiring through their time in a different learning environment. Again, we cannot leave to chance the opportunity to share this information. It is essential that faculty actively communicate to students and their family the significance of what the students are doing.

All told, the *millennials* as a generation provide the opportunity for revitalization and reexamination of study abroad. As professors, we can now take advantage of an inadvertent fortune. This new generation of students (and their parents) possesses the raw material by which we can continue to strengthen and build and enhance our programs of study. Their unique characteristics present challenges and opportunities, and as reflective educators, we are able to capitalize on this moment by mining these students’ inherent connectedness to the world in which they live, their desire to be part of a larger community, and a desire to learn. We understand that one of the overriding goals in higher education is fostering the growth of the whole student, and by tapping into their distinctive traits as a generation, educators who take students abroad are uniquely situated to benefit from these interests.

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Flipped Classroom in Hong Kong Higher Education: An Experience Sharing

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Abstract

Flipped Classroom is a pedagogy in which direct instructions in class are flipped with practices and revisions at home. Students watch video lectures or complete other pre-class preparations before the taught sessions, while the face-to-face contact hours are left to active learning activities. This pedagogy, theoretically supported by the constructivism learning theory and practically inspired by the newly arising paradigm of distance learning demonstrated through Massive Open Online Courses (MOOCs), has drawn attention from teachers from various educational sectors all over the world. This paper presents our experience piloting a flipped classroom in an undergraduate course in Hong Kong. A 5-week course in the summer semester is selected for the study, in which students are asked to watch about half an hour's length of video lectures per week, while face-to-face instruction is replaced by group discussions, lab exercises, and presentations during lesson time. This paper will highlight the theoretical considerations in pedagogical design and the practical issues filming the video lectures and conducting in-class activities. In addition, quantitative and qualitative data are collected through questionnaire, class observations and focus group interviews to study the response of the students and the effects of flipped classroom on their learning. Implications of the results are discussed and suggestions for further investigations are made.

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Introduction

Flipped classroom is a pedagogy in which didactic instruction in class is flipped with homework at home. Such pedagogy is drawing a lot of attention in recent years from both academic researchers and practitioners.

In a recent seminar on flipped classroom delivered by one of the authors in his institution, teachers from local schools showed a lot of interest in the idea of flipped classroom. They also seemed to believe, at least intuitively, that flipped classroom could enhance the teaching and learning effectiveness in their classroom due to the increased interaction time in class. However, many also reflected a lack of experience and technical skills adopting this pedagogy. Their concerns ranged from the time and effort required for producing the video lectures to the tactics of conducting in-class activities.

This paper addresses some of these concerns by sharing the authors' experience in a pilot trial of flipped classroom in the local tertiary education context. There are four focuses in this paper. First, the theoretical consideration behind the pedagogical design is presented. Second, the practical steps of preparation and delivery of the course is outlined in five main steps. Third, research data collected throughout the trial are presented to show the effects of the flipped classroom on students' learning. Forth, suggestions are made for further implementation and research.

Context

A university level course in one of the authors' institution is chosen for the trial. The course, titled "Mathematical Exploration with Technology", is tailored for pre-service teachers who are going to pursue their teaching career in primary mathematics. The course covers the use of Microsoft Excel VBA and GeoGebra in primary mathematics education. There are three intended course learning outcomes (CILOs) specified in the course syllabus:

- CILO1: Evaluate the impact of technology on the teaching and learning of mathematics;
- CILO2: Use technology to enhance teaching;
- CILO3: Adapt mathematical software packages appropriately in their classrooms and in carrying out mathematical explorations;

The traditional way of teaching this course in the past was for the instructor to give didactic instructions on the use of the software packages, after which the students were allowed some time, usually not exceeding one-third of the total contact time of the lesson (i.e. one out of three hours per week), to work on worksheet problems using the software. The students then took time at home to complete a final assessment paper by the end of the semester. It is apparent that most emphasis of the face-to-face lesson had been on the technical skills to achieve CILO2, while students were required to work mostly on their own on the assessment to show that they had achieved CILO1 and CILO3.

Pedagogical Design Considerations

Flipped classroom provides a way rearrange the teaching and learning components for a more even distribution among the CILOs. The key decision to make is what to include in the video lectures and face-to-face teaching sessions respectively. Two

factors are considered in this study: the cognitive processes involved in the CILOs, and the level of interaction required for effective teaching and learning.

For the first consideration, didactic instructions are effective to teach students to remember facts or understand simple concepts, while active learning, defined as peer-assisted and problem-based learning activities (Bishop & Verleger, 2013), is shown to benefit the higher level cognitive processes (Hamdan, McKnight, McKnight, & Arfstrom, 2013; Redekopp & Ragusa, 2013). The CILOs of the course concerned obviously involve relatively high levels of cognitive processes, which should be taught via active learning activities. On the other hand, the factual and conceptual contents, which lay the foundation for students to perform these active learning activities, are delivered using didactic lectures.

Didactic lectures are mostly taught using video lectures in the flipped classroom. Recent development of Massive Online Open Courses (MOOCs) has nurtured the advancements of video lectures technology for asynchronous online learning, making it easier for teachers to film and upload video lectures for students to view before lessons. These video lectures reserve class contact time for active learning (See & Conry, 2014), which is the main purpose of flipping the classroom. Nevertheless, didactic lectures still have a place in face-to-face sessions based on our second consideration – the level of interaction required for effective teaching and learning. Obviously, the teacher cannot get instant verbal or non-verbal feedbacks from the students while filming the videos. These feedbacks are important for the teacher to assess the progress of the students and adjust their teaching on the go. Therefore, in designing the pedagogy in the present study, video lectures were used only if the didactic instructions could be effectively delivered without interaction with the teachers. Otherwise, face-to-face mini-lectures were used between sessions of active learning activities in class.

Practical Advices on Course Preparation and Delivery

Based on these principles and the teaching experience of the authors, the following five-step process was used in the study for course preparation and delivery.

Step 1: Determining the Lesson Intended Learning Outcomes (LILOs)

Although the course intended learning outcomes were already laid out in the syllabus, it is still necessary to write down a more detailed list of the lesson intended learning outcomes (LILOs), the learning outcomes to be achieved in each lesson. As in any learning outcome statements, these LILOs should be written in specific terms. For example, instead of “Introduction to MS Excel VBA”, “Operate the interface of the MS Excel VBA” should be written so that when designing the teaching methods in the next steps, the teacher would know clearly what are to be achieved in that lesson.

Step 2: Deciding the teaching approaches to achieve these learning objectives for each lesson.

Next, the teacher should determine the teaching methods based on the principles presented in the previous section. A few advices are given below.

First, although the use of video lecture is common in flipped classrooms, some authors suggest that video lecture is not a necessity for the flipped classroom (Herreid & Schiller, 2013; See & Conry, 2014). From the constructive alignment’s point of

view, any teaching method (e.g. pre-lesson tasks, pre-reading, etc.) that can effectively facilitate the achievement of CILOs should also be considered.

Second, video lectures, if they are to be used, should be broken down into small segments, each covering specifically a well-defined topic. There is no unique standard for the optimal length of each clip, but some studies suggest that the clips should be kept under 10 minutes each (Chen, Wang, & Chen, 2014; Neary & Vaughn, 2013) while the total length of the lecture should not exceed half an hour (Redekopp & Ragusa, 2013; Zappe, Leicht, Messner, Litzinger, & Lee, 2009).

Third, and in relation to the second point, it is imperative to recognize that direct instruction time can be greatly reduced in the video lectures. This is because in the traditional lectures, much of the time is used in repeating instructions in a hope that all students could keep up and achieve higher-level learning outcomes. When video lectures are used, students who cannot follow can simply pause or repeat the clip, while higher-level learning outcomes are to be achieved in the face-to-face sessions rather than in the video lectures. From the experience of the present study, direct instruction time could be reduced from 2 hours per week in the past to around half an hour per week in the flipped classroom pedagogy. As a consequence, the in-class activities should also be thought or rethought from the bottom up to make use of the extra time available.

Step 3: Preparing for video lectures and in-class activities

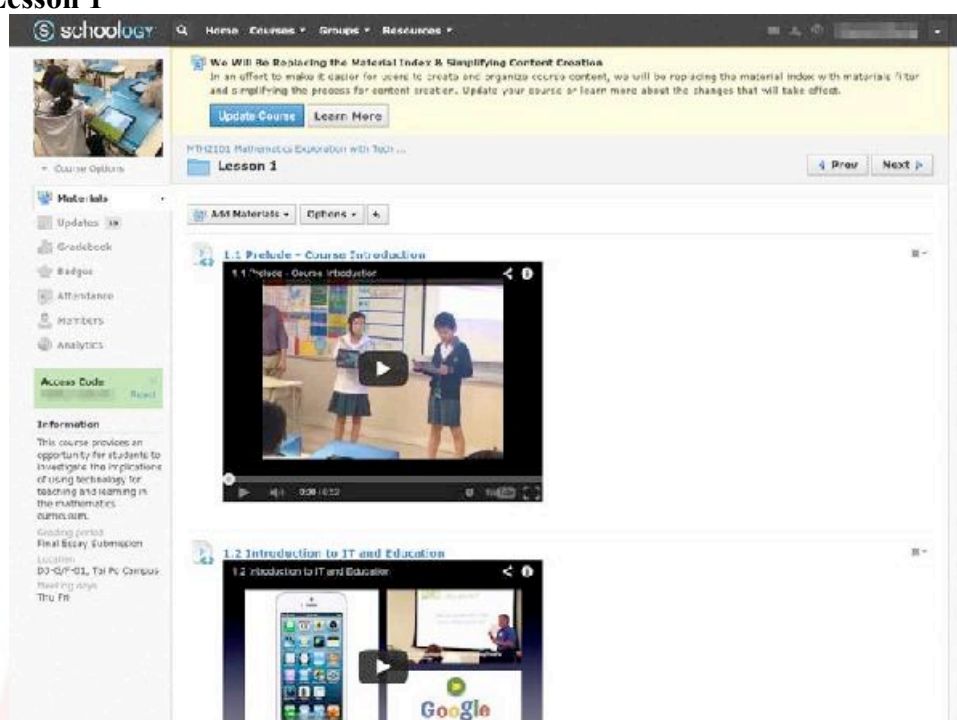
Video lecture preparation is a highly technical process. While it is beyond the scope of this paper to put down every detailed step, this subsection outlines the software tools used in the present study process and gives a few advices based on experience.

The filming of video lectures has a steep learning curve for beginning flippers. Unless one is already familiar with filming and video editing, it could take a huge amount of time to film the first videos. As an example, it took nearly three hours for the authors to film the first video clip in this study, which was only 7 minutes long. Therefore, beginning flippers should look for existing videos first to fulfill their purpose before filming, or to avoid using video lectures altogether.

Several types of video lectures have been used in this course, namely, talking head video, slide narration, and screencast. Talking head video features the teacher talking in front of the camcorder (a webcam in the present case). Slide narration could be easily done using the built-in functions of Microsoft PowerPoint or Apple Keynote. Screencast is used to demonstrate how to operate the software packages. Once the videos are filmed, a video editor is used for the post-processing to remove unwanted video segments, add special effects, glue different segments together, etc.

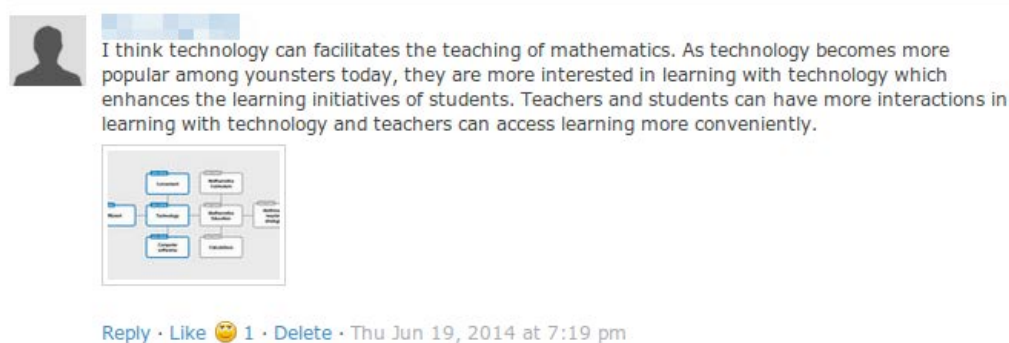
The completed video lectures are uploaded to YouTube and then the embed code is added to Schoology, a course management system similar to Moodle and Edmodo, so that students could access the videos via the course website. YouTube is chosen because it has better streaming support for mobile devices. A screenshot of Schoology showing the embedded video lectures is given in Figure 1.

Figure 1: Screenshot of Schoology Page showing the Embedded YouTube Videos for Lesson 1



Preparation for in-class activities is less technical. Once the activities are planned in Step 2, they are usually ready to be delivered during class time. Nevertheless, research suggests that students are benefited by technology even in the in-class activities (Kong, 2014). As an example, Socrative is used in the present study to collect instant feedback from the students. This tool allows the teacher to set a simple multiple-choice question and project it to the screen. The students could then log in to the web-based Socrative interface using the lab computer or their own mobile devices to submit an answer to the questions. Open-ended questions can be done via starting an online discussion in Schoology. Before the first lesson in the present study, the students were asked to join an online discussion about the relation between technology and mathematics education. They were required to use another online tool named Popplet to present and upload their answers as a mind map with their own descriptions. When the students met up in the face-to-face session, they worked in groups to compare the mind maps created by individual group members. Each group then presented their mind maps to the rest of the class. The teacher then started a follow-up face-to-face discussion on the submissions and presentations. An example of a student submission is shown below in Figure 2.

Figure 2: Example Student Submission for Follow-up In-Class Discussion



Another example was to use Google Form to collect peer feedback after students gave a presentation to the rest of the class. The audiences were required to submit their general comments for their peers. The anonymous comments were collected instantly by the teacher and then returned to the students by the end of the lesson. In this way the students were able to learn from their peers, an example of peer-assisted learning. A summary of the software tools used for video lectures and in-class activities is given in Table 1.

Table 1: Software Tools for Video Lecture Preparation

	MS Windows	Mac OS X	Web-based
Slide narration	MS PowerPoint	MS PowerPoint for Mac / Apple Keynote	
Screencast	Open Broadcaster Software (OBS)	Apple Quicktime	
Video editing	MS Movie Maker	Apple iMovie	
Hosting course materials online			Schoology (also for online discussion) YouTube
Other tools used			Socrative (for online polling) Popplet (for mind map creation) Google Form (for collecting anonymous feedbacks from students)

Step 4: Delivering the face-to-face session

A variety of activities were arranged in the class time: mini-lectures, lab exercises, lab exercises, group discussions, and presentations. Not every lesson had the same pattern of time usage, but most followed the pattern that active learning activities occupied most of the time, while mini-lectures were still required for various purposes. The time usage for Lesson 4 is tabulated below in Table 2 as an illustration. Lesson 4 was the last lesson on MS Excel and students were about to present a “product” to show how they used MS Excel to teach mathematics. As shown in the table, the total time

for didactic instruction in that lesson was 33 minutes, while the total time for active learning activities including lab exercise and presentation was 127 minutes. The total lesson time was 160 minutes.

Table 2: Time Usage in Lesson 4 as an Example Illustration

Time	Activities	Duration
18:40	Lesson started.	
18:40-18:59	Mini-lecture: The teacher recapped some of the key concepts and difficulties in the last lesson.	19 mins
18:59-19:15	Lab exercise: The students worked on an ad hoc exercise problem designed to help them tackle some of the difficulties encountered the last lesson.	16 mins
19:15-20:45	Lab exercise: While some of the students were still working on the ad hoc exercise, the teacher delivered the instruction sheet for the lab exercises of that day. Students gradually moved forward to work on the lab exercises.	90 mins
20:45-21:06	Presentation: The students took turn to present their products of the lab exercise for that day.	21 mins
21:06-21:20	Mini-lecture: The teacher wrapped up the day and gave overall comments on the presentation.	14 mins
21:20	Lesson ended.	

Step 5: Evaluation and reflection

In the present study, one of the authors worked as teacher and the other as the observer sitting at the back of the room during the lessons. As the lesson proceeded, the observer took field notes with time stamps marking what was happening. He also put down personal opinions beside his observation. After the end of the lesson, the observer wrapped up the field notes to the teacher and conducted a reflection together suggesting ways of improvement. The authors consider this a good practice because for any innovation being tested out, it is important for the different participants to exchange their observations and ideas and look for improvements together.

Evaluation and Key Findings

Preliminary results of the implementation are reflected from the research data collected in the study via class observations, interviews, and questionnaires. First of all, students' ratings in the questionnaires show that they overall welcome the flip initiative. Open-ended questions also show that some students did recognize the benefits of the flipped classroom especially that of active learning. Observation shows that students were very deeply engaged in the lab exercises. The preliminary data therefore conclude that the flipped classroom has received some initial success.

What the authors are more interested in are the less positive comments collected, which are important for any improvement for future implementations. One major concern identified was that most students were unable to finish watching the video lectures before the lesson. The major reason seemed to be the lack of time and motivation. Many students expressed that they were short of time and energy to watch the videos as they had full-time jobs during the day. They also expected more help from video lectures on how to complete the lab exercises, while the authors had intentionally chosen the opposite direction so that students could explore more on

their own. Students finding the video lectures unhelpful and the lab exercise problems too difficult therefore had less motivation to watch the video lectures. This also led to a ripple effect on the in-class activities.

Conclusions

One of the major promises of flipped classroom is the increased opportunities for active learning activities. Despite some signs of initial success in the present study, the relatively low completion rate of pre-class preparation deserves some serious attention. It is important for the students to take more ownership of their learning, while teachers should put more emphasis in providing individual help to the students during the in-class activities. These would help to bridge the gap between the two sides and lead to more effective teaching and learning under the new pedagogy.

It is hoped that the experience and practical advices in this paper could help beginning flippers get started with their own journey. It must however be noted that due to the small sample size of data collection, the conclusions in this paper are considered preliminary and further research studies are required to confirm the findings.

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Current Issues on Vocational and Technical Education in Nigeria

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Abstract

Vocational and Technical Education (VTE) is education which aims to deliver people with knowledge, skills and competences required in particular occupations or more broadly on the labour market. VTE is very important as it develops a person for life and it affords the competences which are necessary in a democratic and knowledge-based society. Hence, VTE should be a vital aspect of the educational process in all countries. Most civilised countries realise valued role of the VTE as an effective mechanism for career development of people. However, a number of developing countries have been facing some difficulties to conduct quality VTE in their countries, Nigeria is included. Current issues towards VTE in Nigeria have been discussed in scholarly published documents indicating a need for change. The objective of this paper was to synthesize selected documents indicating current issues on VTE in Nigeria for the next step of social and economic development.

Keywords: Vocational and Technical Education, Issues, Nigeria

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Introduction

The Federal Republic of Nigeria (2004) defined Vocational and Technical Education (VTE) as a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. VTE consists of vocational training packages or educational activities for improving people's current careers and vocational training packages or educational activities for the unemployed. VTE is important as it enriches a person for life and it provides the competences which are necessary in a democratic society. Societal and economic development depends on the strength of VTE as it provides access to skills and entry routes into the labour market. For under-privileged and marginalised groups in particular, it can be an important route towards a better life. VTE takes a significant role to solve unemployment problems in developing countries.

In Nigeria, unemployment rate increased to 23.9% in 2011 from 21.1% in 2010 with youth unemployment rate at 56% (National Bureau of Statistics, 2012). Unemployment is one of major problems in Nigeria since it has been increasing for years. This might reflect how the government dealt with Vocational and Technical Education in Nigeria.

Policies and practices implemented by the Federal Government of Nigeria could be very influencing factors for those mentioned VTE issues. Government organizations responsible for VTE policy and practice may have some revisions in order to improve vocational development of the country. This study tried to investigate VTE policies and practices as well as problems within Nigeria. The study also emerged some possible solutions for the existing problems.

Objectives

To explore current issues on vocational and technical education in Nigeria including current states, problems, and prospects for developing vocational and technical education in Nigeria.

Methods

The research was based on 'documentary research' in order for the researcher to describe Vocational and Technical Education focal concentrations, current problems and prospects for VTE development in Nigeria. The selection criteria of the document used 'criteria for quality assessment' (Scott, 2006) as follows:

1. Authenticity- is the evidence genuine and of unquestionable origin?
2. Credibility- is the evidence free from error and distortion?
3. Representativeness- is the evidence typical of its kind, and, if not, is the extent of its untypicality known?
4. Meaning- is the evidence clear and comprehensible?

Data were analyzed mainly by content analysis. The documentary data was examined under the headings of (1) source of the document; (2) audience – for example the Board of Trustees or Principal; (3) relevant text to expectations for principals leading

learning; (4) analysis – an interpretation of what each document is saying to the intended audience. This involved considering the clarity of the message of each of the documents. “Documentary analysis is a form of qualitative analysis that requires readers to locate, interpret, analyse and draw conclusions about the evidence presented” (Fitzgerald, 2007). According to Wellington (2000) documentary research can be used as a main focus for educational research or as an adjunct.

Information was gathered and analysed from a range of sources that held relevance to the current issues on vocational and technical education in Nigeria. These were:

- Refocusing Nigerian Vocational Education for Relevance and Sustainable Development (Apagu and Andural, 2007)
- Maintenance of Standards in Vocational Education in Nigeria: Implications for Students’ Occupational Choice and Skills Development (Akpan et al, 2011)
- Vocational Technical Education in Nigeria: Challenges and the Way Forward (Okolocha, 2012)
- Vocational and Technical Education in Nigeria: Issues, Problems and Prospects’ Dimensions (Ojimba, 2012)

Findings

Refocusing Nigerian Vocational Education for Relevance and Sustainable Development (Apagu and Andural, 2007)

Apagu and Andural discussed about VTE in Nigeria awakening of Nigerians and the Federal Republic of Nigeria from the long negligence of vocational education. The authors reviewed some crucial documents indicating that all scholars accept that VTE is very important for country development. The authors concluded strategies for refocusing vocational education in Nigeria in the 21st century, there were:

- Ensuring equality of access to vocational education by all Nigerians
- Coping with possible enrolment explosion in vocational education programmes in Nigeria
- Relevant curricula in vocational education
- Reviving handicrafts subject at the primary school level
- Planned talent search and development
- Adaptation rather than wholesale adoption of the teaching/learning of imported technological knowledge/skills
- Suggested vocational perspective of university education

The authors concluded that:

It is a thing of joy that Nigerians are now questioning the quantity and quality of vocational, technical and technological education in the country’s educational system and among Nigerians. It is therefore, high time the country refocuses her vocational education to serve the nation better. The refocusing could be through further recognition of vocational/technical and technological education, relevant programme curricula, improved funding, further re-orientation of youths towards these vital aspects of education in the form of vocational

guidance and counseling, planned talent search and development, provision of more teaching/learning facilities for improved enrolment and so on. The time is now; tomorrow may be late.

Maintenance of Standards in Vocational Education in Nigeria: Implications for Students' Occupational Choice and Skills Development (Akpan et al, 2011)

Akpan et al wrote this academic article focusing on standard in vocational education in Nigeria in terms of supervision, curriculum, methods of instructional delivery, equipment, and quality of teaching staff. The authors made some recommendations include: making of the school curriculum to be vocational education-based; drawing up policies that make vocational education the foundation for all forms of education; and employing qualified teachers in all the vocational areas of the school curriculum.

The authors concluded that:

Thus, setting and maintaining standards remain elusive. Since the attainment of rapid technological and socioeconomic development of any developed economy is based primarily on this type of education, Nigeria has to strive to tow the line of the developed nations of the world for her to develop.

Vocational Technical Education in Nigeria: Challenges and the Way Forward (Okolocha, 2012)

Okolocha critically reviewed the micro and macro vocational technical education policies in Nigeria, their current challenges and the way forward. The author stated key challenges to vocational and technical education in Nigeria and also strategies for revamping vocational and technical education include:

- Institute flexible, workable and adaptable programme
- Ensuring high quality and appropriately skilled vocational professionals
- Promotion and proper Coordination of education, Industry and Work Environment
- Encouraging Continuing Vocational Technical Education
- Investing in Quality Vocational Technical Education Programme
- Training and learning should take Place in Authentic and Real Work Environment
- Sharing ratio of Education Trust Fund (ETF) among the Three Tiers of Higher Institutions in Nigeria
- Adoption of Uniform Standard of training and Certification
- Setting up a National and Local Structure of VTE Councils
- Keeping Appropriate/Up-to-date and Indicators for Vocational Technical Education
- Assessment Criteria

The author emphasized that:

The success of vocational technical education programme in Nigeria hinges on proper planning, efficient implementation, adequate funding and motivation. The three tiers the

government needs to re-access and reinforce the implementation of the VTE policies. The focus now should be on the development of a viable natural system of vocational technical education programme that will have easy access and exit learning pathways, which must be validated by accredited learning that will lead to work or continued progress along another learning pathway. This will help to ginger youths and adult to see VTE as challenging and worthwhile not just as a ticket to second-class status and citizens.

Vocational and Technical Education in Nigeria: Issues, Problems and Prospects' Dimensions (Ojimba, 2012)

In this academic article, Ojimba critically examined the issues, problems and prospects of vocational and technical education in Nigeria and suggest ways to improve the teaching and learning of vocational and technical education with enhanced enthusiasm and vibrancy. The author raised issues and problems mitigating the training of technical education or vocational education; there were:

- 1) Funding
- 2) Facilities
- 3) Brain Drain
- 4) Staff training and retention
- 5) Staff situation
- 6) The curriculum of technical education
- 7) The apathy of political office holders/law makers:

The author suggested the government for a comprehensive reform towards vocational and technical education and a deliberate attempt to uplift the programme is the only panacea to a technological enderado in Nigeria.

Conclusions and Recommendations

There are many issues regarding VTE in Nigeria. The results showed that there were insufficient concern about VTE in Nigeria especially for those who are unemployed brought about very high unemployment rate nowadays. There are several current issues that have to be governed as they are very crucial for development of the nation. The Federal Governments of Nigeria should give more concern about VTE in all issues mentioned and come up with strategic plans, policies and practices for vocational development of people. Effective poliicies and practices of VTE would bring about better economic development of the nations. Nigeria should begin now to take very seriously investment in vocational and technical education and become not only the most populous country in Africa, but also the most competitive country in international labour market.

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The Integration of Economic System Concept Through Teaching and Learning Processes to Promote Students' Systematic Thinking in Business and Computer Major in Faculty of Education, Kasetsart University, Thailand

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Abstract

The objective of this classroom action research was to construct learning activities in terms of the integration of Economic System Concept through teaching and learning processes to promote students' systematic thinking. The researcher developed three learning activities that were applied from Economic System Concept that were comprised of 1) Brainstorm Chart, 2) Group and Ordering Chart, and 3) Content Networking Chart. Data were collected by students' reflections, opinions, and their direct experiences. Data were analyzed by using content analysis method. The target was 22 undergraduate students who enrolled in Methods of Teaching for Basic Business Course in Major of Business and Computer Education, Faculty of Education, Kasetsart University in second semester of academic year 2013. Researcher developed three learning activities that have been conducted from the Classroom Action Research Cycle to promote systematic thinking. The researcher integrated and applied Economic System Concept through planning, conducting, and developing students' learning activities that were analyzed and applied the Concept of Economic System through three learning activities.

The finding results have been demonstrated that students learned to develop themselves in systematic thinking through the development of knowledge, capabilities, skills according to conducting in subject's data contents, setting objectives, using techniques in content's clarifying, structuring, grouping and ordering that related to Economic System Concept through students' systematic thinking. The systematic thinking related to basic, principles, and reasons in teaching and learning processes of systematic thinking. Interestingly, the development and the application of three learning activities that were applied and based on Economic System Concept could develop systematic thinking for their students and increase high values in students' learning activities.

Keywords: The Integration of Economic System Concept; Students' Systematic Thinking

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Introduction

Methods of Teaching for Basic Business subject is the core course for Bachelor of Education Program in Business and Computer Education that has been provided for 3rd year undergraduate students who enrolled in this course to prepare about the scope of basic business subject' areas, principles of basic education, methods of teaching, instructional medias and measurement and evaluation in students' learning (Faculty of Education, 2012). In this case, the researcher focused on the integration and application of Economic System Concept through teaching and learning processes to support students' systematic thinking that could link the crucial and essential body of knowledge to apply in the real life (Amornwiwat, 2006; <http://www.jitwiwat.org>)

According to this instruction, the classroom teacher needs to prepare and arrange classroom learning environments to facilitate students in learning participation and students' self development in systematic thinking (<http://www.semisikkha.org/paca>). The researcher has been teaching this course (Methods of Teaching for Basic Business Subject) for more than 10 years. The researcher found that students need to practice searching in the data and knowledge by themselves and require knowing deeply the way of data analysis and how to apply it in their real lives and that will prepare for their professional of teaching in the future (Khammanee, 2009). Consequently, the researcher finds out the important ways and supporting techniques to help classroom students in clarifying, analysis, and content link to develop students' systematic thinking through the application of Economic System Concept more than students' learning to memorize and knowing (Khammanee, 2009; Poolpatarachewin, 2009).

According to this classroom action research, the researcher developed learning activities that integrated and applied the Economic System Concept in terms of brainstorming, clarifying, ordering, structuring, and linking the core content to relevant with real life situation that used in students' self learning reflections (Rumpagaporn, 2010; Khammanee, 2009). The research question of this research was "How to develop students' learning activities through application and integration of the Economic System Concept to promote students' systematic thinking". Therefore, the researcher developed students' learning activities based on Economic System Concept to promote students' systematic thinking, to study students' self learning reflections through learning activities and to guide classroom teachers to use this way to conduct students' learning activities for their students' instructions in their class.

Research Objective

To develop students' learning activities based on Economic System Concept to promote students' systematic thinking

Definitions

Learning Activities based on Economic System Concept is the development of learning activities to integrate learning management that focus on concept, theory, and practice in the Economic System Concept. The components of this approach are Economic System views in terms of capitalist economic system, socialist economic system, communist economic system, and mixed economic system. The body of

knowledge in Economic system were applied and integrated in community wisdom, community cultures, and community development with new theory of Economic System Concept among globalization, such as Sufficiency Economy System.

Students' Development in Systematic Thinking is the output that observed, measured, and recorded from students' development in systematic thinking that measure from students' self learning reflections, classroom learning reflections, and classroom learning observations based on Economic System Concept through 1) Brainstorming Mapping Activity, 2) Group and Order Mapping Activity, and 3) Content Network Mapping Activity.

Research Scopes

Researcher developed three learning activities based on Economic System Concept to promote students' development in systematic thinking that has been conducted from the Classroom Action Research Cycle to promote students' Systematic Thinking by using students' self learning reflections. The researcher integrated Economic System Concept by using the ways how to plan, conduct, and develop students' learning activities that analyze business education content in methods of teaching for basic business subject that comprised of three activities included 1) Brainstorm Mapping Activity, 2) Group and Order Mapping Activity, and 3) Content Network Mapping Activity. These activities have been demonstrated as follow.

1) Brainstorm Mapping Activity

Researcher/ Teacher divided students a group of four students members in each group analyzed Economic System Concept and contents from a variety of books, magazine, instructional medias, dialogue, pictures, slides, and so on. All students in each group brainstormed about Economic System Concept and contents that contained in business education course, criteria of contents to select the content to teach for their students in classroom. Then in each group wrote down in form of Brainstorm Chart Format.

2) Group and Order Mapping Activity

All students in each group needed to consider in course objectives to separate Economic System Concept and contents in terms of content's structuring and ordering through learning criteria's grouping and ordering. Then in each group wrote down in form of Concept Chart Format.

3) Content Network Mapping Activity

All students in each group needed to consider to link between Economic System Concept and contents to separate course contents in terms of content's analyzing, content's structuring, and content's ordering through learning criteria's content linking. Then in each group wrote down in form of Content Network Chart Format.

Research target is 3rd year bachelor degree students (22 students) who enrolled in methods of teaching for basic business subject (01179322) in 3 Credits 3 (2-2) in 15

weeks (from November 2013 to February 2014) in second semester of 2013 academic year.

Research issue is students' self learning reflections through students' activities to promote systematic thinking through opinions' records, experiences, self-learning reflections through

1) Brainstorming, 2) Grouping and Ordering, and 3) Content Networking.

Research Methods

Researcher integrated concept, practices, and theory in Economic System Concept to promote students' systematic thinking. Researcher conducted and developed learning activities and collected data from research target by using students' self learning reflections, classroom observations, and learning opinion records. Data were analyzed by content analysis. Researcher considered research data, processed, and concluded research results through three activities including, 1) Brainstorming, 2) Grouping and Ordering, and 3) Content Networking.

Research Findings

Researcher presented research results that depended on features and stages of learning activities to promote students' systematic thinking in three learning activities, details were performed.

1. Students' Learning Reflections on Brainstorming Activity

Researcher/ teacher divided students in four to six groups; there were four students in each group. Students started their work through brainstorming in subject contents about Economic System Concept in methods of education subject. What were subject contents that you were interested to teach about Economic System Concept? Students presented their ideas such as Economic System Concept.

Students discussed and shared their real lives experiences through brainstorming activity. They wrote down subject contents about Economics System Concept in form of brainstorming mapping and separate their ideas individually in each group.



Students displayed the brainstorm chart about “Economic System Concept” that has been exhibited in details. There were comprised of the ideas and knowledge about “Economic System Concept”, including, Meaning, Philosophy, Theory, and New Theory of Economic System Concept, Evolution and Change of Economic System Concept, Role of Government and Private Sector, The Application of Economic System to apply in real lives in family sector, community sector, and society sector, Advantages and Disadvantages of Economic System Concept, Freedom of Price and Rights among the differences of Economic System, and so on.

Students’ Learning Reflections on Brainstorming Activity

“Students select the interests and beneficial topics about Economic System Concept to teach in this subject that has been gauged on benefits to students’ learning and could lead to the development in family, community, and society in the long term”

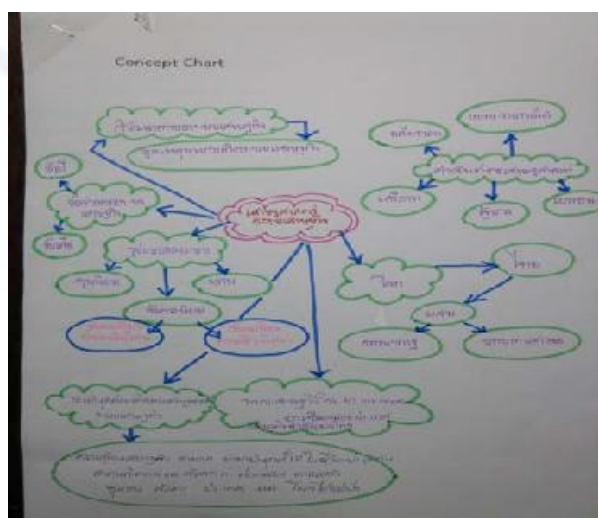
“Students pick the interests and beneficial topics about Economic System Concept to teach in this subject that has been relied on the learning goal and objectives, students’ interests, and levels of students’ ages, matures, and students’ personal backgrounds”

“Students consider in subject contents in about Economic System Concept in psychomotor, ...”

“Students designate the interests and beneficial topics about Economic System Concept to teach in this subject that has been relied on simply and complexity of contents and can motive students’ interests”

2. Students’ Learning Reflections on Grouping and Ordering Activity

Group members considered in learning’s objectives and divided the subject contents about Economic System Concept on structuring, ordering, and grouping that come to conclude in the standard of content criteria in each group and drawn up in Concept Chart of subject contents.



Students demonstrated the concept chart about “Economic System Concept” that has been displayed in details. There were comprised of eight groups of ideas and knowledge about “Economic System Concept”, including, 1) Group of Contents of Economic System Concept, including; meaning, principle, new theory, procedure, philosophy of Economic System Concept 2) Group of Views on Change and Evolution of Economic System Concept, including; Capitalist, Socialist, Communist, and Mixed Economic System, and new theory of Economics System “Sufficiency Economy”, and so on 3) Philosophy in New Economic System Concept, including the King Rama IX’s new Philosophy, such as Sufficiency Economy Concept 4) Price/Mechanism and Investment of Distribution of Economic System 5) Problems and Obstacles of Economic System Differences, 6) How to Solve the Problems among the Difference of Economic System, and so on.

Students’ Learning Reflections on Group and Ordering Activity

“Students make ordering the contents about Economic System Concept from simply to complexity, past to present or present to past”

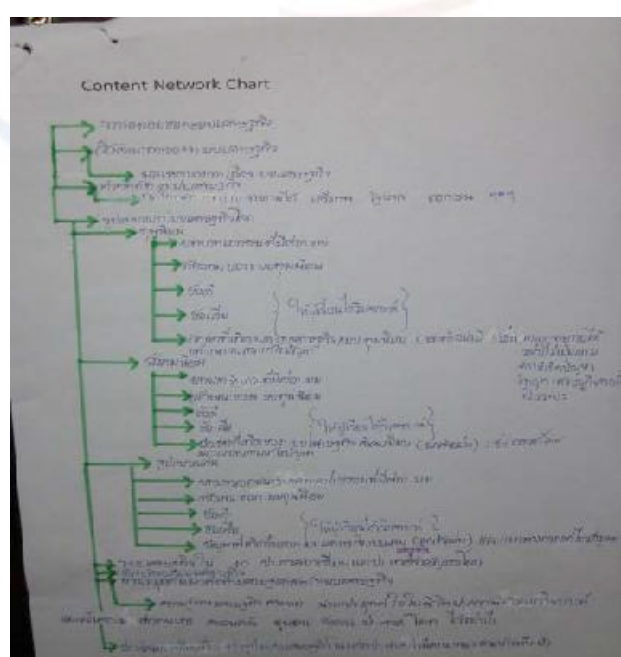
“Students focus on the content subject about Economic System Concept in from details to overall or overall to details”

“Students consider in subject contents about Economic System Concept between theme and sub-theme, or main concept to relevant concept”

“Students designate the interests and beneficial topics about Economic System Concept on near to far”

3. Students’ Learning Reflections on Content Networking Activity

Students in each group considered in the links of networking of subject contents about Economic System Concept. They wrote down in Content Networking Chart.



According to previous activities, brainstorming, grouping and ordering activities, if classroom students were interested to teach in Economic System Concept. They brainstormed their ideas, discussed, and shared their experiences through brainstorming activity. They wrote down subject contents about Economic System Concept in form of brainstorming mapping and separate their ideas. Then, group members considered in learning's objectives and divided the subject contents about Economic System Concept on contents' structuring, ordering, and grouping that come to conclude in the standard of content criteria in each group and drawn up in Concept Chart. After that, students worked together to link in networking of subject contents about Economic System Concept. They wrote down in Content Networking Chart. Students demonstrated the content networking chart about "Economic System Concept" that has been displayed in details.

1. Economic System Concept
 - 1.1 Meaning of Economic System Concept
 - 1.2 Principle and Benefits of Economic System Concept
 - 1.3 History, Background, and Evolution of Economic System Concept
 - 1.4 Philosophy of Economic System Concept
 - 1.5 Definition of Economic System Concept
 - 1.5.1 Price Mechanism
 - 1.5.2 Income Distribution
 - 1.5.3 Freedom of Economic
 - 1.5.4 Government Role in Economic System
 - 1.5.5 Private Role in Economic System
2. Changes and Evolutions of Economic System Concept
 - 2.1 Capitalist Economic System
 - 2.1.1 Private Role among Capitalist
 - 2.1.2 Characteristics of Capitalist Economic System
 - 2.1.3 Advantages and Disadvantages of Capitalist Economic System
 - 2.1.4 Problems and Solutions of Capitalist Economic System
 - 2.2 Socialist and Communist Economic System
 - 2.2.1 Government Role among Socialist Economic System
 - 2.2.2 Characteristics of Socialist Economic System
 - 2.2.3 Advantages and Disadvantages of Socialist Economic System
 - 2.2.4 Problems and Solutions of Socialist Economic System
 - 2.3 Mixed Economic System
 - 2.3.1 Private Role, Government Role, Community Role among Mixed Economic System
 - 2.3.2 Characteristics of Mixed Economic System
 - 2.3.3 Advantages and Disadvantages of Mixed Economic System
 - 2.3.4 Problems and Solutions of Mixed Economic System
3. Economic System in ASEAN
 - 3.1 Economic System in ASEAN 10 Countries
 - 3.2 Economic System in ASEAN + 3

- 3.3 Economic System in ASEAN + 6
- 4. Limitations, Problems, and Obstacles of Economic System
 - 4.1 Examples of Problems of Economic System
 - 4.2 Solution to solve Problems
- 5. The Application of Economic Concept Economic System
 - 5.1 Application in Real lives and Families
 - 5.2 Application in Community and Society Sectors
 - 5.3 Application in National, International, and Globalization Sectors
- 6. Evaluations and Comparisons in Economics System among Different Countries

Students' Learning Reflections on Content Link and Networking Activity

“Students clarify the details of content subject about Economic System Concept to make ordering and grouping, then, they link the contents to the relevant concepts through theme and sub-theme that can apply in the real live”

“Students analyze the main subject contents about Economic System Concept from theme to sub-theme that support to content linking and networking in the real world”

Research Discussions

Students reflect on students' learning and conduct students' learning activities based on Economic System Concept to develop students' systematic thinking through three activities, including 1) Brainstorming Activity, 2) Grouping and Ordering Activity, and 3) Content Networking Activity. Interestingly, researcher discussed and shared their ideas in three aspects.

1) Content analysis started from brainstorming to clarify and search the essential subject contents. This statement was relevant to Jumpol Pholpataracheewin (2009)'s article was mentioned in learning practices to develop students' analysis thinking. Teacher should focus on brainstorming, sharing, explaining, discussing, and arguing between students, and between students and teachers to change in students' self learning, organization, and society that guided to sustainable development and argued by using reason that referred to a variety of data, theory, and practices to lead to the best findings and conclusion and the benefits of Systematic Thinking.

2) Content analysis that was included in contents' structures, components, links and networks in subject contents by ordering and grouping. Students made the conditions to set the standards of criteria in ordering and grouping. These ideas were referred to Suwit Molkhum (2005)'s ideas that were said that relation analysis was find out the contents' relation between group and identified the ideas, reasoning, and difference between arguments

3) The objective of content analysis is to discover the contents' networking and linking, ordering and grouping that connected with the overall contents. This reason was supported by Kriangsak Charoenwongsok (2003)'s article that concluded that the activity of systematic thinking must create facts, collect facts, link them systematically. Students' opinions required to cause and reason, to link between facts,

theories, and principles that lead to develop in systematic thinking and link data continuously since from the start to achieve learning goal.

Research Summary

According to students' learning reflections on students' development in systematic thinking, this research discovered from students' opinion records, students' experiences, and discussions that lead to arguments by using cause and reason in each groups' activities. Students had opportunity to participate in three activities, including, 1) Brainstorming Activity, 2) Grouping and Ordering Activity, and 3) Content Networking Activity to explain in students' development in systematic thinking.

Students had occasionally on practicing to develop in their learning based on about Economic System Concept to promote students' systematic thinking through students' group and self reflections in three activities. Students applied their knowledge, capabilities, and skills to classify subject components and arrange contents' details in learning' objectives, ordering, and grouping, and link to contents networking that concerned to relation of ideas, reasons, or difference between students' arguments, or link to relevant principles or related theories.

In conclusion, the development of students' learning based on about Economic System Concept could promote students' systematic thinking and values of learning's' activities could encourage students in systematic thinking reasonably.

Research Suggestions

1. The development of students' learning based on about Economic System Concept could promote students' systematic thinking and values of learning's' activities could encourage students in systematic thinking reasonably. Consequently, subject teachers or relevant academic staffs need to apply the research results to other subjects.
2. Subject teachers and academic staffs need to construct their learning network with each others to apply in the development of students' learning based on about Economic System Concept to promote students' systematic thinking.

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Romantic Illusions in ELT: The Cultural Creation of Pedagogic 'Self' and Student 'Other,' from Shakespeare and the Sublime to English Textbooks

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Abstract

This paper will discuss the connections between Western cultural movements such as the Enlightenment and the Age of Romanticism, and their residue in modern English teaching practices abroad. While Enlightenment culture represented Western progress positively, demarcation between 'civilized self' and 'savage other' meant that other parts of the world were judged by Europeans to be inferior. The Counter-Enlightenment, with its emphasis on sublime, astonishment and horror, served to further accentuate the colonialist notion of the non-West as mysterious terra incognita. Romanticism provided a sensory threshold, or liminality, whereby it could represent other parts of the world through the creative power of the human imagination, whilst also being bound by the liminal nature of this intermediate condition. In specific relation to The Middle East and Asia, Romantic writers contributed to a colonialist tradition of depicting the Orient as an exotic and inscrutable place of adventure. This has in turn influenced modern travel guides, which further convey the promise of adventure that draws backpackers and travellers to the poorer parts of the world on 'gap' year travels. Yet this may also implicitly influence the motivation of many Westerners working abroad as English teachers, while Western created stereotypical representations of 'self' and 'other' also pervade contemporary ELT materials. Therefore, of specific interest to this paper is discussing the interconnected relationship and tension between enlightened depiction of 'self' and romantic perception of the 'other', and its remnants in the pedagogic materials and political and economic practices of the English language teaching industry.

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Introduction

The goal of achieving competence in a language is rarely viewed by learners as an end in itself; a language is not a teleology, but instead, as Vygotsky observed in *Thought and Language* “language is a tool” (1987, p256). In the modern era English is the central tool for global communication, which can be utilised by those learning it to gain knowledge and to transcend boundaries. Students and learners often engage with English actively and creatively, and, as Brumfit notes, “develop their own repertoires from their store of linguistic capacity, crossing language and dialect boundaries as they do so” (2006, p38). Yet at the same time, it should be recognised that English is not completely value free, and cannot be easily disassociated from ideological elements. Language is not, as Bakhtin argued, “a system of...abstract grammatical categories, but rather language conceived as ideologically saturated” (1994, p74). The global power of English is underpinned by the commercial and cultural ideology of the United States, and also permeates the English language teaching (ELT) industry, from economic rationale to classroom practice and materials design. ELT textbooks appear to aid the practises of Western corporations, legitimising global brands and products as an inevitable norm (Gray, 2010) and this has led ELT to be accused of exercising hegemonic domination through “cultural and commercial globalization” (Howatt & Widdowson, 2004, p.359). Due to this, some teaching practitioners have expressed a reluctance to use ELT materials (Sell, 2005, p.86) feeling that they are operating as pedagogic Trojan horses.

While ELT is underwritten by American commercial values, it is also subtly informed by a number of Western epistemological and historical discourses. These facts have not always been explicitly acknowledged or critically discussed by ELT materials writers. The handbook *Teaching English abroad: talk your way around the world*, for example, observes “English has come to dominate the world” (Griffith, 1999, p10), but neglects to discuss or identify the explicit reasons for this domination, which were not linguistic in origin, but can instead be seen as the result of successive waves of Western colonialism and were, in turn, underpinned by the ideological values of the Enlightenment. European culture drew a demarcation between ‘civilized self’ and ‘savage other,’ while the subsequent Romantic movement, with its emphasis on the sublime, astonishment and horror, served to further accentuate this division, with eastern parts of the world represented in Western culture as a mysterious terra incognita. Stereotypical representations of ‘self’ and ‘other,’ however, still pervade contemporary ELT materials. Commercial textbooks contain a number of cultural stereotypes, such as examples of floating markets and exotic tropical foods, juxtaposed next to features on Starbucks and McDonalds. This has led to criticism from some academics, such as Phillipson, who maintains that ELT “needs to be situated in a macro societal theoretical perspective” (1992, p2). It is therefore the purpose of this paper to discuss ELT in such terms, foregrounding the exploitative background which underpins its culture and economic policies, which are subtly shaped by the historical ideologies of colonialism, the enlightenment, and romanticism. In particular, this discussion will specifically focus on the ELT industry in Japan, and will discuss how lingering romanticized representations of Japan as exotic ‘other’ subtly influence ELT materials and rationale in a Japanese context.

Colonialism and the Exporting of English Values

The export of cultural ideas in English and the beginnings of English teaching as a foreign language arise at almost the same point in history. The attack on England by the Spanish Armada in 1588 had provoked the Tudor monarchy into bolstering nationalist fervour and Shakespeare's history plays reflected this; John of Gaunt's speech in *Richard II* celebrated England as a "scepter'd isle...this precious stone set in the silver sea" (1623/1966, p388). Such jingoism also celebrated and promoted the English language, however, as in *Henry V* when the warrior king remarks "Fie upon my false French! By mine honour in true English!" (1623/1966, p499). While the promotion of English at home reflected national, religious and cultural agendas, at the same time the idea to actively export British cultural values abroad through English was developed by Sir Walter Raleigh during his experiences as a colonist in Virginia and Guiana. The ambitious Raleigh planned to break into the Spanish domination of the Americas (Hill, 1972, p157), and recognized that these ventures would succeed most easily and least expensively with the support and assistance of local Indians (Ober, 2000, p149). His diplomatic policy thus envisaged "the export of English arts" (Hill, 1972, p156) and this cultural exportation was to be achieved through the use of English speaking Indian translators such as the famous Manteo and Wanchese, who were taken to England and taught English by Thomas Harriot in 1584 (Ober, 2000, p152). Coincidentally, Jacques Bellot's *English Schoolmaster*, the first known textbook designed solely for the purpose of teaching English as a foreign language, had appeared just 4 years earlier in 1580, having been prepared in order to meet the arrival of French Huguenots fleeing the massacre of Paris (Howatt & Widdowson, 2009, p20). Nascent English teaching hence reflected national, colonial, religious and cultural concerns. While Raleigh's colony in Virginia failed to survive, his imperial ideas, outlined in his literary text *The Discovery of Guiana* (2007/1596) denoted him as an "important figure in the history of English culture" (Hill, 1972, p219). In particular, this set in motion a colonial mode of thought based on civilizing through cultural values, which were translated from English into the languages of the colonized.

Colonialism in Africa also involved the exportation of cultural values, which were championed by the explorer and colonialist Henry Morton Stanley (Sherry, 1971, p121) and were disseminated through the missionary work of people such as David Livingstone. In *Things Fall Apart*, Chinua Achebe described how British missionaries in Nigeria targeted the religious education of the young in the battle for hearts and minds. Knowing that "a frontal attack on it would not succeed" (Achebe, 1959/1991, p166) the missionary Mr. Brown builds a school, so that "from the very beginning religion and education went hand in hand" (p166). Yet the teaching of English also went hand in hand with such education, because "the purpose of education was to bring the benefits of European (and specifically British) knowledge and culture to the colonial peoples...and of course the same language" (Howatt & Widdowson, 2004, p128). English was therefore seen as a valuable colonial tool for conveying cultural and religious values, which Orwell was later to describe as a "weapon which our enemies cannot use against us" (Orwell, 1948, p250).

Yet while the age of colonialism is now considered finished, English, is still employed as a tool through which to export cultural values. The rise to prominence of Western laissez-faire economics precipitated a shift in English language teaching

policy towards a newer oil based economic system (Brumfit, 2001, p118), overseeing "a period of change which radically altered the scope and structure of ELT" (Howatt & Widdowson, 2004, p232). English became a valuable commodity analogous to oil, exemplified by the British Council's 1987/88 report which specifically identified that "Britain's real black gold is not North Sea Oil but the English language" (Phillipson, 1992, p48). ELT can thus be seen as projecting neo-economic values, which are linked to petroleum and the economy connected to it, and yet this corporate ideology is also historically linked to the values of colonialism, so that, as Phillipson argues, any analysis of ELT must still encompass a study of "ELT and imperialism" (1992, p75). In Japan, perhaps a major nexus between ELT, cultural and economic values and imperialism may be the Japan Exchange and Teaching Programme (JET), which was set up in 1987. The official website states that JET "is aimed at promoting grass-roots international exchange between Japan and other nations" (Jet Programme, 2014) by inviting young overseas graduates to assist in foreign language education. Others argue, however, that JET was forced upon the Japanese, being created to open Japan up to Western markets, originally arising due to trade tensions and being presented as a gift to the American government (Galloway, 2009, p170).

Modern ELT textbooks also open up the world to Western business interests, and such materials are often saturated with corporate driven values and product placements (Litz, 2005, p6), paving the ground for the development of markets favourable to the West. The provision of ELT textbooks has allegedly been identified as a strategic business move (Gray, 2010, p716), and many critics of the global market economy argue that textbook production occurs with government backing, in conjunction either with international sponsors or with big publishing. Flavell cites the Sri Lankan situation of the 1980s, in which the main course book, called *English for Me*, was "developed with the support of Norwegian aid and the secondary one (*English Every Day*) underwritten by the British Council/Overseas Development Agency" (Flavell, 1994, p48). Similarly, Phillipson notes that the U.K textbook for Africa program was designed by the British government to get surplus textbooks into African schools to aid the U.K economy (Phillipson, 1992, p48).

Enlightened Self and ELT Textbooks

It appears that the commercial exploitation of the English language has a "long and honourable history" (Howatt & Widdowson, 2004, p357), stretching back from the modern ELT industry to the age of Stanley and Raleigh. The historical discourse that underpinned this exploitative colonialism and helped to distinguish it from the rest of the world was the intellectual movement of the Enlightenment. This age of rationalism gave Europeans "reasons for self-satisfaction" (Russell, 1947, p560) and created a cultural and ideological demarcation; an ontological legitimacy was bestowed upon Western progress whilst an inferior status was conferred upon other parts of the world (Pennycook, 1998, p50). This helped legitimise English as an emancipatory tool whereby savage 'other' could be educated by enlightened English speaking 'self.' English native speakers considered their language superior, and other languages inferior, opaque, complex; hence to be deemed civilised, non-native English speakers would need to acquire it. Even as succinct a writer as Orwell championed English as the supreme candidate for global communication because, he argued, of its superior logical simplicity, maintaining "a completely illiterate Indian

will pick up English far faster than a British soldier will pick up Hindustani” (Orwell, 1948, p33).

This ethnocentric conception of English can be discovered in a number of English literary texts. In Defoe’s *Robinson Crusoe*, the scenes where Crusoe teaches Friday English display a Western superior attitude towards English (Defoe, 1719/2007, p269-74). Crusoe does not consider learning Friday’s language, because he considers English to represent a superior discourse. Therefore, Crusoe quickly sets about the process of civilizing Friday by teaching him English. Pennycook claims that Friday is subordinated whilst his identity is constructed, arguing “Not only does Friday not get to speak in his own language, but he has been given very particular, colonizing English words to express his cultural background” (Pennycook, 1998, p15). Similarly, however, we find this superior English speaking ‘self’ in Conrad’s *Heart of Darkness*. Marlowe judges the Congo natives by the standards of his own language, and, as the natives cannot speak his tongue, Marlow refers to their chanting as an “immense jabber, silly, atrocious, sordid, savage, or simply mean, without any kind of sense” (Conrad, 1889/1995, p80). Conrad’s narrator, conversely, describes “the inestimable privilege of listening to the gifted Kurtz” (80), which was possible because “he could speak English to me” (82). Because Conrad’s Marlowe cannot understand the language of the Congo natives he doesn’t afford it the status of a proper language, claiming that he holds “a dim suspicion of there being a meaning in it which you – you so remote from the night of first ages – could comprehend” (63).

Yet Conrad is celebrated as one of a number of writers whose works represented the enlightened values of western civilization. F.R Leavis claimed in *The Great Tradition*, “The great English novelists are Jane Austen, George Eliot, Henry James and Joseph Conrad” (Leavis, 1950, p1). The images of various literary figures from the Western canon, such as Dickens and Austen, however, still pervade the content of ELT communication textbooks such as *Headway Upper-Intermediate* (Soars, J, & Soars, L, 2005, p29), while the continuing cultural caché of Shakespeare, whose *Henry V* championed ‘true English’, has seen his image employed in ELT textbooks such as *English File: Students’ Book Upper Intermediate* (Oxenden, 2001, p112). While ELT textbook writers “think and compose chiefly through culture-specific schemas” (Hedge, 2003, p56), these cultural schemes of perception may occlude students from accessing and critically processing the cultural data found in such teaching materials. A learner of English who is unfamiliar with the cultural context found in such materials will “most likely experience problems in processing English systemic data” (Hedge, 2003, p53). Such problems may engender student lack of motivation and interest, resulting in a potentially crucial obstacle to language acquisition.

Romanticism and Liminality

ELT is a top down, culturally specific industry, and the ideology and language displayed in teaching materials often reflects this; the title of the EFL handbook *Teaching English Abroad: Talk Your Way Around the World* (Griffith, 1999), for example, places emphasis on talking, and projecting one’s language and values, rather than listening or learning. Yet this ideology can be traced back to the cultural inheritance of Romanticism, which posited importance on the imagination; projecting one’s images onto objects, rather than perceiving the thing in itself. Romanticism

bestrode a period of political, social, and economic change, and yet also oversaw a period of great cultural transformation; while the Enlightenment had placed importance on the well formed and classically pleasing, Burke's (1756) *A philosophical Enquiry Into the Sublime and Beautiful* argued that objects of astonishment, mystery and horror were equally worthy of intellectual attention. Later poetic works by Wordsworth, Coleridge, Blake, Byron and Shelley instigated a rebellion against the empirical, rational faculties of the Enlightenment, and instead perpetuated an idea that culture should function as a vehicle for romantic contemplation, rather than logical utility, being defined by Keats as "negative capability" (1848/1996, p1015). Yet this cultural movement also served to further accentuate a colonialist representation of other parts of the world, such as The Middle East and Asia, as exotic, beautiful, grotesque objects of mystery. Romanticism provided a sensory threshold, or liminality, whereby writers and painters could creatively represent the 'other' whilst also being bound by the liminal nature of this intermediate condition. In Wordsworth's 'The Prelude', the poetic dreamer finds himself in an "Arabian waste" where he meets an inscrutable "Arab of the Bedouin tribes" (1850/1996, p337), while in Coleridge's 'Xanadu' the poet mystically imagines the "pleasure dome" of Kubla Khan, and its mysterious "caverns measureless to man," set in "a savage place" (1816/1996, p514). Russell notes that "Coleridge's Kubla Khan is hardly the historical monarch of Marco Polo," and further observes that "the geography of the romantics is interesting...the places in which it is interested are remote, Asiatic" (1947, p704). De Quincy wrote that China, and Southern Asia in general, was "the seat of awful images and associations" (1821/1996, p680). Shelley's 'Ozymandias' described the ruined statue of Ramesses the Great, set in the ruins of "an antique land" whilst "the decay of that colossal wreck" (1818/1996, p860) was used as a metaphor for human decadence, and in particular, non-Western decline, as viewed through the eyes of a Western explorer, a romantic traveller in an antique land.

These romantic illusions were and still are echoed in the advertising language employed by travel companies, which emphasize the exotic and mysterious nature of the colonial 'other.' For example, the rear cover of *Footprint Morocco* describes, in terms similar to Shelley's romantic descriptions of Egypt, a "dusty desert" country (McGuinness, 2003). Morocco is denoted as a blank canvas upon which Westerners created romantic art, being "the land where Delacroix and Matisse discovered color" (McGuinness, 2003). Similarly, in ELT textbooks, foreign cultures are often represented romantically as perceived through Western travellers' eyes. The textbook, *Headway Upper-Intermediate*, under the chapter title 'Explorers and Travellers', features a section on Western exploration, and observes that Marco Polo "gave Europeans their first information about China and the Far East" (Soars J, & Soars L, 2005, p16). Asian English students using this textbook thus learn about the West's discovery and interpretation of them, but are not given a comparative account of the East's interpretation of the West. This is then juxtaposed with pictures of floating markets and textual information about a young Western backpacker who is exploring the Far East (p16). This ethnocentric conception of discovery and adventure is therefore brought from the past into the present. Western teachers using this textbook are tacitly persuaded to perceive themselves as represented explorer 'self,' whilst Asian learners using the textbook are implicitly encouraged to see themselves as discovered 'other,' becoming, in effect, a Western knowledge commodity. In such examples, complex cultures are rendered as romanticised,

immutable snapshots, a form of bad sociology, which, as Brumfit notes “can easily degenerate into stereotyping” (Brumfit, 2001, p35).

Japan as Romantic ‘Other’ in ELT

Romantic stereotyping of Japan as exotic ‘other’ has subtly influenced the type of ELT materials and pedagogic rationale employed in a Japanese context. The Ukiyo-e inspired vogue of *Japonisme*, which held Europe in thrall during the latter half of the 19th century, did much to initiate such illusions, yet English literature such as Lafcadio Hearn’s 19th century *An Attempt at Interpretation* (1904) also perpetuated a myopic, romanticised representation of Japan. Hearn talked of a land full of “queer small streets full of odd small people, wearing robes and sandals of extraordinary shapes” (Hearn, 1904, p10), while Japanese living abroad were also represented as strange and inscrutable by Westerners; W. Somerset Maugham, on a visit to 1920s Singapore, described the Japanese there in the short story ‘P & O’ as “sly” and “busy with pressing and secret affairs” (Maugham, 1969/1926, p125). In the post-world war era, Edwin Reischauer’s circle of US endorsed Japanophiles, known somewhat pejoratively as ‘The Chrysanthemum Club,’ continued this tradition, representing the Japanese in texts such as *The Japanese Today* as exotic, inscrutable samurai salarymen (Smith, 1998, p25-27). Yet these romanticised representations can still be found in travel guides young English teachers may bring with them to Japan. The Lonely Planet’s *Japan: A Travel Survival Kit* describes “raked pebble gardens, the sensuous contours of a temple roof, the tripping step of a latter day geisha in pursuit of a taxi” (Taylor, et al, 1997, p372) whilst asserting that “all westerners long for these things of Japan” (372). A more recent *Japan Times* article, entitled ‘Rediscovering Lost Tokyo’ describes Arakicho as a quarter where, come evening “backlit signs and paper lanterns glow and there is the click of heels on stone...Some might even call it...romantic” (Milner, 2014). This is no different to language employed on the Internet homepage of the JET programme, however. The organization, which is responsible for bringing a great many young assistant language teachers to Japan, uses words such as ‘traditional’, ‘pristine’ and ‘remote’ to describe life in Japan (Jet Programme, 2014).

Yet ELT textbooks have also been found to contain romanticised stereotypical examples of exotic Japanese ‘other.’ The business English textbook *Market Leader* includes a feature on Japanese department stores, which is embellished with a picture of feminine office ladies bowing and also includes a romantic image of Mount Fuji (Cotton, Falvey & Kent, 2005, p122-123). Conversely, a chapter on Western management techniques is juxtaposed with a photo of masculine American cowboys lassoing cattle (p100). This perception of ‘self’ and ‘other’ also influences ELT pedagogic theory on teaching English in Japan and ‘others’ Japanese learners; titles include *Classroom Cultures: East Meets West* (1996), *The Chrysanthemum Maze* (1993), or *West vs. East* (1996) (Susser, 1996, p54). Viewed in this way, Japanese classrooms and students are perceived as illogical constraints to be overcome, exotic obstacles to the implementation of Western imported wisdom. Pedagogic research has also reflected this, Atkinson (1997) maintaining that ‘critical thinking’ is a Western specific practice and inappropriate when employed in some second language contexts such as Japan.

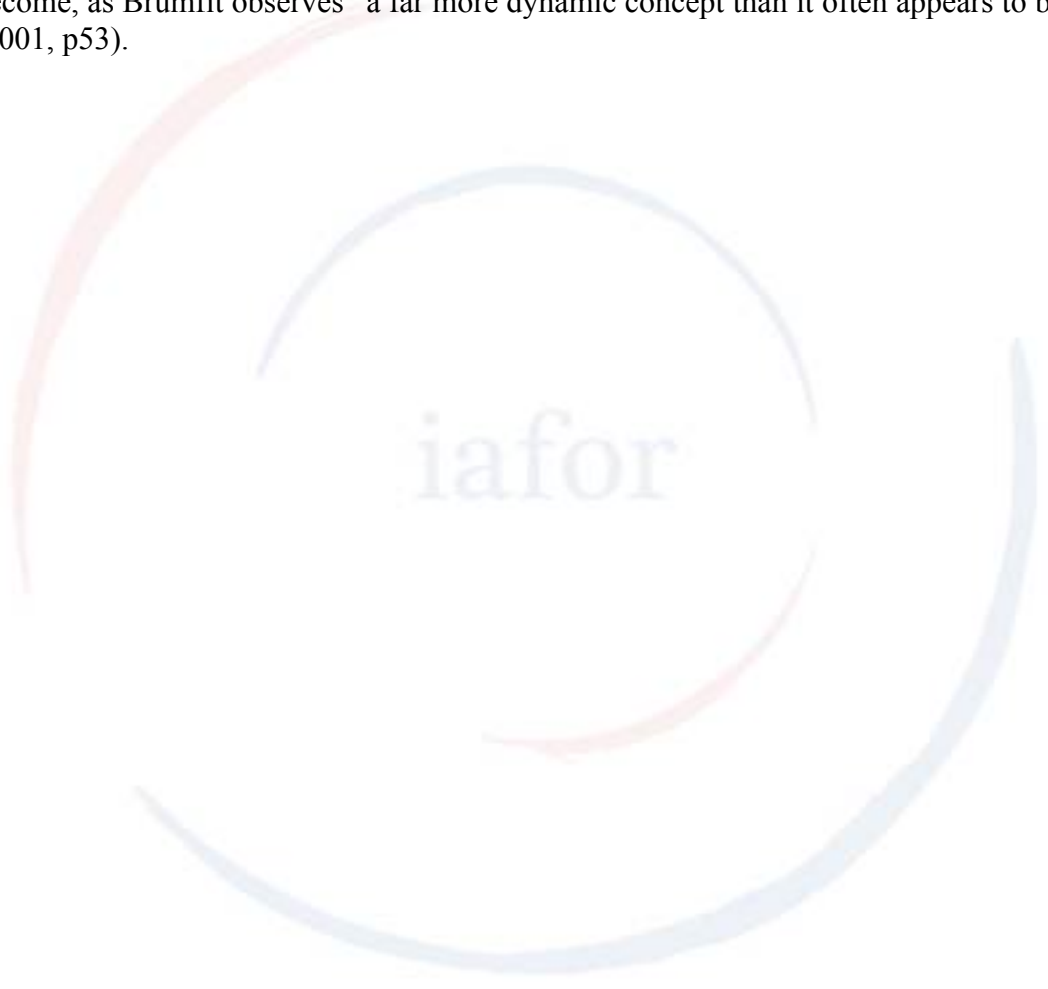
Whilst discussing the romantic cause of these 'self' and 'other' representations, it is also important to examine the possible effects they may have upon the represented. Due to the overpowering influence of these romantic representations it can be argued, as Said claimed in *Orientalism*, that the East participates in its own orientalising (1979, p285); Japan's self-Orientalism, the Nihonjinron literature, a body of discourse that purports to demonstrate Japan's traditional uniqueness from other cultures (Befu & Manabe, 2003, p124) can perhaps be viewed as an example of this influence. This rather romantic ideology, produced largely by and for a Japanese audience, seeks to idealise Japan's traditional cultural identity, and crude traces of this can be found in *New Horizon* (2013), one of the most commonly used junior high school English textbooks in Japan. In these books, published by the private company Tokyo shoseki, Japanese students are introduced to English language study through comparative romanticised focus on hamburgers and green tea, American potluck parties and ikebana, contributing to a strong cultural demarcation of 'other' and 'self.' This division is not just restricted to crude cultural snapshots, however, as a comprehensive study of Japanese seventh grader English textbooks (Matsuda, 2002) has previously illustrated. Such texts tend to prioritise native speakers such as Americans and UK nationals over Japanese and outsider circle speakers of English, 'othering' Japanese speakers of English as inferior. Matsuda noted that Japanese characters in English textbooks "produce fewer words (2,844) than those from the inner circle (3,074)" (2002, p189), giving the impression that native speakers are the dominant speakers of English, and threatening to undermine Japanese learners' agency as English users. *New Horizon* is no different in this respect; the character Mary Brown, an American teacher, is the main focus, and Japanese students studying English with this textbook are led through her experiences as she learns about a fossilised, romanticised Japanese culture. Kakuko Sato, the Japanese English teacher, however, is mostly ignored, helping to subordinate the Japanese teacher of English in print, and, potentially, in the classroom itself.

Conclusion

While English teacher recruitment abroad to service the needs of empire was a major difficulty for the British during the 19th century (Howatt & Widdowson, 2004, p135), modern advances in travel and communication have seen a new breed of economically motivated Westerner criss-cross the globe teaching English. Yet an adventure-seeking attitude, which sees its origins in the romantic illusion of exotic 'other,' may also implicitly influence the motivation of many young Westerners working abroad as language teachers. Due to this culturally inspired wanderlust, many ELT teachers' motivations may not be commensurate with the requirements of their learners. Griffith notes the "proliferation of cowboy teachers who have no feel for language, no interest in their pupils and no qualms about ripping them off" (1999, p.11). Even skilled language teachers, however, may not properly understand the foreign pedagogic systems in which they are employed, and may mistakenly apply Western solutions to distinctly non-Western problems. For example, Tollefson argues that ELT experts are "often hired as consultants to disperse 'solutions' to complex educational problems in countries about which they know very little" (Tollefson, 1991, p97).

The ideology and practises that inform the ELT industry are centralised and Western-centric, arguably functioning in some contexts as a neo-romantic liminality; this

liminality provides a creative threshold, but also, as Phillipson maintains, ensues a “disconnection of ELT from the social context within which it operates” (1992, p259). To re-engage with context the ELT industry perhaps needs to consider the words of the late Stuart Hall, who saw cultural education being as much about future routes as historical roots (1993). All culture is in flux, and most people live within the space between stereotypes and representations. Thus we should think of cultural identity as “a production, which is never complete, always in process, and always constituted within” (Hall, 1993, p222), and if ELT is to avoid the practice of cultural stereotyping and become a truly egalitarian enterprise it needs to develop a more context specific, student centered pedagogy. Students are the sole justification for language teaching as a profession, and if indeed ELT does profess to centre on its learners, it must become, as Brumfit observes “a far more dynamic concept than it often appears to be” (2001, p53).

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***Confronting Underlying Issues of Racism
for Effective Intercultural Communication***

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Abstract

This paper provides a brief overview of pertinent research and major theories related to communicating with people of different cultural backgrounds, as well as fun and useful techniques and strategies to use when teaching in international or multinational classrooms; and working or consulting in international or multinational school offices, companies, and organizations. The paper will conclude with a description of my new approach to one of the most common intercultural communication exercises called the E.A.D.

Keywords: intercultural communication, cross-cultural communication, racism, white racial models, D.I.E. exercise

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Introduction

At the 2013 Asian Conference on Language Learning, I presented a workshop titled *Confronting Underlying Racism for Effective Intercultural Communication*, and provided an article briefly describing what I began to employ in classrooms, businesses, and organizations—an updated version of a classic exercise in intercultural communication training. For this year's Asian Conference on Education, I decided not only to slightly alter the title, but also to provide a more thorough description of my workshop, particularly the E.A.D. (Velasco, 2013).

I will begin this article the same way I began last year's article: Discussing racism in a classroom, an office retreat or professional development seminar is never easy, and can be an extremely uncomfortable and painful experience, particularly when one is exposing underlying racial tension among the group. However, if there are underlying issues of racism, it is my belief that racism can and will lose its power and influence with increased cultural awareness, sensitivity, and effective intercultural communication.

In order to contribute to this goal, this paper will reflect on

- pertinent literature that will assist in understanding not only racism, but also intercultural communication;
- several continuing research studies that help reveal racial tension among two different cultural groups; and
- the new intercultural communication exercise called the E.A.D.

A final note to those who choose to believe there are is no racism present at your child's school, your workplace or within your community: The recent occurrence in Ferguson, Missouri, has affected not only this community, but the entire world, and has brought the issue of racism to the surface. Although it may never be certain if racism played a role in the shooting of Michael Brown, the comments left by readers are telling of the underlying issues that permeate the world. Words to describe the police officer, who is white, ranged from "murderer" to "racist white devil"; however, the words used to describe the victim, who was black, ranged from "thug" to "criminal," and the protesters were labeled the worst—"thugs," "welfare thieves," "uncivilized brutes," and, probably the worst, "monkeys" (Salter, 2104; Zagier, 2014).

Confronting Underlying Issues of Racism

In last year's article, I included such historical events as the Nanjing incident (Askew, 2002), or modern acts of xenophobia, such as the attack on a Chinese tour bus (Jize, 2010) as examples of racial tension that reached boiling points, culminating in unthinkable acts. The truth of the matter is that racial tension has reached new heights all across the world, not just in the United States and Japan; however, because I am currently in Japan, my research in the field of intercultural communication and racism has focused on these two countries.

Last year, I asked 50 Japanese participants (both male and female, between the ages of 20 and 55) two things: 1) their age, and 2) their immediate and honest response to one phrase: "Say the first word that comes to mind when I say *Nigerian*" (the phrase

was asked in Japanese, but translated into English for publication). Forty-eight responded, without hesitation, “怖いです,” which is Japanese for *They’re scary* or *I’m afraid* (many of the younger female participants made facial and hand gestures to indicate their fear, and although I did not officially document the second word out of their mouths, half of the Japanese females followed their response up with “やだ,” which has many translations, but most commonly, “I don’t want [to/it]”); and the remaining two, both older men, stated matter-of-factly, “犯罪者”—criminal.

For this article, I decided to poll nineteen Nigerian men and one Nigerian woman, and asked them the same two questions: 1) their age, and 2) their immediate and honest response to one phrase: “Say the first word that comes to mind when I say *Japanese people*” (Note: This study took place in October 2014, in Tokyo). All of the participants said one of the following four words: ignorant, close-minded, rude, and, racist.

There are many race models, and while the following are labeled “white race models,” I do not include “white” when I apply them to my research because I believe these models can be applied to all races. The most notable race models include Hardiman’s (White) Racial Identity Model (1992); Helm’s (White) Racial Identity Development Model (1995); and Rowe et al.’s (1994) (White) Racial Consciousness Model (Daniels, 2011). Kovel (1994) explores models of white racial identity development, and pointed to some startling research: “The less aware subjects were of their White identity, the more likely they were to exhibit increased levels of racism” (p. 265). Again, to be clear, while the Japanese should not be compared to white Anglo-Saxon Americans, I do believe there is a connection between the racial identity models and current racial beliefs with regards to immigrants inhabiting a country where there is one dominant race.

Again, the point of these surveys was neither to accuse the Japanese nor the Nigerian populations of racial profiling, but reveal the need to further cultural awareness, cultural sensitivity, and cultural acceptance on a global scale, and this can be achieved, in part, through effective intercultural communication.

Effective Intercultural Communication

Countless articles and books have indulged in the now-cliché observation regarding the world becoming smaller. The world is, in fact, becoming easier to access, both physically and virtually, thanks mostly to advancing technology; however, it is deceiving to believe that an easier accessible world equals a diverse, accepting, and communicative one.

In an ongoing study ranging from 2010 to 2013, I surveyed 400 people from America, Canada, Mexico, Brazil, El Salvador, Nigeria, Egypt, South Africa, almost every country in Western Europe, Russia, Iran, South Korea, Japan, Taiwan, China, Thailand, Australia, and New Zealand. They were all asked to respond to the same statement: “List the three things that are most important to you.” The results continue to reveal 98% of responses fall into these three categories:

1. Family
2. Career

3. Health/Quality of life

I presented these research results for the first time during the 2014 Asian Conference on Education in Osaka, Japan, but not before presenting the same statement to the attendees. Although their responses varied to some degree, the overall consensus mirrored my findings.

While some choose to believe that every human is part of one race—the human race—human beings are much more complicated than that, and grouping every cultural group together in an attempt to break down borders is both ignorant and disrespectful to cultural differences. In last year's article, I provided the first definition of culture: "Culture is that complex whole which includes knowledge, belief, arts, law, morals, custom, and any other habits acquired by humans who are members of a society" (Tyler, 1871). Given this definition, intercultural communication—"a communicative exchange between persons of different cultures"—and the training involved has never been more in demand (Klopf and McCroskey, 2007, p. 58). Intercultural communities should reflect social structures and daily interactions that are defined by understanding, acceptance, respect, freedom, equality, diversity, and celebration, and yet there are challenges to intercultural communication: cultural assumptions, prejudices, stereotypes, miscommunications, misinterpretations, and racism, to name just a few. Strategies to overcome these challenges are self-awareness, avoiding stereotypes, honesty, respect, inquiry, and acceptance of differences and the difficulties that naturally occur in communication. These strategies lead into the E.A.D. exercise that does more than just foster effective intercultural communication.

The E.A.D.

As stated earlier, the D.I.E. is one of the most, if not the most common exercise used in intercultural training. The D.I.E. exercise asks participants to describe, interpret, and evaluate an ambiguous object or photograph (Bennett, Bennett, & Stillings, 1977). Finding the model and its acronym problematic, Nam & Condon (2010) suggested D.A.E. (Describe, Analyze, Evaluate), with "analyze" supposedly being clearer directions for participants compared to the previous term "interpret" (in other words, problem solving versus judging) (p. 84).

However, when I applied these models to various situations, ranging from classroom settings to teacher training sessions to business consultations, I found that the participants always struggled with not judging the pictures first. While the D.A.E. is more effective in its clarity, I found that allowing participants to first evaluate a picture, they often expressed their true opinions about certain individuals or situations that were shown in the pictures. I began using more ambiguous photographs, and decided to let them judge the photos first. The results were remarkable: Not only were racially charged comments made without censorship, but sexist and bigoted comments were openly made, as well. What followed was even more amazing: The groups began to openly discuss the roots of these comments, and worked as a group to dispel them.

So how does it work? First off, before I present the E.A.D. to participants, I explain that they are going to see an object, photograph or short video, or hear a scenario

(e.g., a case study), and that the goal is to first evaluate or judge it, then analyze it, and finally describe it in the simplest of terms. I then show them a picture (or play the movie or read the scenario). One of the most common photographs I use is the following:



When I use this photograph and conduct the D.I.E. or the D.A.E., about 98% of the time no one states the obvious—that all the students are white. When I conduct the exercise using the E.A.D., not only do participant immediately realize that all the students are white, but racially charged adjectives, such as “privileged,” become attached to the comments. This type of comment has led to incredibly honest discussions on race, power and privilege, and taking steps backward to then talk about analyses and descriptions opens the doors to further discussions and exercises that help begin to build (or in some cases repair) trust, respect, and open communication.

Conclusion

Regardless of whether you are an English as a Second Language instructor or a university professor, a teacher trainer or a department chair, a department manager or a Chief Operating Officer, this exercise can work to help foster better relationships among students and employees of varying cultural identities.

As I wrote in my article last year, if you are charged with improving work relations among your students or colleagues, and you suspect there are underlying racial tension or racist beliefs, there are many approaches you can take and strategies to implement. In my workshops, I teach several that teach participants how to better communicate with other cultures, and it is with these exercises that you can confront racism head-on. The E.A.D. accomplishes this goal by not asking participants to objectively describe what they see first, but instead, evaluate what they see; in other words, immediately answer the question, “How do I feel about what I see” (Nam & Condon, 2010, p. 85). By moving backwards through the D.I.E./D.A.E. process, we

are able to move forward, confronting underlying racism, sexism or other issues that may be causing undue hardship and stress in your classroom or workplace. The goals for each and every session you use the E.A.D. should be to help those participating improve their self-awareness, cultural sensitivity, and effective intercultural communication.



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The wolf in sheep's clothing: the continuing accountability discourse in education

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Abstract

The Australian government has, for some time, shone a strong spotlight on education and teacher quality. This has particularly resulted from literacy and numeracy results slipping over the last few years in the OECD's Programme for International Student Assessment measures of student performance. Such performance and teacher quality become inextricably linked and, almost inevitably, education is the subject of reform. In this paper, the author analyses the competing discourses of a recent government campaign for 'better' schools and improved teacher quality. The campaign examined is the 2012 Commonwealth Government campaign, launched through various media, officially known as the National School Improvement Plan, but promoted as "Better Schools for Australia". Here, the discourse of inclusive opportunity is set against that of economic rationalism. The discussion of the government campaign is firstly grounded in the literature of contesting views of the purposes of education and the ways in which the campaign contains elements of several discourses. The author demonstrates how the economic and accountability discourses dominate and deflate the other discourses of need and inclusion. The paper is concluded with a discussion of what these prevailing discourses mean for teachers and pre-service teachers and how teachers and their teaching are being positioned by the accountability discourse.

Keywords: purposes of education, teacher quality, accountability, discourse analysis

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Introduction

In Australia, as elsewhere around the globe, education is a highly contested arena, discussed within the discourses of accountability and quality. It has been the subject of numerous government reports and funding initiatives designed to address the issue of teacher quality (Bradley, Noonan, Nugent, & Scales, 2008; Council of Australian Governments, 2009; Department of Education Employment and Work Relations, 2010; House of Representatives Standing Committee on Education and Vocational Training, 2007; Skilbeck & Connell, 2004). More recently, extensive, and at times heated, debate has occurred after the publication of the “Great Teaching, Inspired Learning” document in New South Wales (New South Wales Government, 2013) and the promotion of the National Plan for School Improvement, or “Better Schools for Australia”, through the Department of Education, Employment and Workplace Relations on behalf of the Australian Government (Australian Government, 2013). A large component of the debate arises from competing discourses regarding the purpose of education.

An analysis of the Better Schools for Australia campaign reveals that there are competing discourses: that of economic rationalism against the discourse of inclusive opportunity. In this paper, there is a discussion of how these discourses are subtly nuanced in the text of the television advertisements and they are also juxtaposed against differing views of the purpose of education.

Better Schools for Australia

In 2013 the Australian Government began a campaign to promote a new education initiative, the National Plan for School Improvement. It did this through a range of media including television, print media and public fact sheets. The initiative was to commence in 2014 and, by 26 July 2013 the government had expended \$2,648,171.30 on the production of campaign material and a further \$10,390,091.86 was paid to commercial companies to air the advertisements (Department of Education, Employment and Workplace Relations [DEEWR], 2013). In total, there were eight television commercials (each with a perspective from different characters), four print advertisements and four fact sheets.

In the print advertisements, each provides a selected quotation from one of the television advertisements, but all give details as to why this new initiative was introduced and what it would deliver. The latter is far ranging and reflects a discourse of opportunity. It promises to deliver:

- * “Ongoing teacher training;
- * A national curriculum;
- * Fairer funding for Australian school students” (Australian Government, 2013).

Very few would argue that there is a need for equitable funding for education and also ongoing teacher training to meet the demands of a changing world.

In contrast to the discourse of what is to be delivered, the reasons for the introduction of this initiative reflect competing discourses. The same print advertisement describes the reasons for its introduction as:

- * “Australia’s international results have dropped from 2nd to 7th in reading and 5th to 13th in maths over the last decade;
- * By Year 9, disadvantaged students are over two years behind their peers;
- * The number of high performing students has dropped by 5% in reading literacy over the last decade (Australian Government, 2013).

Here there is a tension between the discourses of performance (with implications that will be discussed later) and disadvantage.

It is noteworthy that all advertisements and fact sheets describe the main purpose of Better Schools for Australia is to improve the education system either with the tag line “to take Australian schools into the top five countries in the world by 2025” or a statement that it will “will help to give Australian kids a world class education” (Australian Government, 2013).

Purposes of Education

In 1897 Dewey wrote that education is “a process of living and not a preparation for future living” (p.80). His writings on education were to become staples of philosophy of education units in many teacher education programs. However, the purposes of education have been intensely debated with no consensus being reached. Murphy and Gale (2004) argue that there are “parallel discourses of ‘human capital’ and ‘social and cultural capital’” (p. 3). The former relates to terms such as ‘performance’ and ‘competence’ and provides “a view that implies a direct and singular connection between quality teaching learning, student achievement and labour market outcomes (Murphy & Gale, 2004, p.3). In contrast, they argue that “discourses of ‘social and cultural capital’ are characterised by issues of ‘difference’, ‘equity’ and ‘social justice’ (Murphy & Gale, 2004, p. 4). Arising from this argument, for the purposes of this discussion, a framework of three main educational purposes has been adopted.

Firstly, there is what Gillies (2011) discusses as the development of human capital wherein “the more and better education that individuals possess, the better their returns in financial rewards and the better the national economy flourishes” (p. 225). He sounds a warning about this purpose of education because:

there is a risk of education being narrowed to economic goals, of the broader aims and purposes of education being submerged, and of the person being reduced merely to ‘human capital’, not as a life to be lived, but as mere economic potential to be exploited (Gillies, 2011, p. 225)

Biesta (2009) also refers to this function of education as one of ‘qualification’ which is:

connected to economic arguments ... an important rationale [that] can be seen in ongoing discussions ... about the apparent failure of education to provide adequate preparation for work (p.40).

It is this purpose that frequently seems to dominate government discussions of education, at the expense of two other purposes.

Biesta (2009) describes two other important purposes of education. The first of these is 'socialisation', the "ways in which, through education, we become members of and part of particular social, cultural and political 'orders'" (p. 40). Plato would have subscribed to this view of education with his statement that the individual should be subordinate to a just state (Plato, 1955). The other purpose is 'individuation' or 'subjectification' where education provides "processes . . . that allow those being educated to become more autonomous and independent in their thinking and acting" (p. 40). Kennedy (2014) extends the discussion of the difference between the two in her explanation that socialisation positions those being educated as "'novice" members of society who need to be inculcated into the culture and practices of that particular society" (p. 2) and subjectification as positioning students as "individual members of society whose interests and talents should be fostered and encouraged with the express intention of fostering independence and creativity" (p. 2).

With this framework as an underpinning for analysis of the discourses of the better Schools for Australia campaign, attention is now turned to five television advertisements as examples.

Discourses of the Better Schools Plan

The eight television advertisements are each scripted to promote the view that many different groups of people understand that there are advantages to the new initiative. Seven of the advertisements are spoken from the point of view of different characters: a mother, a student, a teacher, a grandfather, a youth worker, a builder and an economist. The eighth advertisement was used as the launch and contained brief quotes from several of these characters. All of the advertisements have a similar thrust in terms of the tag lines already mentioned: "to take Australian schools into the top five countries in the world by 2025" or "will help to give Australian kids a world class education" (Australian Government, 2013).

In this section of the paper, the specific scripts of five of the characters, the economist, the builder, the student, the grandfather and the social worker are examined. It is important to note that these are scripts for actors rather than the spontaneous response of real people and, as such, these scripts cast light on the government's underlying views of the purpose of education. Sections of the scripts in italics and different colours are there for the purpose of exposition and are not in the original.

The first script is that attributed to Karl, an economist, who argues that:

to me, nothing is *more important to our country* than education. To *stay economically competitive* we need a well-educated population. We've already got good schools and teachers but we've got to keep pushing to get our literacy, numeracy and science scores back *amongst the world's best* (Australian Government, 2013).

Here, the voice of economic rationalism speaks loudly, perhaps to be expected from an economist's point of view. Education here falls clearly into the rhetoric of the first purpose described in the framework, the development of human capital. There is no reference to education having any individual purpose, but is rather a description of education as providing national good such that the country can be *economically competitive*. Even in the comment about raising literacy and numeracy scores the rhetoric is about competitiveness, being *amongst the world's best*, whilst not referring to the other aspect of human capital development described by Gillies (2011) as providing better educated people with "better ... returns in financial rewards" (p. 225).

Along similar lines is the script for Darren, a builder. Darren is concerned about business getting ahead and having 'job-ready' employees. He explains that:

I'm a builder. This job's not just about banging nails in. I need apprentices who are able to measure, calculate, read plans - people who can think on their feet. Lifting education standards will help *make well-rounded employees* - people who can think on their feet and *that's got to be good for all businesses*, big and small. A strong education system is not just important, it's a *must for my business*.

Darren is discussing the need for educated employees so that not only his own business, but all businesses can grow and prosper. Certainly it is important that employees can meet the requirements of the jobs that they hold, and this links with subjectification loosely as it must be assumed that the employee wishes to improve his or herself, but the underlying discourse is still economic and gaining a necessary qualification.

Turning our attention to the script for a student, Adam, he states that:

my mum reckons, there's nothing more important than an education. What I reckon is, if I get a good education, *I'm more likely to get a good job*, and *do something I really love*. And, if I get a great education, who knows. At this stage, *I don't really know what I want to be, but I really want the chance to be - whatever that is* (Australian Government, 2013).

In this script, two purposes are at play. Adam reveals the development of human capital approach to education: *I'm more likely to get a good job*. At a time of high youth unemployment and uncertainty about the youth job future this is a common comment from many students in schools. While playing into the economic rationalism rhetoric, it is certainly a very real comment. Adam's other comments move out of the human capital paradigm and into that of subjectification. In his statement regarding doing something *I really love* and, while not yet knowing what future he wants, *he really want[s] to be whatever that is*, we can see at work what Kennedy (2014) has described as Adam being "individual members of society whose interests and talents should be fostered and encouraged with the express intention of fostering independence and creativity" (p. 2). While the dominant discourse of the economist is still apparent, it is subservient in this script to a more individual purpose to education.

Peter, who purports to be Adam's grandfather, has the fourth script for discussion. Peter states that:

for me, there's nothing more important than my grandchildren's education. It's more important now than when I went to school. Nowadays, we have got all this global technology. If things happen as fast as they have in the last 50 years, we have to work smarter. The National Plan for School Improvement means *children will have a better opportunity to get a great education for the world they'll live in tomorrow*.

In this script we see the only instance of what might be considered the socialisation purpose of education. Here, peter is describing how his grandchildren will need to have a good education to fit into *the world they'll live in tomorrow*. This script begins to touch on how students can be assisted to fit into the society of which they are a part through their education.

The fifth script considered here is one that can be argued is more problematic. It is that of Rebecca, a youth worker.

As a community youth worker, I believe nothing is more important than education. I see the *cycle of disadvantage* every day and I believe a great education has the *power to change lives*. From what I know, the National Plan for School Improvement will fund schools based on the *needs of students* so kids who need extra support, get extra support, giving them a better chance to finish school and *get a great job*. If we put opportunity in front of our kids through a stronger education system, we *grow stronger as a country* (Australian Government, 2013).

Here, the discourse of inclusivity and disadvantage is strong at the start. Rebecca argues the *cycle of disadvantage*, the *needs of students* and imbues education with the *power to change lives*. In all of the advertisements, this script most closely argues the subjectification purpose of education. However, Rebecca is then scripted to move from this discourse into the government's dominant discourse of national growth and economic rationalism. While it could be argued that stating the initiative will permit the disadvantaged to *get a great job*, the linking of this statement with the statement that an opportunity for education will allow us to *grow stronger as a country* deflates the former argument.

Each of the scripts considered here has a slightly different approach to what the purpose of education might be. However, when coupled with the tag lines already mentioned and also with the reasons for the initiative, explained in an earlier section, the strong discourse is that of economic rationalism and development of human capital. This has been re-stated in a recent media release (Phillips & Walters, 2014) where, discussing recently released statistics on Australia's poor world position across six measures in science, technology, engineering and mathematics, the journalists state is important because "science and innovation boost our standard of living and contribute to

economic growth and jobs”. The economic imperative is still being promoted in the media.

Discussion of Australia’s results in comparison to the rest of the world, one of the reasons publicly stated for the introduction of the Better Schools for Australia initiative, falls squarely into the development of human capital agenda for education. Kennedy (2014) explains how:

the human capital function is evident in the way in which international measures of student achievement are used as proxy measurements for the success of individual nation states’ education systems (and by implication, the success of their teachers) and therefore are seen to be measures of the human capital produced by these countries (p. 2).

While this discourse positions schools and funding arrangements, and by corollary, students in particular ways, it is also a discourse that positions teachers and pre-service teachers in important, and contestable, ways. This positioning is the subject of the next section.

Teacher and Teacher Education in the Accountability Era

For decades, debates and decisions about teacher education have been permeated with discourses of accountability and quality. While few would argue against the need for teachers both to be accountable and to be quality educators, the positioning of teachers within the profession is being subtly refashioned by the development of professional teaching standards that define what it means to be a quality teacher. However, the calls for greater accountability and better quality have emerged as the result of performance on international measures such as the Programme for International Student Assessment (PISA) (Australian Government, 2013; New South Wales Government, 2013). These calls have resulted in professional teaching standards which purport to describe what it means to be a quality teacher (Australian Institute for Teaching and School Leadership [AITSL], 2011) as well as new measures for accreditation of teacher education programs. Conway and Murphy (2013), writing about Ireland while acknowledging the global trend, refer to this coupling of a range of accountability issues with measures of performance as a “rising tide meeting a perfect storm” (p. 11) and they argue that this is part of a global education reform with its “with its new emphasis on standardisation, a narrow focus on literacy and numeracy and a reconfiguration from low/moderate to high-stakes accountability (p. 29).

Kennedy (2014) describes how teachers are positioned in the accountability milieu by drawing on the same framework of the purposes of education as previously described (p. 3). She argues that teachers can be positioned as “‘novice’ members of the profession who need to be inculcated into the existing culture and practices of the profession, and thereafter help to maintain the status quo” (socialisation) or “state functionaries who will enable students to enhance the standing of the country through increased success in international league tables of performance” (development of human capital) or “autonomous educators who can contribute to the common good through the fostering of their own specific interests and talents in creative ways” (p.

3). It can be argued that professional teaching standards promote one view of what it means to be a quality teacher, a view that can be argued as technicist in its approach.

Ryan and Bourke (2012) further argue that “bureaucratic, hierarchical and managerial controls replace cultures of collaboration; there are competencies and licensing rather than trust” (p. 2). In the race to prove that teachers and teacher education are accountable to the public and to the government, there is the possibility that the questions of being accountable to whom, for what and why could be ignored. One of the unfortunate aspects of professional teaching standards is that, given their claim to ensure quality, there will be no critique of what quality might mean. Is it quality to ensure that the development of human capital occurs so that a nation can be seen as ‘better’ than others in measures of particular subject areas? Is it quality to have all teachers subscribing to a ‘one size fits all’ view of what a quality teacher is? Sachs (2003) states that:

while any attempt to develop a ‘one size fits all’ version of standards may be attractive to governments, it may not be in the best interests of teachers teaching in remote areas, in difficult schools, or in multi-age settings where their competence will be judged on the basis of some idealized notion of what competent or excellent teaching might be (p. 185).

It is clear that there needs to be sound critique of the discourses of education, teacher quality and accountability.

Conclusion

It is clear, both from an examination of the rhetoric of the Better Schools for Australia campaign and from the current literature that the dominant discourse for education is one of economic rationalism and the standardisation of what it means to be a teacher. However, there is a long history of opposing views as to what the purposes of education are/should be. The discussion seems to be encapsulated in the framework of three distinct purposes as outlined in this paper. Plato (1955) would espouse the socialisation view of education. Many governments are less philosophical, but would probably agree with Plato providing that the economic rationalist view, the development of human capital, was also dominant. However, many teachers and educational researchers are questioning this view of education, preferring to look to the ways in which the individual can achieve self-actualization.

It seems, in the current climate, that discussions about the purposes of education and what quality education might be is at an impasse. It is suggested here that one possible way forward is global collaborative research into the how the purposes of education can be melded. It is not suggested that there is only one purpose: indeed, there is a constant interplay between competing purposes. However, it is imperative that there not be one dominant discourse, one that looks only to the economic good of the nation.

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A Correlation Study: English Teacher's Educational Background and the Students' School Final Exam Scores in South Sumatera, Indonesia

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Abstract

This study was to find out whether or not the English teachers' educational background could influence the students' English achievement at public primary schools in South Sumatera, Indonesia. There were 5028 primary schools (4235 public primary schools and 775 private primary schools) registered in South Sumatera. Purposive sampling technique was applied to this study. Therefore, there were only two cities and three districts becoming samples. Twenty five schools, twenty five teachers, and one hundred twenty five students were taken for data collection. To collect the data, documentation technique was applied. Teachers were asked to submit their recent certificates and schools were asked to provide their students' final exam scores of English. Lastly, *Pearson Product Moment* was conducted to find out the correlation level of the two variables and their significant influence. It was found that the *r-obtained* (0,362) with the significant level of 0,05/two-tailed test. The *r-obtained* < *r-table*, this showed that there was no significant influence between the English teachers' educational background and the students' English achievement. It was categorized as low level of correlation. Further, it was found that there was only 13,10% influence of the dependent variable to the independent variable.

Keywords: Educational Background, Students' Scores, and *Pearson Product Moment*

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Introduction

Human is inherited by the skill of socialization among them. To be well-accepted in social, someone must be able to communicate in appropriate ways. Communication is a dominant key of success in society. Then, language takes the role in this situation. However, in this world there are lot languages. The languages are different from one place to other places. For instance, Indonesia with its *Bahasa Indonesia* (Indonesian), Japan with its Nippon (Japanese language), Korea with its Hangul (Korean Language), China with its Mandarin (Chinese), USA with its English, and so on. As Anderson (2004) stated that there are many languages in this world and even researches cannot mention their numbers.

Main objective of expressing opinions and ideas will be achieved if speakers and listeners have the same linguistic properties. When they have different linguistic properties, the objective of communication is hardly achieved. However, it leads to miscommunication and perhaps it can cause bad effect toward the speaker and listener. For instance, when an American, who can only speak English, meets Indonesian, who can only speak basic English. The American wants to go to post office and he asks for the direction.

American : “Hello can you show me where the post office is?”

Indonesian : “Ehmm, it’s on the **west**. You can go to the **west** and take this street”

The post office is actually on the south. We can imagine that it would be a trouble for the American due to this misleading information. The American could get lost. This situation can even probably cause bad image of Indonesia. The American might even think that Indonesian does this action purposively.

Therefore, it is obviously important for everyone to be able to use other languages, especially world’s lingua franca. English is one of the world’s lingua franca. This is worldwide used. Indonesian have started their efforts in learning English such as joining to English courses, setting an English curriculum for primary up to university students, and joining English clubs at schools. Ministry of Education issued the regulation No: 060/U/1993 on 25 February 1993 about local content subject for primary schools students grade 4 – 6. However, some schools even have started earlier from grade 1.

Furthermore, the teachers’ educational backgrounds are also one of important aspects to be dealt with. On my brief observation about English teachers at primary schools, I found that there were some teachers who were from non-English education background taught the kids. The schools mostly assigned their class teachers to teach English. This was due to some factors. They are (1) English is not main subject at primary school. It is just a local content subject, (2) the schools did not have enough budgets to hire English teachers, and (3) Ministry of Education did not oblige the schools to hire English teachers.

In contrast, Tirtarahardja & Sula (2000, 41) stated that quality of education process could be caused by two things, they are inner components and its quality controllers. The inner components are students and facilities. Meanwhile, the quality controllers are teachers, headmasters, and administration staffs. These two things should be in

synergy to result best outputs. For example, schools have chosen best students based on their average scores at previous schools and teachers must support the students during their learning process. If this is not done well, it can cause bad output. Teachers must be aware that their learning background can also influence the students.

Based on the explanation above, the writer were really eager to know whether or not teachers' educational background gives significant contribution toward their students' English achievement at primary schools in South Sumatera.

Literature Review

In Indonesia, education is divided into some categories. They are these three:

(a) Formal education

Based on government regulation No: 32 year 2013, formal education is kind of structured and leveled education which is classified into three levels i.e. primary schools, high schools, and universities. Primary schools are the foundation of all education processes later on. There are many forms of it such as *Sekolah Dasar (SD)*, and *Madrasah Ibtidaiyah (MI)*. In this level, students will spend six years taking their class. Meanwhile, after finishing primary schools, the students will continue their study to high schools. High schools are in two level junior high school and senior high school. Indonesian call this junior high school by *Sekolah Menengah Pertama (SMP)*, and senior high school by *Sekolah Menengah Atas (SMA)*, *Madrasah Aliyah (MA)*, *Sekolah Menengah Kejuruan (SMK)* and *Madrasah Aliyah Kejuruan (MAK)*. Students are more directed to specialized knowledge in this level. Students also spend six years in this level, three years in junior high school and three years in senior high school. Lastly, in university level, the students are classified into bachelor degree, master degree, and doctoral degree.

(b) Non-formal education

This type of education is out of formal education context but it is still structured and leveled on its learning process. For example, education for young learners can be in form of kindergarten which is known as *Taman Kanak-Kanak (TK)*, and *Raudatul Athfal (RA)*.

(c) Informal education

Family and social life environment contribute to this informal education a lot. This kind of education is not structured and leveled. Students learn through interaction and experience. Actually, this education type gives more influences to someone's characteristics and knowledge rather than the two other types of education.

In those three levels, English is already introduced. However, English is still claimed as foreign language in Indonesia. Government reinforced English learning for all aspects of education through curriculum. In curriculum 2004, English learning is focused to improve the students' oral communication skills (BNSP cited in Nurhajati, 2012). However, this focus is hardly achieved since English's status is as foreign language. This shapes a situation where people will only use English on certain and limited occasion. Therefore, it influences to the students' English communication skills.

On the article of *Kompas* Newspaper, it is stated that, generally, English teaching process in Indonesia is not as it is hoped yet due to the students' orientation. The students are still oriented to scores not to skills.

In national curriculum, English is organized to be implemented from primary schools up to universities. For primary schools, English is classified as local content subject. This local content subject is schools' right to choose what subject will be implemented as it is mandated on UU No. 22 year 1999, UU RI No. 20 Year 2003, and PP RI No. 19 Year 2005. Therefore, there will be differences on the English implementation at each school. If the schools assume they need English, then they will implement it. On the other hand, if they do not need it, they will have other subjects such as handcrafting, and cooking.

This study entitled "*A Correlation Study: English Teacher's Educational Background and the Students' School Final Exam Scores in South Sumatera, Indonesia*". This descriptively explained the influence of English teachers' educational background on the students' English final exam scores.

Research Method

This study was done in South Sumatera by taking two cities and three districts as its sample. The one city is *Kota Palembang*. Meanwhile, the four districts are *Kabupaten Banyuasin*, *Kabupaten Ogan Ilir*, *Kabupaten Musi Banyuasin*, and *Kabupaten Ogan Komering Ilir*. This study has two variables, independent and dependent variables. The independent variable is teachers' educational background and the dependent variable is students' English achievement.

Based on the data, there were 4253 public primary schools in South Sumatera. Detail of schools distribution can be seen on Table 1. This study only focused on public primary schools. To pick the samples, purposive sampling technique was used. This sampling was aimed to select (1) districts and cities which are located near Capital city of South Sumatera, (2) districts and cities which most likely have same quality of infrastructures, and facilities, (3) districts and cities which probably implement English as their local content subjects at schools. Lastly, it was hoped that, by using the sampling technique, good data could be obtained.

Documentation was used as data collection. Two data used in this study was English teachers' educational background and students' English final exam scores. To obtain teachers' educational background data, teachers were asked to submit their recent certificate. Furthermore, to obtain the students' English final exam scores, the writers collected the data by having copies of the students' scores. Then, data obtained were analyzed into (1) coding the teachers' education background data; 0 for non-English education background and 1 for English education background, (2) classifying students' English achievement data into some classification worst, bad, moderate, good, excellent, (3) analyzing the influence of teachers' education background on the students' English achievement by *Pearson Product Moment* analysis.

Table 1. Population of Study

No	Area	Primary School		Total
		Public	Private	
1	Kota ^ Palembang	271	189	460
2	Kota ^ Pagar Alam	75	18	93
3	Kota ^ Ogan Ilir	258	28	286
4	Kota ^ Lubuk Linggau	86	16	102
5	Kota ^ Prabumulih	85	10	95
6	Kabupaten ^^ Banyuasin	480	65	545
7	Kabupaten ^^ Musi Banyuasin	432	56	488
8	Kabupaten ^^ Ogan Komering Ulu	462	72	534
9	Kabupaten ^^ Ogan Komering Ulu Timur	418	96	514
10	Kabupaten ^^ Ogan Komering Ulu Selatan	247	51	298
11	Kabupaten ^^ Ogan Komering Ilir	462	72	534
12	Kabupaten ^^ Muara Enim	366	41	407
13	Kabupaten ^^ Lahat	311	33	344
14	Kabupaten ^^ Musi Rawas	300	28	328
TOTAL		4253	775	5028

Source: Diknas Pemprov

Note: ^ means city and ^^ means district

Results and Discussions

Data were obtained from *Palembang*, *Banyuasin*, *Musi Banyuasin*, *Ogan Ilir*, and *Ogan Komering Ilir*. Five schools were taken in each area as samples. And, the results there were 19 schools which implemented English and 6 schools which did not implement English. In detail, all primary schools in *Palembang*, *Banyuasin*, and *Musi Banyuasin* implemented English as their local content subject. Two out of five schools in *Ogan Komering Ilir* did not have English as their local content subject. Furthermore, four out of five schools in *Ogan Ilir* did not implement English as their local content subject. In percentage, it can be concluded that 76% primary schools in South Sumatera implemented English as their local content subject and 24% primary schools did not have English as their local content subject. This condition happened due to the respond of the government regulation about national education system. Where the government mandated all local governments to determine their own local content subjects as their area needed. (see UU No. 20 year 2003, PP No. 19 year 2005, and UU No. 22 year 1999). In South Sumatera, schools which were in eastern part mostly applied cooking class as their local content subject. From the data above, the writer only focused to the 19 schools which contributed the data of teachers and students' scores.

In addition, the writer found that there were thirteen schools whose the English teachers were from English education background. Meanwhile, there were six primary schools whose English teachers were from non-English education background. In percentage, there were 68,42% English teachers whose education background were from English study program, and 31,57% English teachers whose education background were from non-English study program. This case was illustrated clearly on figure 1.

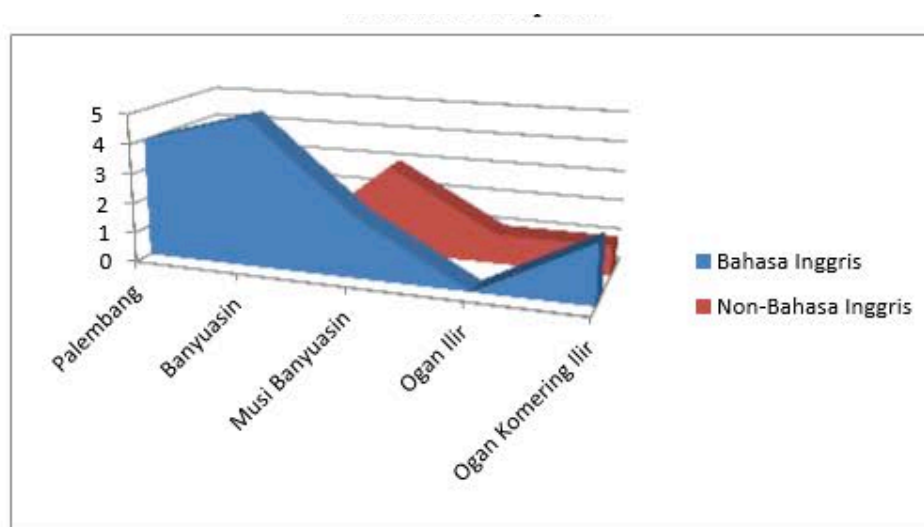


Figure 1. English Teachers' Education Background

To see the students' English final exam scores, writer took the data from English final scores academic year 2011-2012/2012-2013/and 2013/2014. There were five students taken in each academic year. The highest score was 8,14 and the lowest score was 7,04. The scores gotten were classified into five categories; they are worst, bad, moderate, good, and excellent.

In general, the students' scores were mostly classified into good and excellent categories. Eighteen schools were classified into good category, the average scores of the eighteen schools were (7,23); (7,81); (8,06); (7,78); (7,4); (7,35); (7,26); (7,04); (7,84); (7,14); (7,33); (7,17); (7,46); (7,35); (7,80); (7,48); (7,79); and (7,36). However, One primary school (8,14) was classified into excellent. None of the schools were classified into bad or worst categories.

Finally, to see the influence of teachers' education background on the students' English achievement, the statistics analysis was applied through *pearson product moment* analysis. It was found that r -gotten +.362. This number could be interpreted as (1) positive correlation; and, (2) weak correlation or based on Cohen in Pallant (2005), it was medium correlation. Its significant level was 0,362. This meant that variable 'x' did not significantly influence variable 'y'. From the statistics analysis, it could be concluded that teachers' education background only contributes 13,10% to the students' English achievement.

The writer was surprised to knowing that there was very little contribution from education background and the students' English achievement. At first, the writer assumed that there would be strong influence and significant contribution. However, from short observation and interview to the students, the writer was no longer surprised. The students clarified that sometimes the teaching way of non-English education background teachers was engaging them to love English. The students were encouraged to motivate themselves to learn English. The students were not forced to do what the teachers wanted they do. Non-English education background teachers tend to apply their self-learning ways to the students. In contrast, English education

background teachers tended to apply all knowledge of teaching techniques which might not properly match to the students.

Conclusion

Having good teachers is a demand of all students. Sometimes, students do not really care of what major their teachers are. Students only know that they enjoy learning with him/her. Therefore, this research was done because the researcher wanted to see whether or not this assumption applied in certain cases. The results showed that the education background gave very little contribution to someone's achievement. And, it was proven that all students' score at final exam were mostly in good categories. Many other factors which might make this happen such as the students took an English course after school or non-English education background teachers were more creative and innovative in teaching than English education background teachers.

The logo for the International Association of Teachers (iafor) is centered on the page. It features the word "iafor" in a light blue, lowercase, sans-serif font. The text is enclosed within a circular frame composed of two concentric, slightly irregular lines. The outer line is a light blue color, and the inner line is a light red color. The overall design is minimalist and modern.

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Situation, Problem, and Need in Teaching and Learning Process based on Research-based Learning Approach of a School belonging Mahasarakham Provincial Administrative Organization

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Abstract

The purpose of this study was to investigate the situation, problem and need related the teaching and learning process based on Research-based Learning Approach of a school belonging Mahasarakham Provincial Administrative Organization. This study a Nakha Wittayakhom School was selected by using the purposive sampling technique to be the sample group. The 25 teachers from 8 learning areas; Mathematics, Science, Thai Language, Social Studies, Religion and Culture, Health and Physical Education, Arts, Occupations and Technology, and Foreign Languages were the sample of this study. The instrument of this study was a 5 rating scales questionnaire which consisted of 3 areas; (a) situation, (b) problem, (c) need. Each area consisted of 4 aspects; 1) an instructional preparation, 2) an instructional activity, 3) a teaching and learning media, 4) an instructional assessment and evaluation.

The results of the study indicated that in the field of situation, there were 3 aspects in high level (3.70-3.95) except the aspect of the instructional activity was in the medium level (2.78). The field of problem; there were 3 aspects in the medium level (3.08-3.19) except the aspect of the instructional activity in the high level (3.51). Finally, all aspect of need was in the high level (3.90-4.14). Moreover, the professional development regarding the integration of research in to the teaching and learning process was also be require.

Keywords: Research-based learning approach, Situation, Problem, and Need Assessment

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INTRODUCTION

The Constitution of the Kingdom of Thailand B.E. 2540 (1997) stated clearly on the part of rights and liberties in education that there are a decentralization of the educational administration to the local government (The Government Gazette, 1997). As a result, there are many schools still remain belong the office of the basic education commission but some school is willing to under the provincial administrative. The provincial administration has the directly responsible to manage the schools which under the provincial administrative including policy, budget, general management etc. Because of each provincial has the different policy that makes the schools belonging them had the different pros. Mahasarakham provincial administrative give more attention to improve the education especially the students' thinking skills. The education policy focus on improve the students for the 21st Century; life and career skills, learning and innovation skills, and information media and technology skills (Worapot Wongkit-rungreng and Atip Jittirerk, 2011).

Moreover, the students' higher order skills are emphasized (Office of the National Education Commission, 2003). One of method to improve all of aspect aforementioned is integrate research based learning (RBL) approach in to the teaching and learning process. However, although they have the policy to improve the education but they still cannot meet the goal of policy. Many report showed that they encounter with a lot of problems about the budget, person, and school management (Institute for Promote Science and Technology, 2003; Buaraphan k. etc., 2009; Ditchai Kaenthao, 2013; Sitthisak Chindawong; etc., 2013).

Thailand has recognized in the important of the education. The education has stipulated as a strategic plan of national economic and social development since the first plan until the current (B.E. 2555 - 2559). One of which state that "The education have to develop a community of life-long learning and sustainable" (Office of the National Economic and Social Development Board, 2554). Moreover, many reports show that research is one of equipment of person for analysing, collecting, acquiring knowledge, and solving problems. There are a lot of educators applying research in teaching and learning process and called Research based Learning Approach (RBL). Research based Learning Approach is one of the pedagogy to encourage students learning through the enquiry process, thinking in critically and integrity to new knowledge (Saowapa Vipadee, 2012). This method includes using research process or findings as a foundation for learning process pursuing students to enable knowledge and develop their higher order thinking skills. The instructor or teacher should use a variety of teaching methods directed students the creation of desirable features. Therefore, RBL is become one of the teaching strategy which many schools pick up to be the alternated instructional method for promoting the school accomplish the national educational standard.

The educational situation in Thailand is not satisfied. The students learning outcome did not meet the educational goals. Many results of the national study such as O-NET, GAT, PAT of Thai students indicated that Thai students had a tend to decrease from B.E. 2554 to 2556. Moreover, the scores of Thai students from the Program for International Student Assessment Test (PISA) of 2009 were in the rate of lower than the international average (OECD) in all subjects. Many research showed that one of the causes that effect to the quality of Thailand education due to the limitations of

education such as the ration of the teacher and students, class size (Office of Research and Development Office of the Education Council Ministry of Education, 2012). Moreover, the curriculum and the learning process do not support the students' thinking skill process. Almost teachers in Thailand also still used the transferring knowledge rather than encouraging students to develop skills in analytical dare to express their opinions and have the ability to seek answers for themselves (Department of the Ministry Education, 2545). However, the analysis of the cause of the children's educational outcomes Thailand aforementioned was considered as the main problem and cause in a macro level. As a result, making the education process more efficient, we should understand the depth of the problem and its causes in the micro level especially in the different context such as the problem of the school under the provincial Administrative Organization.

Nakha Wittayakhom School, a representative school under the provincial Administrative Organization, showed that they still had not established on the national education goals. The school executives and teachers had realized to the importance of education for sustainable development, promoting lifelong learning skills, focusing on learning by doing, practicing inquiry skills, teamwork skills, and higher order thinking skills. Moreover, the teachers' needs on the research capacity development, and the integrating research based learning approach in teaching and learning process was also be require. As aforementioned, the school attempted to solve the problem and achieved the goals; they had agreement to using the research based learning approach to be the main idea for creating the learning activities (Nakha Wittayakhom School, 2001). The researcher studied the situation, problems, and needs in teaching and learning process based on research-based learning approach which was appropriate to the school context. This information will be useful and can be applied to conduct the school meet the educational standard especially in professional development. Consequently, the teachers can create the learning activities which enhancing the students' deepen knowledge, inquiry skills, higher order thinking skills, particularly promoting the features of the researchers. Additionally, this can encouraging the students to be a learning person and developing knowledge based society as well.

RESEARCH PURPOSE

The purposes of this research was investigating the situation, problem and need related the teaching and learning process based on Research-based Learning Approach of a school belonging Mahasarakham Provincial Administrative Organization.

RESEARCH DESIGN AND METHOD

Research Design

The research was a survey methodology.

Participants

The target participants consisted of the teachers from Nakha Wittayakhom School, Mahasarakham Provincial Administrative Organization. There were 25 teachers from 8 learning areas; Mathematics, Science, Thai Language, Social Studies, Religion and Culture, Health and Physical Education, Arts, Occupations and Technology, and Foreign Languages.

Research Instrument

The research instrument of this research was a questionnaire which divided into 2 sections. The first section was a 5 rating scales questionnaire which consisted of 3 areas; (a) situation, (b) problem, (c) need. Each area consisted of 4 aspects; 1) an instructional preparation, 2) an instructional activity, 3) a teaching and learning media, 4) an instructional assessment and evaluation. The second section was an open ended questionnaire. This section was conducted to collect data about participants' view on the urgent need of developing integrated research based learning approach in teaching and learning process. The questionnaire was designed and checked for the structural validation and the appropriateness of language used by experts' panel consisted of five educators.

Procedures

This study aimed to explore the situation, problem, and need related the teaching and learning process based on Research-based Learning Approach. The basic data was gathered not only from the literature review but also the teachers' perception. The questionnaire was used to be an instrument for collecting data. It was designed, examined and verified the structural validation, and the appropriateness of language by five experts. It showed the Item of Congruence (IC) between 0.6-1.0. The 25 teachers of Nakha Wittayakhom School were asked to complete the questionnaire which consisted of 2 sections. The first was a 5 rating scale question which related to (a) situation, (b) problem, and (c) need in the areas of an instructional preparation, an instructional activity, a teaching and learning media, and instructional assessment and evaluation. The second section was the open ended questionnaire asking teachers ranking the urgent needs of integrating research based learning approach in teaching and learning process.

Data Analysis

The data analysis was carried out using two different methods as following;

The first was quantitative analysis, which was done by scoring teachers' responses to examine the levels of situation, problem, and need and then reporting these scores with the standard deviation, and mean. Each answer from the questionnaire of the five level rating scales was weighted as follows :

5	means very high
4	means high
3	means medium
2	means low
1	means very low

Results of the suitability were categorized into 5 levels

4.51 – 5.00	means very high
3.51 – 4.50	means high
2.51 – 3.50	means medium
1.51 – 2.50	means low
1.00 – 1.50	means very low

The second was qualitative analysis, which analyse content and generate categories and themes for describing teachers view of the situation in the school.

RESULTS

Regarding the information of situation, problem, and need, the results showed that the teachers recognized to use the research based learning approach but there were problems and needs to develop their potential in the teaching and learning process. The mean scores of each aspect of situation, problem and needs were shown in Table 1.

Table 1: The mean scores of the situation, problem, and needs of the teachers' perception related the Research-based Approach.

No.	Items	Situation		Problem		Need	
		X	S.D.	X	S.D.	X	S.D.
Instructional Preparation							
1	Understanding in the learning outcome, core concept and curriculum	4.08	0.49	3.00	0.80	3.80	0.70
		high		medium		high	
2	Creating the lesson plan which congruence with the research based learning approach	3.42	0.70	3.00	0.60	3.80	0.70
		medium		medium		high	
3	Understanding in core concept	4.10	0.60	2.90	0.80	3.76	0.97
		high		medium		high	
4	Having a depend Understanding in concept of research based learning approach	3.44	0.58	3.40	0.60	4.08	0.86
		medium		medium		high	
5	Having the learning objective focus on inquiry and research skills	3.46	0.78	3.63	0.80	4.04	0.84
		medium		high		high	
	Mean	3.7		3.19		3.90	
		high		medium		high	
Instructional Activity							
6	The instructional activity promote students using research process skills	3.00	0.82	3.66	0.90	4.24	0.72
		medium		high		high	
7	The instructional activity promote students do project by themselves	2.80	0.70	3.28	0.84	4.04	0.89
		medium		medium		high	
8	Integrating research process into learning activity	2.80	0.60	3.50	0.90	4.20	1.00
		medium		high		high	
9	Using the related research results in the instructional activity	2.58	0.90	3.72	1.00	4.20	0.90
		medium		high		high	
10	The instructional activity promote students get more understanding about the research methodology	2.72	0.70	3.40	0.90	4.02	0.71
		medium		medium		high	
	Mean	2.78		3.51		4.14	
		medium		high		High	
Teaching and Learning Media							
11	Using the local learning resource and situation related to context incorporate in the instructional activity	3.60	0.90	3.20	0.84	4.12	0.73
		high		medium		high	
12	Using a lot of learning media which congruence to the content and learning objective	3.96	0.68	3.08	0.70	3.90	0.80
		high		medium		high	
	Mean	3.78		3.14		4.01	
		high		medium		high	

No. Items		Situation		Problem		Need	
		$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Instructional Preparation							
Instructional Assessment and Evaluation							
13	Giving the students the evaluation's feedback	3.90	0.70	3.20	0.70	3.90	0.90
		high		medium		high	
14	Using many methods and assessment tools in the evaluation process	4.00	0.60	2.96	0.68	3.90	0.80
		high		medium		high	
	Mean	3.95		3.08		3.90	
		high		medium		high	

The results showed that in the field of situation, there were 3 aspects in high level (3.70-3.95) except the aspect of the instructional activity was in the medium level (2.78). The field of problem; there were 3 aspects in the medium level (3.08-3.19) except the aspect of the instructional activity in the high level (3.51). Finally, all aspect of need was in the high level (3.90-4.14).

Additionally, the section of open end questionnaire was the question asking for ranking the urgent problem that need to improve. Teachers' responses regarding their view were qualitatively analysed. The researcher looked the meaningful statements in their responses to the question, code them, and put them into categories. Finally, teachers' views of the problem that urgent needs to improve were grouped into 4 major categories: 1) instructional activity, 2) learning media and resources, 3) professional development, and 4) evaluation and assessment processes. Numbers of teachers responding to each category were presented as percentage in Table 2 and Figure 1.

Table 2: The teachers' view about the urgent problem that need to improve

Items	Frequency	Percentage
1. Instructional activity	55	47.82
2. Learning media and resources	31	26.96
3. Professional development	27	23.48
4. Evaluation and assessment	2	1.74

Regarding the percentage of the teachers' perception found that the percentage of the integrating research methodology into the instructional activity was highest (47.82%). The second was learning media and learning resources (26.96%). The third was the teachers' professional development (23.48%) and the last was the evaluation and assessment processes that correspondence to the present-day (1.74%).

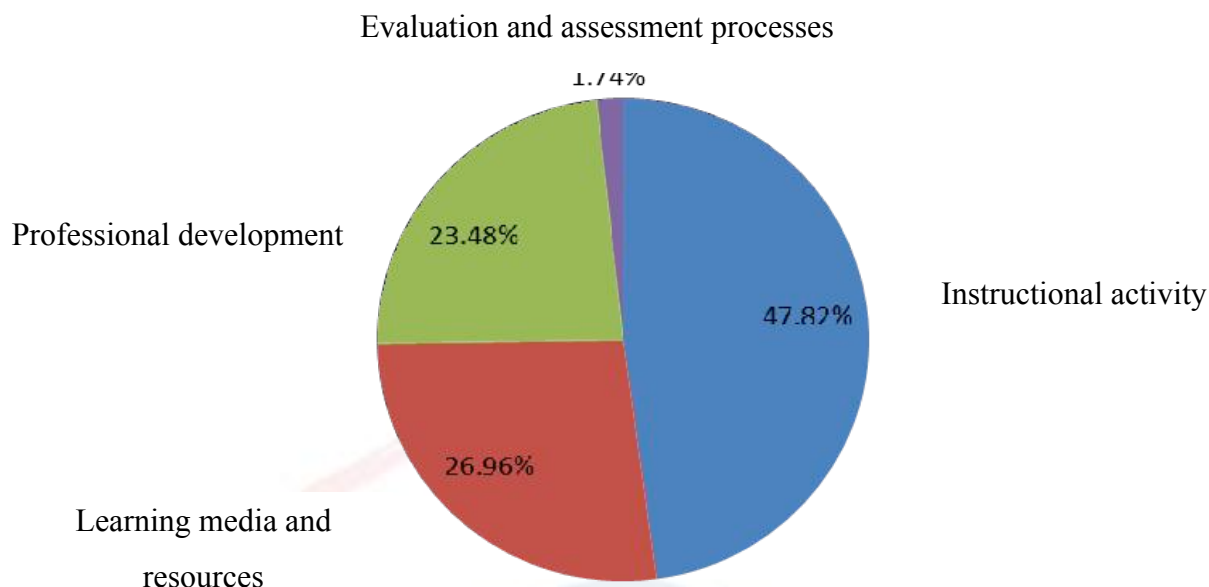


Figure1: The percentage of teachers' view on the urgent need of developing integrated research based learning approach in teaching and learning process.

Concerning the Instructional activity, some teachers' responses indicate that they need to know how to use the instructional related research based learning approach into the classroom. The teachers' quotes were as follow:

"I lack of the confident to use the instructional activity related the research based learning approach in to the classroom although I had the training program about research based learning approach."

Teacher# I

"I use the repeated instructional activity because I have no idea to create the new activity."

Teacher# II

Regarding the learning media and resources, the teachers stated that the school do not have enough the media and equipment. The teachers' quotes were as follow:

"I try to use the laboratory in the science classroom but the equipment is not enough such as beaker, thermometer, and the chemical."

Teacher# III

"There are a lot of computers and projector in the classroom that I think it is enough for all of students. However, when I assign students to use the computer for doing the assignment, I found that a lot of them have a problem such as broken, and cannot access to internet etc."

Teacher# IV

Regarding the professional development, the teachers stated that the school do not have enough the media and equipment. The teachers' quotes were as follow:

"I need more professional development especially the constructing the learning media."

Teacher# V

"In Thailand, the educational policy is often changing in every area including teaching learning process; evaluation and assessment process that encourage me need more professional development."

Teacher# VI

Regarding the evaluation and assessment processes, the teachers emphasized that they need to development their assessment processes that correspondence to the present-day. The teacher's quote was as follow:

"The national test in the present day focus on the intellectual skill more than knowledge so I think we can practice student to familiar with the test by using the similarly test in the classroom."

Teacher# VII

CONCLUSIONS AND DISCUSSIONS

Regarding the situation related the teaching and learning process based on research-based learning approach, the data showed that in the aspect of instructional preparation ($\bar{X} = 3.70$), teaching and learning media ($\bar{X} = 3.78$), and instructional assessment and evaluation ($\bar{X} = 3.95$) were in high level but in the aspect of instructional activity ($\bar{X} = 2.78$) was in medium level. The information indicated that the teachers had awareness in the important of the learning and teaching process based the research based learning approach. They tried to construct the activities, using a lot of media and assessment methods conform to the research based learning approach in their classroom. However, the teachers had not enough knowledge and lack of the depth understanding in the research based learning approach as a result they could not applied to the teaching activities as well. It was found that the teachers were trying to integrate research-based learning approach to the teaching and learning process in the classroom. It met the requirements of the Education Act of 2542, as amended Act 2545, Chapter 4, Section 24, Item 5 which stated that the learning process must support learners and teachers using research as part of the learning process. The instructors have to create and facilitate a learning environment, learning media and resources for learning and get more a deepen knowledge including the ability to use research as part of the learning process (Office of the National Education Commission, 2003). This study consisted with the study of Buaraphan k. etc. (2009) found that most teachers in the metropolitan had a level of compliance keep up with the educational reform on high levels. Therefore, they should encourage using the research based learning approach in the learning and teaching process.

As regards of the problems related the teaching and learning process based on research-based learning approach, the data showed that in the aspect of instructional preparation ($\bar{X} = 3.19$), teaching and learning media ($\bar{X} = 3.14$), and instructional assessment and evaluation ($\bar{X} = 3.08$) were in medium level but in the aspect of instructional activity ($\bar{X} = 3.51$) was in high level. Because of the teachers lacking of a development related the research based learning approach directly, they also got the policy from the school director and applied to their classroom by themselves. A lot of

professional development could not response their requirement and lack of the continuity. Additionally, most of training program for professional development focusing on the theoretical framework that could not promote the teachers understand thoroughly to the activities which used in the classroom (Pattharachai Patthanasuwan, 2005). Many of training programs in Thailand were not emphasize in practical, lack of concerning in the actual context of the school. Therefore, the professional program should shift to the workshop focusing on sharing ideas, brainstorming to find the idea for applying new knowledge to their classroom (Verawut. Makasiranon, 2006).

Considering the needs related the teaching and learning process based on research-based learning approach, the data showed that all aspect were in high level; instructional preparation ($\bar{X} = 3.40$), instructional activity ($\bar{X} = 4.14$), teaching and learning media ($\bar{X} = 4.04$), and instructional assessment and evaluation ($\bar{X} = 3.90$). The results suggested that teachers realizing to the importance of self-development to improve their knowledge in order to keep pace with the world changing including the core concepts, learning and teaching pedagogy, teaching strategies. They tried to promote their potential to meet the requirement of the educational act B.E.2542. It stated that the education had emphasized to enhance the students to have the desired characteristics, ensure to improve the students' achievement, promote students higher order thinking skills, and had a high quality of life. Consistent with the direction and goals of education reform in the 21st century which required that make Thai people having the skills for life and career, learning and innovation, and information, media, and technology and get more the competencies needed in the 21st century as well. (Worapot Wongkit-rungren and Atip Jittirerk, 2011) Moreover, the report of the Institute for Promote Science and Technology (2003) stated that the teachers in Thailand needed the self-development in high level including the areas of learning media, learning and teaching pedagogy, and evaluation and assessment process. Additionally, Buaraphan k. etc. (2009) said that the teachers in the area of metropolitan need more professional development belonging to the educational reform that emphasized the student center. Therefore, the government and the related organisation should give priority to continuity teacher development and meet the demands of the teachers and provide education more effectively.

Furthermore, the result of analysis the priority of the issues which teacher urgent need to development showed that the first issue was the integration of research in to the teaching and learning process (47.82%). As a result of the teacher's lack of insight understanding, they lack of the confidence in integrating research to teaching and learning process, therefore, is why we need to develop in this issue. This was consistent with the studies that suggested most of Thai teachers lack the knowledge and skills to do the research and believe that the research is a difficult burden (Nantarat Charoenkul, 2008). Therefore, they wanted to improve teaching and learning process which integrating the research simultaneously, Teachers also need more knowledge, skills, instructional strategies to cope with the world changing for making the effective classroom (Buaraphan k. etc., 2009; Sitthisak Chindawong; etc., 2013) The second was an issue of learning medias and learning resources (26.96 %). Many reports showed that most schools still lack of educational technology, and teaching materials that affected the teacher's level of self-development needs in this issue (Nantarat Charoenkul, 2008; Worasit Nomnualsri, 2012; Ditchai Kaenthao, 2013). The third was the professional development (23.48%). Most of teachers had

awareness in the world changing and national educational reform that made them changing their strategies in teaching. The conceptual framework for learning in the 21st century has clearly stated that the students need to have knowledge in core subjects, have skills in life and work, skills in media and technology, and skills in learning and innovation (Worapot Wongkit-rungren and Atip Jittirerk, 2011) as well as various forms of measurement and evaluation, focusing on higher-order thinking and critical thinking. Aforementioned was the force to made teachers want to develop themselves continuously, which is consistent with the findings suggested that many teachers want to develop themselves continuously (Pattharachai Patthanasuwanna, 2005; Sitthisak Chindawong; etc., 2013). The last issue was the evaluation and assessment processes that correspondence to the present-day(1.74%). As the result of the paradigm of the evaluation process shift from knowledge into the intellectual skills, many of the national tests of Thailand emphasized to thinking skills. The teachers were aware that students will higher score, if they familiar with the test also. Therefore, teachers have a need to develop-themselves ability to generate the intellectual tests and use in the classroom. This was consistent with researches that suggested many teachers need to develop their own in the assessment process (Buaraphan k. etc., 2009; Sitthisak Chindawong; etc., 2013)

RECOMMENDATIONS

This study was implemented in the specify area; Nakha Witayakhom School, Mahasarakham which represent the school belonging the Provincial Administrative Organization. This is a basic study which the data gained from this study will be the basic information using for enhance the learning process and doing the school academic plan for promote the school potential.

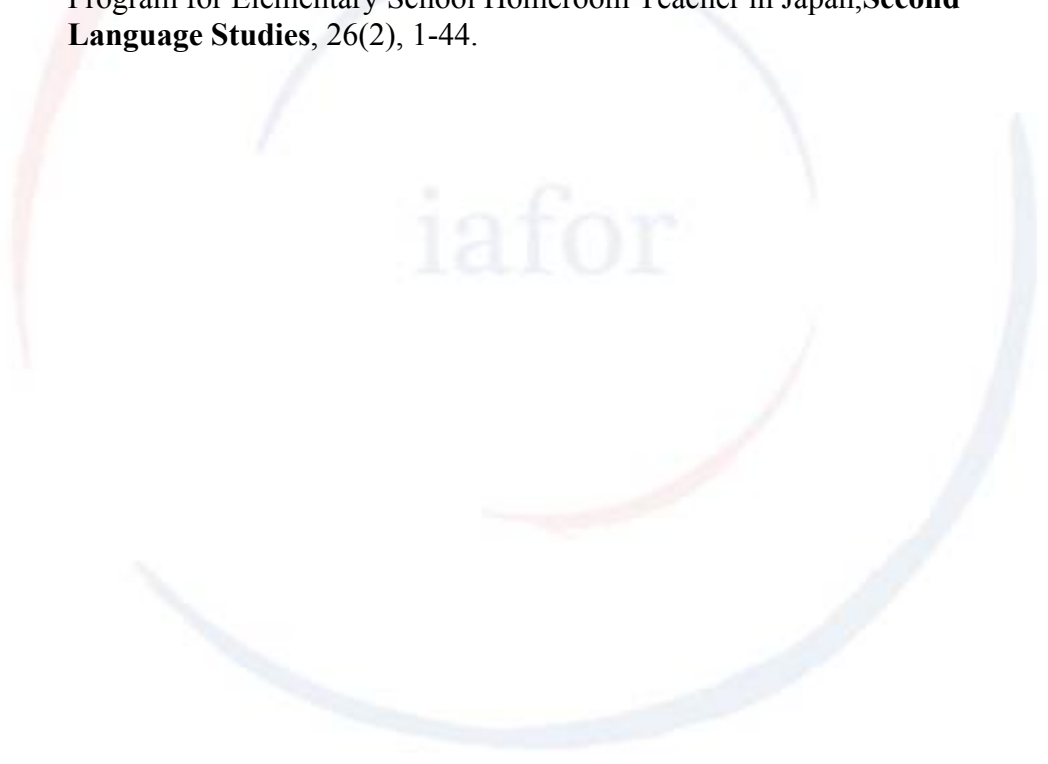
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The logo for the International Association of Teachers (iafor) is centered on the page. It features the word "iafor" in a light blue, lowercase, sans-serif font. The text is enclosed within a circular frame composed of several overlapping, semi-transparent arcs in shades of blue and red, creating a dynamic, swirling effect around the central text.

Assimilate the Individual 'I' into the Collective 'We'? Mainland China Students' Localisation and Adaptation during their Study in Hong Kong

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Abstract

The binary concept of globalise/localise, similarities/differences as well as the issue of actualise/neutralise (Vischer, 1989, 1996; Hall, 2003) constitutes the major focus of this study. Framing the above into the cross-boundary education, it would be interesting to know how 'diasporic consciousness' re-generates Mainland China students' identity and sense of belonging. More specifically, this paper aims for an understanding of students from Mainland China's psychological perceptions and social needs during their study in Hong Kong. Previous survey on students from Mainland China revealed that along with their learning experiences, students are constantly confronting with the struggles of localisation and adaptation to the Hong Kong community. Hence, from a social-psychological perspective, we will take a close look into two questions: What are the Mainland students' perceptions? How do they localise and assimilating themselves into the Hong Kong community?

The empirical work of this study was conducted to a group of 28 students from Mainland China studying in Hong Kong. Additional interviews were also conducted to teachers. Findings suggest that in general, the 'diasporic consciousness' drawn the students to reflect on the labelling effects of 'Gangpiao'. Students expected a multi-cultural learning experience and they would like to build friendship between local peers in order to blend into the Hong Kong community. Mutual acceptance was another important issue that came to attention. They also showed consciousness about their identities during their study. This further indicates that they had exercised self-actualisation/neutralisation, localisation/adaptation activities so as to assimilate the individual 'I' into the collective 'We'.

Keywords:

Cross-boundary education, Mainland China students, diasporic consciousness, self-identity, sense of belonging, self-actualisation, neutralisation

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Introduction

This paper is concerned with the relevance of globalisation and localisation, attachment and detachment and, in particular, how identity, localisation and assimilation are generated in the stage of exile. More specifically, this paper aims to reveal an understanding of Mainland China students' perceptions of self-identity and sense of belonging during their cross-boundary study in Hong Kong. Looking at the issue in a social-psychological perspective, this paper also articulates the concept of 'diaspora', represents people as not only being deterritorialised, cross-boundary and estranged, but argues that they use "multiple masks and a repertoire of performances to conceal an absence of self" (Höpfl, 2007) so as to re-generate an identity and a sense of belonging for oneself. It also highlights the salient needs for identity and individuality through self-actualisation and neutralisation activities (Vischer, 1989; 1996). Framing the above into the cross-boundary education, it would be interesting to know how Mainland China students assimilate themselves into the Hong Kong community.

Exile, diaspora consciousness, identity and sense of belonging

The concepts of '*exiled*' and '*diaspora*' are arguable. Exile as interpreted by Milosz is a stage of alienation and loss of harmony with the surrounding space and the diasporic experience creates anxiety of the unfamiliar and nostalgia (Milosz, 1998). The issue of diaspora has long been studied by academia in the area of humanities and social science. Vertovec uses diaspora to describe people being deterritorialised, transnational and exiled (Vertovec, 1999). Chander defines "diaspora [as] groups who maintain ties to a homeland while living abroad... [the attempt to] accommodate the dual loyalties" (Chander, 1999, p.1005). Brubaker also claims that nowadays definitions of diaspora are not limited to a sharp and definitive break with a homeland; some of those living in the diaspora are guest-workers, while others are immigrants, expatriates etc. In view of the above, we attempt to extend and apply the concept of exile and diaspora to the students of cross-boundary study. To adapt the concepts of diaspora and exile to the cross-boundary study: metaphorically, the cross-boundary programmes and Mainland China students are being exiled from his/her homeland, and their nostalgic dislocations from geographical origins can be seen as an analogy. Applying the concept of diasporic to the cross-boundary study, students are literally being 'casted away' from families and friends exiled from his/her 'homeland' into a new city, where he/she becomes a stranger, with all the negotiations of entry and accommodation that this demands. This prompts feelings of 'being faraway yet so close' and being simultaneously 'exiled' and 'detached' during their study.

Vertovec finds that the diaspora in exile will generate 'diaspora consciousness', the negative and positive experience of being discriminated and identified with one's own historical heritage (Vertovec, 1999, p.8). Clifford suggests that "diaspora consciousness lives loss and hope as a definite tension" (Clifford, 1994, cited in Vertovec, 1999). Axel argues that the context of diaspora is "a process of displacement and demoralization that facilitates the productions of both difference and identity" (Axel, 2004, p.30). Hall adapts Derrida's 'différance' to illustrate the trace and the positioning of the unstable, metaphorical and even contradictory identity constituted by similarities and differences (Hall, 2003). In a similar view, Brubaker expresses the view that diaspora is now awakened in search of true identity in a

temporally extended, inter-generational process and claims for “boundary-maintenance”: the preservation of a distinctive identity *vis-a-vis* the host society, reluctance to be assimilated and emphasises the “homeland orientation” (homeland as authoritative source of value, identity and loyalty) in the definitions of diaspora (Brubaker, 2005). All these suggest that the constant search of self-identity and sense of belonging is a result of the diaspora consciousness. Höpfl claims that the site of performance as seen in religious rituals is nevertheless regulated by an anterior authority; metaphorically, educational institutions are hierophantic spaces and their sites of performance are regulated by the absent author-creator from afar in order to turn the individual “I” into the collective “We”. These “converts” or “the believers” actively demonstrate their commitment to the values and customs of their new land (Höpfl, 2007, p.15). Following the same vein, Hopfl’s view suggests that like the inhabitants of a diaspora, students may use a strategy of “converts” or “believers” to re-generate a sense of belonging, an identity for oneself. Sense of belonging and identity to the transnational and overseas programme are frequently addressed by students. In a study, Lau and Ng’s study finds that the struggles for identity rest in multiple dimensions of societal, self, school and programme (Lau and Ng, 2014). Another survey on students from Mainland China studying cross-boundary programmes in Hong Kong also brings out the concerns of social, cultural and mutual acceptance. Other burning issues include daily living and emotional adaptations. In order to accommodate and blend into the Hong Kong society, the students from Mainland China expressed that they would change their thinking and living styles (Hong Kong Ideas Centre, 2013). To a large extent, the above literature and studies purport the diasporic consciousness during the stage of exile, which can be considered as a kind of boundary-maintenance. On one hand, the dilemma to preserve one’s identity by maintaining strong ties with one’s personal life to maintain sense of belonging, while on the other, accommodate to the new by changing ways of thinking and living.

Research design, methodology and analysis

Literature review was first conducted for a holistic understanding of the issue of cross-boundary education and its implementations. This was followed by an empirical study conducted in one of Hong Kong’s largest educational institution. A questionnaire survey was conducted to a group of 28 students from Mainland China studying different Higher Diploma Programmes (18 in Business and Management, five in Design, two in Hotel, Service and Tourism Studies and three in Engineering) in the participated institution in Hong Kong. The questionnaire contained 20 close-ended items and one open-ended qualitative overall comment to addressing their expectations of their cross-boundary study, their sense of belonging and identity and their localisation/adaptation to blend into the Hong Kong community. The close-ended type questions were on a 6 points Likert scale (1 is Strongly Disagreed, 6 is Strongly Agreed). Additional interviews with three teachers who worked closely with the students were also conducted to draw their observations and facilitations on the students’ assimilation and adaptation to their studies and daily lives in Hong Kong. Frequent and mean were generated from the data of the close-ended items from the questionnaires while the open-ended comments were transcribed and analysed. The individual interviews with the teachers were recorded and transcribed. Thematic analysis was adopted to identify the theme from the qualitative data. Key words were identified for establishing the core themes for analysis. For the coding purpose,

phrases were used and the interview notes were then coded and used for the findings and discussions.

Findings

Responses from the questionnaires indicated that out of the 28 students, six (21%) had the experiences of studied abroad (two in United Kingdom, one in South Africa, one in Australia, one in Canada and one in France). To address learning expectation and needs when studying cross-boundary programmes, data collected from the questionnaires revealed that all the 28 students (100%) expected multi-perspective teaching contents, interactions, mutual help and peer supports to build and share knowledge in a multi-cultural learning environment. Nearly all of them preferred pair-up tasks and peer learning teams to facilitate their learning as well as rapport building with local students (96%). All of them (100%) preferred contextualisation (glocalisation) of the contents to nurture their intercultural experiences. 27 students (96%) would like to mingle with local Hong Kong students and all of them (100%) would like out-of-class connections and communications with teachers and students. All of them (100%) appreciated the supports and communication channels provided by the school that nurtured their intercultural experiences besides the subject knowledge. On the contrary, most of them (80%) regarded the nature of the cross-boundary study brought forward their views on sense of belonging and identity; and as students from Mainland China, they did not have much affiliation with the Hong Kong community. The above findings also set the scene to address the pertinent cultural issues from a social-psychological perspective. The qualitative comments showed that they considered studying a cross-boundary programme gave them the feelings of ‘alienation’ from their home country, and thus maintaining ‘collective identity’ and ‘ties’ with their local fellow students since they regarded themselves as “Gangpiao” (the diaspora in Hong Kong). Sometimes they rather “kept an arm’s length with the local community” because of “the recent conflicts between Hong Kong people and the tourists from Mainland China”¹. Interestingly, these qualitative comments contradicted with the responses from the close-ended items and it could be a result of their non-pleasant experiences, struggles and frustrations during their endeavours to assimilate themselves into the community of Hong Kong.

Interviews with the three teachers revealed that both local students and teachers’ “openness and acceptance to students from Mainland China is important”. With an open mind, teachers would adopt all necessary accommodation and play an active role in communication with the students from Mainland China. To create an atmosphere of assimilation in the classroom, “mingling both local and students from Mainland China was needed”. The teachers also observed that local students’ acceptance and support to students from Mainland China is crucial to generate sense of belonging so as to help students from Mainland China to adapt to local study and living. Examples include contextualising and localising the learning materials for better learning, shopping for daily living necessities, engaging in intercultural activities, to name a

¹A sharp increase of tourists from Mainland China, due to the introduction of the Individual Visit Scheme (IVS) by the Hong Kong Government in 2003 created tensions between the Hong Kong people and Mainland China tourists. There are impacts of the quality of life such as the raise of living expense, the increase of property price, the overloading of transportation as well as the city’s hygiene etc.

few, to ease students from Mainland China's confrontation of psychological and social difficulties (homesick, language barrier, social activities, weather, food and culture etc.). Therefore, extra support was necessary. The teachers also asserted that extra tutorials, activities and connections outside classroom such as using social media (QQ/WeChat) to communicate with students using written messages provide essential and timely supports.

In sum, the findings enabled a better understanding of the perceptions of the students from Mainland China studying in cross-boundary education for an in-depth discussion of the issue in a societal and psychological aspect.

Discussion

Cross-cultural experiences are “necessary” and “beneficial” to study

Responses from the interviews revealed that cross-cultural experiences are “necessary” and “beneficial” to the study of students from Mainland China. Common views of students were found in their learning expectations and needs. Most importantly, they preferred contextualisation (glocalisation) of the contents to nurture their intercultural experiences besides the subject knowledge. Secondly, all of them expected interactions, mutual help and peer supports to build and share knowledge. Either the needs to build in-class rapports with fellow students or to nurture cross-cultural exchanges and experiences at out-of-class time, the students have developed their own strategies to cope with their localisation and assimilation. During the interview with the teachers, we learnt that the students from Mainland China not only discussed, supported and shared teaching and learning matters among themselves but also with local students and teachers. All these activities and interactions suggest that the students from Mainland China were eager to build friendship with their local peers in order to blend into the local Hong Kong communities. Students said with best endeavours, they tried to overcome the obstacles such as language barrier, food, weather as well as homesick that happened in their daily lives to better accommodate the local culture.

Consciousness of ‘Gangpiao’

Further probing into the findings showed the similarities and differences of the students in terms of sense of belonging, boundary-maintenance, acceptance, self-actualisation and neutralisation. Most of the students from Mainland China were aware of their sense of belonging. As ‘Gangpiao’ (the diaspora exiles in Hong Kong), students regarded that cross-cultural experience was “necessary” and “beneficial” during their studies. They maintained out-of-class connections and communications with their local classmates so that they could mingle and assimilate themselves into the Hong Kong community. They were constantly aware of their identities and sense of belonging while meticulously kept an arm's length from the host country and reminded themselves not to cross the fine grey line in order to gain acceptance from their local Hong Kong students. It seems that these psychological reactions and behaviours from the students were self-actualisation and neutralisation activities they used to regulate their diasporic complexes. After all, it is their ‘diasporic consciousness’ that draw the students to reflect on the “labelling effects of Gangpiao”.

Maintaining openness and acceptance

Mutual acceptance was an issue that came to attention because the students from Mainland were maintaining their boundary while engaging in cultural exchanges with their fellow Hong Kong students. As most students from Mainland China showed consciousness about their identities during their study and this further indicates that they had exercised self-actualisation/neutralisation, localisation/adaptation activities so as to assimilate the individual 'I' into the collective 'We'. With an open mind, they also maintain a large degree of openness and acceptance that enabled them to sharpen self-awareness, to re-generate their identities and broaden their global views. These activities indicate the students' awareness of their dual locality/identity. This is this diasporic consciousness that draw them to reflect on the "labelling effects" so as to adapt themselves to the local culture in order to assimilate the individual "I" into the collective "We". It could be considered as a form of model of cultural production (Vertovex, 1999) to produce identities through transformation and difference. Moreover, there is a need to be conscious about one's identity and sense of belonging for their cross-boundary study. This further urged them to reconsider their views that as non-local students, they should constantly remind themselves to remain silent as an outsider, keeping an arm's length from the host county and at the same time constructing new identities by acquiring the values and customs of the new land. As some of the Mainland students said, "Hong Kong is a stepping stone for them" and some of them "would like to stay, work and get the citizenship", they were very "cautious on not crossing the fine grey line" for some reasons such as "the Hong Kong local students always have negative thoughts that the Mainland students will steal their jobs by staying in Hong Kong after their studies". These self-actualisation and neutralisation activities were carried out to promote mutual trust, accommodation and acceptance between the local Hong Kong and Mainland students.

Cultural similarities generate localisation and adaptation

Interestingly, the Chinese custom of maintaining a low profile and the culture of a docile, subtle stance and harmonious relationships are revealed. The above shows it was rather the cultural similarities that generated the development of localisation/adaptation for the students from Mainland China studying in Hong Kong, most probably it was the results of the common Chinese languages, Chinese characteristics, learning styles and customs that enabled the assimilations.

Conclusion

Implications drawn from the findings of this study are, firstly, that a tighter bounding between the students studying the cross-boundary programmes would promote cross-cultural understandings and learning experiences. In addition to academic knowledge, there is a need to promote and nurture mutual acceptance amongst the students. Furthermore, the students' sense of belonging and identity to the cross-boundary programmes are yet to be enhanced to minimise the cultural differences. Last but not least, given the small number of participants, future research should include a larger sample size from different programmes offered by different institutions for comparison; in particular that further study should focus on programmes at bachelor level to provide comprehensive data for multi-dimensional analysis to generate insights and advance theories.

To conclude, this study relates the concepts of globalisation and localisation, attachment and detachment, exile, diasporic experiences, identity and sense of belonging to the study of cross-boundary programmes. Results of the study also shows that, to cope with the cultural differences to re-generate identity and sense of belonging, students will turn themselves into converts or believers, actively demonstrate their commitment to the values and customs of their new land so as to assimilate the individual “I” into the collective “We”. To put it in a nutshell, the accommodation, assimilation and resistance to the new are forms of self-regulations and struggles of which self-actualisation, nautraulisation and mutual acceptance begin; and in our views, this is the most valuable lesson learnt from any cross-boundary and transnational education programmes.



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Mobile Assisted Foreign Language Teaching in Turkey

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Abstract

This study aims to determine high school students' vision upon regarding benefiting from mobiles during foreign language learning in Turkey. It was conducted in Malatya and Elazığ in the academic year of 2013-2014 with the participation of 289 state school students. Data, obtained through questionnaire and analysed in SPSS, indicated most of the students have mobiles, despite being banned in class they are used in 'silent mode'. Students leaning to mobiles for education think they can be problem if it is not used controlled. Students seeing mobiles as a communication tool cannot benefit from it in foreign language. Among students' visions towards mobile there are significant differences according to variables.

The findings were evaluated as follows: In Turkey, although the rate of having mobiles is equal to the world's average, mobile addiction is below this average. In Turkey, despite being banned, phones are used in class. However, it is not used for foreign language. The reason of this can be lack of knowledge and skills between legal-cultural barriers and information technology. This is a lack or contradiction for Turkey having started FATİH Project for improving IT in education. This deficiency can overshadow to Turkey's vision of being information era and technological society.

Keywords: Mobile Education, Mobile assisted education, foreign language education, pedagogical potential of mobiles.

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1. Introduction

Mobile phones, being one of the developments in communication, are penetrating life and can have many affects in education. So it can be thought mobiles can make new ways for education. This idea is not surprised when we think effects of science and technology. Also, it is necessary for education affected by scientific and technological developments. Because most of the extant theories of learning dating back 2500 years (Sharples, Taylor, & Vavoula, 2005) with the known structure of education is not easy to adapt to the Information Age.

Even if smart phones are new phenomenon in education, it has already deputed among educators. Discussed in the context of the use of technology in education mobiles are mostly dealt with *e-learning and mobile learning* models (İpek & Sözcü, 2013). Mobile learning (Cavus & Uzunboylu, 2008) seen as a new concept in education is also named 'm-learning' (Öztürk, 2014). Despite these developments showing mobiles as a phenomenon, the discussions continue. These discussions are based on following questions: "are mobiles new entertaining material enabling learning independent of time and space or an addictive material?". The wiefs of educators about education can based on two category; one of them is being mobiles a new phenomenon in education and the other is being mobiles are an addictive material. Turkish Ministry of Education sees mobiles as addictive and has regulations banning use of mobiles in the classes since 2008.

Despite the discussions, it is accepted mobiles has considerable effect when it is used controlled and for educational needs. The contributions can be summarized as: mobiles enables student to learn from anywhere and anytime, mobiles in the classroom can contribute to the success by increasing motivation and to the foreign language teaching. Particularly it is fast and practical as a dictionary and a tool having pronouncing feature. Also, mobiles can be used to increase motivation of students to begin lesson via multimedia and short message features (Saran, Seferoğlu & Çağıltay, 2009).

Considering the effects of mobiles on education and the researches and publishing about the issue, this phenomenon cannot be ignored. Thus, it is known the educators are in search of this issue (Cavus & İbrahim, 2009). Today, internet is a fact for English and mobiles can be seen important learning tools as 'via' (Sarica & Cavus, 2008). Hulme (2009), defined the importance of mobiles in English teaching as: "Will mobile learning change language learning?". And, according to literature and research (Lu, 2008; Hulme & Shield, 2008; Chen, Hesieh & Kinshuk, 2008; Levy, 2009; Quinn, Mardomingo & Valentine, 2009), mobiles has made significant contribution to the teaching English. So, the thing to be done must be benefiting from educational potential of mobiles taking into account about this issue. In Turkey, this situation is more important for teaching foreign language which has become a serious problem. Knowing the advantages of mobiles in language teaching in terms of cognitive and affective is important and also the contributions to the student motivation is important to guide policy on this issue. So, knowing view of students' perceptions of mobiles in foreign language teaching and the usage in the process are important.

2. Method

2.1 Population and Sample

The population of this study are students studying in state schools in Malatya and Elazığ in the academic year of 2013-2014. Sample is consisted of 289 students from this population. The distribution of students according to demographic variables is shown in table 1.

Table 1. The distribution of students in the sample according to demographic variables

Variables		N	%
Gender	Female	161	55.7
	Male	128	44.3
CSM ownership	Yes	243	84.1
	No	46	15.9
CSM(smart) ownership	Yes	173	59.9
	No	116	40.1
Learning domain	Quantitative	179	61.9
	Verbal	75	26.0
	Foreign Language	35	12.1
Total		289	100.0

2.2 Data and Analysis

The data of this study conducted with descriptive survey model were obtained by questionnaire developed by researchers. Firstly, an item pool was created by doing literature review for the questionnaire. Then, the questionnaire, consisting of 22 items four of which are about personal and the others are about mobiles, was finalized in accordance with expert opinion. The questionnaire items were rated as: 1. I disagree (1.00-1.80), 2. I do not agree (1.81-2.60), 3. I am undecided (2.61-3.40), 4. I agree (3.41-4.20) and 5. I strongly agree (4.21-5.00).

In the study; arithmetic mean, standard deviation, percent and frequency techniques, variance analysis, 't' test (for homogenous items) and KWH and MWU tests (for not homogenous items) were used. Significance level was accepted as $p=0.05$.

3. Findings

3.1. Demographic Findings

As it is shown in Table 1, it is seen of %55.7 of participants are female and %44.3 of them are male. %84.1 of the students have their own phones and %15.9 of them have smart phones. %61.9 of the students participating the study are studying quantitative, %26 of them are studying verbal and %12.1 of them are studying foreign language.

3.2. Findings About the Students' Perception Toward to Mobile Phone

Table 2. Students' perception toward to mobile phones

Item no	Perceptions	$\bar{X}$	s
1.	Mobile phones are basically a communication tool	4.53	.84
2.	Mobile phones are nice time tool	3.47	1.31
3.	I could never do without mobile phones	2.76	1.53
4.	Mobile phones are necessary for modernity	3.25	1.40
5.	Having mobile phones makes me happy	3.76	1.32
6.	If it is not used controlled, it can be cause problems	3.69	1.39
7.	Being more busy with mobile phones disorders my health	3.45	1.46

As it is shown in Table 2, it is understood mobile phones are basically a communication tool ($\bar{X}_1=4.53$) and a tool enabling to have nice time ($\bar{X}_2=3.47$) by the students. Also, they think having a mobile makes them happy ($\bar{X}_5=3.76$), if it is not used controlled, it can cause problems ($\bar{X}_6=3.69$) and disorders ($\bar{X}_7=3.45$).

According to the gender variables, there is a remarkable difference among students' view toward to 2. [($t_{287}=2.433$; $p=0,016$)] and 3. [($t_{287}=2.598$; $p=0,010$)] items. So, female students ($\bar{X}_1=3.63$) have more adopted to 12. item than male students ($\bar{X}_2=3.25$). Similarly, the female students have more adopted to 14. item than male students ($\bar{X}_2=2.50$).

According to having mobile variables, there is a remarkable difference among students' view toward to 3. and 4. items. The remarkable difference in 4. Item which is parametric [($t_{287}=2.852$; $p=0,005$)], is in favour of having mobile phones. So, the ones having mobiles ($\bar{X}_1=3.35$) have more adopted to 3. item than the ones having no mobile ($\bar{X}_2=2.71$). the remarkable difference in 3. Item which is non-parametric [(MWU=3721.500; $p=0,000$)] is in favour of having mobile phones. So, the ones having mobiles (MR₁=152.69) have more adopted than the ones having no mobiles (MR₂=104.40).

According to the having smart phone variables, there is a remarkable difference toward to 2. [($t_{275}=2.773$; $p=0,006$)] and 3. [($t_{275}=5.138$; $p=0,000$)] items. So, the ones having smart phone ($\bar{X}_1=3.66$) have more adopted to 2. item than the ones having no smart phone ($\bar{X}_2=3.21$). Similarly, the ones having smart phones ($\bar{X}_1=3.18$) have more adopted to 3. Item that the others ($\bar{X}_2=2.25$).

3.3. Findings About Students' View Regarding Using Mobile Phones in Teaching Process

Table 3. Students' view Regarding Using Mobile Phones in Teaching Process

Item no	Opinions	$\bar{X}$	s
8.	Mobile phones can be used for educational needs	3.53	1.35
9.	Being too busy with mobile phones distracts my attention	3.46	1.45
10.	Being too busy with mobile phones affects my memory negatively	3.03	1.51
11.	Mobile phones are tool leading discipline problems in the class	3.12	1.56
12.	I use mobile phones mostly for homework	2.29	1.34

13. I use mobile phones mostly to follow my exam works	2.34	1.31
14. I use mobile phones mostly for lecture notes	2.55	1.39
15. I use mobile phones mostly for dictionary	2.82	1.48
16. I use mobile phone is silent mode in the class	4.22	1.23
17. Mobile phones can be used a teaching material in the class	3.02	1.51
18. I use mobile phones mostly to communicate with my friends	3.57	1.25

As it is shown in Table 3, it is understood the students use mobiles in silent mode in the class ($\bar{X}_{16}=4.22$). Although students lean to using mobiles for education ($\bar{X}_8=3.53$), they use it mostly to communicate ($\bar{X}_{18}=3.57$) and it has been indicated they do not use mobiles for education $\bar{X}_{12}=2.29$; $\bar{X}_{13}=2.34$; $\bar{X}_{15}=2.82$; $\bar{X}_{17}=3.02$. Students think being too busy with mobiles can distract their attention ($\bar{X}_9=3.46$).

According to gender variables, there is a remarkable difference among students' view regarding to 16. item [($t_{287}=2.295$; $p=0,022$)]. So, female students ($\bar{X}_1=4.37$) have more adopted to 16. item than males ($\bar{X}_2=4.03$).

There is a remarkable difference in 18. Item taking place in table 2 among students' view [(MWU=7259.000; $p=0,000$)]. For this non-parametric item, female students ($MR_1=163.91$) have more adopted to 18. Item than males ($MR_2=121.21$). according to having mobile phone variables, there is a remarkable difference among students' view regarding to 15. Item [($t_{287}=2.036$; $p=0,043$)]. Accordingly, having mobiles ($\bar{X}_1=2.90$) have more adopted to the item than having no mobiles ($\bar{X}_2=2.41$).

According to having smart mobile phone variables, there is a remarkable difference regarding to 8. Item [($t_{275}=2.280$; $p=0,023$) among students' view. Accordingly, the ones having smart phones ($\bar{X}_1=3.69$) have more adopted to the item than others ($\bar{X}_2=3.30$). and also, there is a remarkable difference among students' view regarding to 17. Item [($t_{275}=2.954$; $p=0,003$)]. Accordingly, the ones having smart phones ($\bar{X}_1=3.23$) have more adopted than others ($\bar{X}_2=2.69$).

Regarding to 17. [($F_{2-286}=4.043$; $p=0,019$)] and 15. [(KWH=8.883; $p=0,012$)] item taking place in table 3, there is a remarkable difference among students' view regarding to *learning domain* variable. Scheffe test has indicated the difference is between *quantitative and verbal* groups regarding to parametric 17. item. Accordingly, the view of 17. Item students studying in quantitative ($\bar{X}_2=3.22$) field have more adopted than others ($\bar{X}_2=2.66$).

MWU test done for 15. Item which is non-parametric has indicated the remarkable difference among students' view is between 1-3 (MWU₁₋₃=2301.000; $p=0,011$) and 2-3 (MWU₂₋₃=872.500; $p=0,004$) groups. Accordingly, the view “I use mobile phones mostly for dictionary” has been more adopted by foreign language students ($MR_3=131.26$) than quantitative students ($MR_1=102.85$). Similarly, the same view has been adopted more by foreign language students ($MR_3=68.07$) than verbal students ($MR_2=49.63$).

4. Discussion and Conclusion

4.1. Discussion and Conclusion Regarding to Demographic Results about mobile Phones

The students' having mobiles rate is %84.1 and %59.9 of them have a smart phone. This finding shows there is a similarity between the research results, these results are following; the rate of having a mobile at secondary schools and universities is about %90 (Gülmez, 2005 as cited in Karaslan and Budak 2012) and in Turkey this rate is about %90 (TÜİK,

2012 as cited in Şar and Işıklar, 2012), that most of the students have a mobile can be seen as an advantage in the way of Turkey being an information era and technological society.

4.2. Discussion and Results About Students' View regarding to Mobile Phones

The students participating the research are happy to have a mobile and they see mobiles as a communication tool and it means having nice time for them. The rate of mobiles meaning *to have nice time* is more adopted by female students. Same students are undecided in the view 'mobiles are necessary for modernity and I cannot do without mobiles'. This finding do not verify following literature information: mobiles are addictive tools (Aoki & Downes, 2003 as cited in Karaslan and Budak, 2012; Şar and Işıklar, 2012) and mobiles are necessary for modernity (Karaslan and Budak, 2012). Students verified the views "If it is not used controlled, it can be cause problems" and "Being more busy with mobile phones disorders my health". It can be said these findings shows that doubt about mobiles must be taken into account.

As it is shown in the research, when we compare the students with mobiles and students without mobiles it is determined that the students having mobile phones see mobiles as a necessity for modernity and they are more addictive to mobiles than the others.

4.3. Discussions and Results About Students' View Regarding to Mobile Phones in Teaching Process

It is understood from Table-3 that students participating in this research take their phones in the classes with them in silent mode although it is prohibited. This finding indicates that it is an insisting or necessity of this mobile phone era and mobile phones somehow enter the classes. Thus, it is more logical for the educators to spend more of their energy on finding more ways to benefit from pedagogical potentials of this new phenomenon rather than preventing it.

According to the students participating in this research, mobile phones can be used with educational purpose. This view is more dominant at students attending Science-Math classes than the ones attending Social classes. This finding can be assessed that students are aware of mobile learning's contribution on education (Oran and Karadeniz, 2007). However, the finding that students use mobile phones mostly as communication tools (girls more than boys) and they do not use with educational and academically purposes (homework, exam works, lecture notes, and dictionary) in foreign language learning is striking. Whereas, in the studies of Regan, Mabogunje, Nash and Licata (2000), Thornton & Houser (2005), and Saran and Seferoğlu (2010), they have stated that mobile phones have positive effects on foreign language

learning. Moreover, it is expected that especially the dictionary apps in mobile phones should support foreign language learning that includes memorizing vocabulary (Thornton & Houser, 2005). This finding can be interpreted that students do not benefit enough from educational potentials of mobile phones although they believe in those potentials. This situation can be related to MoNE's relevant regulations, traditional policy of school and class management, traditional attitude and behaviour of teachers, and even students being unable to be predominant on information technologies. As benefiting from mobile phones during lecturing is so new, their use during lectures has not been prevalent yet (Trifonova, 2003 as cited in Ağca and Bağcı, 2013). Nevertheless, it seems indispensable in benefiting from information and communication technologies while raising individuals who have qualifications in accordance with the Information Era. As a matter of fact, use of information and communication technologies with purpose of teaching has become a necessity in raising individuals constituting information community (Çuhadar and Yücel, 2010). Hence, Turkey should seek ways of benefiting much more from information technologies in education so as to conform to Information Era. It can be accepted that Fatih Project, which was initiated in 2012, is a concrete indicator of this seeking. Similarly, it is stated that there has been an increasing interest in benefiting from information technologies for language learning and teaching in the world recently (Warschauer & Healey, 1998). The expectancy from contributions of information technology on education is to activate it in a way that information technology supports traditional learning. Because research (Ring, 2001 as cited in Saran and Seferoğlu, 2010), has indicated that mobile phones are more effective when used by supporting traditional learning environments.

The reason of this is that class activities are not enough for effective language learning and vocabulary learning and also it is necessary to do activities out of the class (Koren, 1999 as cited in Saran and Seferoğlu, 2010). Another reason which makes mobiles important in the traditional class for supportive is that mobiles enable motivations to class. So, mobile learning is not only needed in pedagogy but also new approaches are needed for learning theory (Waycott, 2005 as cited in Ağca ve Bağcı, 2013). The researches about this issue should be directed from technological dimension to teaching planning and benefits of students between theory and mobile learning (Traxler, 2005 as cited in Ağca and Bağcı, 2013).

It is determined in the research despite of the insufficient findings, students studying in foreign language department use mobiles mostly as a dictionary. This finding is parallel to the view of Saran and Seferoğlu (2010); "students have a positive perception to the mobiles during English vocabulary learning". Indeed in literature, mobiles are used mostly to teach language in education (Kukulska-Hulme & Shield, 2008 as cited in Saran and Seferoğlu, 2010).

In the last analysis, although most of the high school students have mobile phones, it is determined that they do not use mobiles effectively in foreign language learning. this situation can be arisen from MoNE's policy, traditional education methods, traditional teacher behaviours and also deficiency of the students about information technology. But, whatever the reason is, this situation detracts Turkey from information era and technological society.

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The Use of Information Technology in Art Education: Opportunity or Threat?

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Abstract

This study aiming to determine roles of Information Technology (IT) in art education was conducted at Firat University at the fine arts faculty in the academic year with the participation of students studying in this field. The study was descriptive and based on the hypothesis “ Besides some advantages of information technology in art education, there are possible limitations in it.” The data were obtained by questionnaire and the results are summarized below.

The students which are population of this study see IT as an important and necessary for education. These students find out that the instructors’ qualifications and the equipment related to IT are not enough. According to the students, IT in art education contributes to communication and critical thinking but it does not contribution to reformist viewpoint, creativity, visual perception, ability of fiction, esthetic and problem solving. Moreover the students don’t agree the view that there is some possible limitation of IT in art education. Also, it has been determined that the view of students vary according to the demographic variables. Evaluated with the results, it is concluded that the students see IT as an opportunity in art education.

Key words: Information technology, Art education, Teaching technology, Education technology.

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1. Introduction

Nowadays called information era, as a necessity of this era education is getting more dependent on Information Technology (IT). The stages of historical development of computer and IT are in the form of learning computers, learning from computers and learning with computers (Jonassen, 2000). Today, although first two stages are partly active IT is getting more related to the “learning with computers”. That the CEOs of big information firms has active role in education policies in the USA is an example of IT’s role in education (www.zaman.com.tr). So it is not surprising that IT has affected all level of education and worldwide usage (Saritaş & Üner, 2013; Tor & Erden, 2010). Indeed as digital media becomes integrated into the art curriculum, art educators have been encouraging students to use computers and other digital technologies (Colman, 2004).

The IT’ role is not limited with the basic policies about this topic and it has affected remarkably not only the function and structure of education but also practices of interclass teaching (Tuti, 2005; Delacruz, 2009; Durdukoca & Arıbaş, 2011). For example the computer as medium creates new forms and genres for artists and designers (Bolter & Gromala, 2003). So, the question ‘must IT be used in education?’ has no meaning anymore. Because within the basic dynamics of information era and Information society IT has a leading role (Yalçınkaya, 2002). Thus it is not indispensable that schools attach importance to IT (İşman, 2002). In this point, it is meaningful to discuss that the transforming of technology in education to forward (Karasar, 2004) and how IT can be more effective and useful in education are meaningful.

Another subject that should be debated about usage of IT in education is whether this technology is suitable to each discipline or not. Also, the necessity that the field, nature of discipline that IT is applied is another debatable subject. Because in one sense, the embodied version of information, technology may show differences in its application in education. For example, the role of IT in such areas as maths and biology where factual and objective data is intensive and areas such as literature and visual arts education, which pay attention to aesthetic and commentary development, where subjective data is found densely is quite different. In art education process; detection, being informed, thinking, designing, commenting, expressing, criticizing behaviours are acquired through using the art language in view of aesthetic principles (Aykut 2006). When these arguments are not performed, it should not be forget that IT, carrying some extra potentials and opportunities in education, may brings some risks. Technology really inspires in art education? (McKay, 2006). Any Human made technology is not perfect. So it is important to debate the risk of IT as long as its uses in art education. Because global culture functions through visual culture (television, radio, newspapers, telephones, faxes, World Wide Web, etc.) to produce hegemonic, virtual realities, including our social consciousness and identities (Freedman & Stuhr, 2004; Freedman, 2003). Despite the ease with which many art educators have embraced technologies and tools for artistic practice in their classrooms in the past, maximizing the Internet and information communications technology usage in the visual arts classroom has been somewhat problematic (Wilks, Cutcher & Wilks, 2012).

The usage of IT the aim of which is to develop aestheticity is threat or opportunity should be questioned. In this point, there is a parallelity in technology and art. Especially, that the developments that take place in IT lead to radical changes and that art education is getting evolving into anti-conventional point is seen. Hence it is inevitable to see changes in art along with art education (Kurtuldu, Aydın 2011; Bölükoğlu, 2002). Firstly, IT is expected to lead important changes in art education, teaching media, teaching method, evaluation and assessment, etc... Secondly it is foreseen that IT may bring radical changes in stereotyped information giving process in art education(Uşun 2004).Also, it is known that IT has a potential to give opportunities for students especially in designing .The indispensable part of information era ,computers are of great important for art education as in any other field (Bölükoğlu 2004). However, that there are some suspects as the dense and false usage of IT in art education may carry some potential to cause bad results despite its useful sides. Even some thinkers put forward that in time technology will wipe out art (Kurtuldu ,aydın2011:388). These suspects , in general meaning technology, in special meaning IT are that these inputs will limit students intuition, creativity, memory power and socializing ability (Ünalın, 2005; Özdemir et all., 2004) and there are proofs that integration of current education and technology is problematic (Becker, 2001; Cuban, 1986, 2001; Noble, 1998: Oppenheimer ,1997 Ac cited in Gür, Özoğlu & Başer ,2010). These topics support the mentioned risks. To resolve these suspects it is important in this sense as the usage of IT in art education risk or opportunity. Also enlightening these suspects is important in that IT usage in art education will be more effective and efficient.

2. METHOD

2. 1 Population and Sample

The population of this study are students studying at fine art faculty of Firat University in the academic year of 2014-2015. Sample is consisted of 86 students from this population. The distribution of students according to demographic variables is shown in table 1.

Table 1. The distribution of students in the sample according to demographic variables.

Variables		N	%
Gender	Female	49	57
	Male	37	43
Internet	Yes	59	68.6
	No	27	31.4
Class	2. grade	25	29.1
	3. grade	28	32.6
	4. grade	33	38.4
	Fine arts	19	22.1
Type of highschool	Vocational	20	23.3
	Anatolia	11	12.8
	General	36	41.9
Total		289	100.0

2. 2 Data and Analysis

The data of this study conducted with descriptive survey model were obtained by questionnaire developed by researchers. Firstly, an item pool was created by doing literature review for the questionnaire. Then, the questionnaire, consisting of 20 items four of which are about personal and the others are about IT, was finalized in accordance with expert opinion. The questionnaire items were rated as: 1. I disagree (1.00-1.80), 2. I do not agree (1.81-2.60), 3. I am undecided (2.61-3.40), 4. I agree (3.41-4.20) and 5. I strongly agree (4.21-5.00).

In the study; arithmetic mean, standard deviation, percent and frequency techniques, variance analysis, 'T' test (for homogenous items) and KWH and MWU tests (for not homogenous items) were used. Significance level was accepted as $p=0.05$.

3. FINDINGS

3. 1. Findings About the Students' Perception toward to Information Technology

Findings about the students' perception toward to IT and the views toward to current situation are listed in table-2.

Table 2. Students' perception toward to IT

Item no	Views	$\bar{X}$	S
1.	IT courses are necessary and very important in art education	4.33	.91
2.	Information equipment are sufficient and convenient for current situation	2.50	1.11
3.	Lecturers of IT are qualified in this field	2.65	1.15
4.	IT education that I take is sufficient for unique design	2.30	1.04
5.	IT courses are thought in a modern way	2.84	1.34
6.	IT courses must be thought by Computer Engineering	2.94	1.69
7.	I can easily reach IT sources at the University	2.86	1.22

As it is shown in Table 2, it is understood that students, studying taking art education, strongly agree ($\bar{X}_5=4.33$) the view "IT courses are necessary and very important in art education". But according to the students, Information equipment are not sufficient and convenient for current situation ($\bar{X}_6=2.50$), IT education that I take is not sufficient for unique design ($\bar{X}_8=2.30$). Same students are undecided that IT courses are thought in a modern way ($\bar{X}_{10}=2.84$), reaching IT sources at the University ($\bar{X}_{14}=2.86$) Lecturers of IT are qualified in this field ($\bar{X}_7=2.65$).

According to the gender variables, there is a remarkable difference among students' view toward to 4. item. According to the analysis [(MWU=731.000; $p=0.046$)], Female students ($MR_1=47.08$) have more adopted to the non-parametric item "IT education that I take is sufficient for unique design" than male students ($MR_2=38.76$). According to the having internet variance, there is remarkable difference among students' view toward to 1. Item [($t_{84}=2.749$; $p=0.036$)]. So, the item "IT courses are necessary and very important in art education" has been more adopted by students having internet ($\bar{X}_1=4.44$) than not having internet ($\bar{X}_2=4.07$).

There is a remarkable difference among students' view toward to 2. Item in table 2 according to class variance $[(F_{2-83}=8.163; p=0,001)]$. The scheeffe test done for this parametric item, it is shown that it is between 2. grade and 4 and 3. Grade. According to this, the view "Information equipments are sufficient and convenient for current situation" has more adopted by 2. grade students ($\bar{X}_1=3.20$) than 3. grade ($\bar{X}_2=2.25$) and 4. grade students ($\bar{X}_3=2.18$). Similarly, there is a remarkable difference among students' view toward to 3. item according to class variance $[(F_{2-83}=4.115; p=0,020)]$. The scheeffe test done for this parametric item, it is shown that it is between 2. grade and 4 and 3. grade. According to this, the view "Lecturers of IT are qualified in this field" has been more adopted by 2. grade students ($\bar{X}_1=3.20$) than 3. grade ($\bar{X}_2=2.25$) and 4. grade students ($\bar{X}_3=2.18$).

There is a remarkable difference among students' view toward to 3. item in table 2 according to type of high school variance $[(F_{3-83}=3.495; p=0,019)]$. The LSD test done fort his parametric item has shown that this difference is between fine art high school graduate students and general high school graduate students. According to this, the view "Lecturers of IT are qualified in this field" has been more adopted by fine art high school graduate students ($\bar{X}_1=3.05$) than general high school graduate students ($\bar{X}_4=2.22$). Similarly, there is a remarkable difference among students' view toward to 4. item according to type of high school $[(F_{2-83}=3.977; p=0,011)]$. The scheeffe test done fort his parametric item has shown that this difference is between general high school graduate students and Anatolia high school graduate students. According to this, the view "IT education that I take is sufficient for unique design" has been more adopted by Anatolia high school graduate students ($\bar{X}_3=3.00$) than general high school graduate students ($\bar{X}_4=1.91$). There is a remarkable difference among students' view toward to 6. item according to type of high school variance $[(KWH=5.178; p=0,047)]$. The MWU test done fort his non parametric item $[(MWU=127.000; p=0,042)]$ has shown that the item "IT courses must be thought by Computer Engineering" has been more adopted by fine art high school graduate students ($MR_1=23.32$) than vocational high school graduate students ($MR_2=16.85$).

3. 2. The Findings toward to the Opportunities of IT in Art Education

Findings about the students' perception of the students toward to opportunities of IT in art education are shown in table 3.

Table 3. Perception of the students toward to opportunities of IT in art education

Item no	Views	$\bar{X}$	S
8.	IT courses gave me a reformist perspective	3.02	1.22
9.	IT courses gave me creative perspective	2.99	1.24
10.	IT courses contributed to develop my visual perception	3.11	1.19
11.	IT courses contributed to develop my fiction ability	3.00	1.21
12.	IT courses contributed to develop my esthetic side	3.16	1.25
13.	IT courses contributed to develop my critical thinking	3.41	1.17
14.	IT courses contributed to develop my problem solving capacity	2.77	1.12
15.	IT courses contributed to develop my communication skills	3.45	1.13

According to table 3 reflecting students' view, IT courses have contributed to students' communication skills ($\bar{X}_{23}=3.45$) and critical thinking ($\bar{X}_{21}=3.41$). According to the students, it is understood that IT courses has contributed to develop reformist perspective($\bar{X}_{15}=3.02$), creativity ($\bar{X}_{16}=2.99$), visual perception ($\bar{X}_{17}=3.11$), fiction creative ability ($\bar{X}_{18}=3.00$), esthetic ($\bar{X}_{20}=3.16$) and problem solving capacity ($\bar{X}_{22}=2.77$).

There is a remarkable difference among students' view toward to 9. item [(F₂₋₈₃=4.194; p=0,018)] and 15. item [(F₂₋₈₃=4.194; p=0,018)] in table 3 according to class variance. Scheeffe test done for this parametric items show that the "IT courses gave me creative perspective" has more adopted by 2. grade students ($\bar{X}_1=3.36$) than 3. grade students ($\bar{X}_2=2.46$). Similarly, the view "IT courses contributed to develop my communication skills" has more adopted by 2. grade students ($\bar{X}_1=3.56$) than 3. grade ($\bar{X}_2=2.57$) and 4. grade students ($\bar{X}_3=3.42$). According to the type of high school, there is a remarkable difference among students toward to 10. Item [(F₂₋₈₃=2.872; p=0,041)]. According to scheeffe test result the view "IT courses contributed to develop my visual perception" has more adopted by Anatolian high school graduate students ($\bar{X}_3=4.00$) than fine art graduate students ($\bar{X}_1=2.95$).

3. 3. Findings toward to the Threats of IT in Art Education

Findings about the students' perception toward to threats of IT in art education are shown in table 4.

Table 4. The students' perception toward to possible threats of IT in art education

Item no	Views	$\bar{X}$	S
16.	IT courses weakened my intuitive strength in conceptual	2.51	1.29
17.	IT courses affected me negatively in terms of socialization	2.23	1.26
18.	IT courses made me accustomed to memorization and without comprehending	2.77	1.41
19.	IT courses weakened my memory strength	2.02	1.12
20.	IT courses enabled to become isolated	2.10	1.29

Table 4 has shown that the students of IT did not agree possible risks with respect to the view of perception ($\bar{X}_{24}=2.51$), socializing ($\bar{X}_{25}=2.23$), memory ($\bar{X}_{28}=2.02$), and becoming isolated ($\bar{X}_{29}=2.10$). According to the same table, the students has been undecided on the view of IT courses made them accustomed to memorization and without comprehending ($\bar{X}_{26}=2.77$).

There is no significant difference among students toward to listed item in table 4 with regard to gender, class and having internet variances. But according to highschool variance toward to 16. Item, there is a remarkable difference among students' view [(F₂₋₈₃=3.335; p=0,023)]. The scheeffe test done for this parametric items has shown the view "IT courses weakened my intuitive strength in conceptual" has more adopted by Anatolia high school graduate students ($\bar{X}_3=3.09$) than general high school students ($\bar{X}_4=2.77$).

4. Discussion and Conclusion

In the study, it was found that the students who have art education think that IT is vitally important for art education. This finding is parallel to related literature data and research results on which were done students by Kurtuldu & Ayaydın in 2011 (Gür, Özoğlu & Başer, 2010). The view that IT is vital for art training has been accepted more by students who have internet access.

Students who have art education think that the equipment and practice in their department are insufficient. The ones who were graduated from high school and the students in upper classes talk about this insufficiency more often. In the research, it was found that the female students are more optimistic about the art education when compared with male students. The instructors in the department are more optimistic about IT sufficiency than the students who were graduated from fine arts high school.

The conclusion from the table 3 including students' views about the opportunities provided by IT to art education is that: IT contributes to critical thinking skills and communication skills in art education. This finding supports the literature data about IT's improving the communication skills in art training (Tillander 2011; Black & Browning, 2011; Ünalın, 2005; Assey, 2000). However; it is found that IT doesn't contribute to improver point of view, creativity, visual perception, editing, aesthetics and problem solving skills. This conclusion doesn't support the research results about IT's contributing to creativity and problem solving skills (Ünalın, 2005) and providing opportunities in the design process (Bölükoğlu, 2004). These features are vitally important in art training, though. That IT doesn't improve students' creativity can be seen as a major insufficiency. Because creativity in art education in recent years, is considered the dominant features (Buyurgan & Buyurgan, 2012; Aykut, 2006). Moreover, existing IT applications, to develop students' visual perception can be considered as a deficiency. Because the expected thing from IT in art education is that give and allow students meaning to visual design and create a new visual designs (Karataş & Özcan, 2010). These deficiencies in the investigation, as determined to be related to existing IT-related hardware failure, such as applying this technology may also depend on the nature of the teaching staff. Because to take the advantage of technology in the education system there is a need of qualified teachers (Gündüz & Odabaşı, 2004). Related to this subject, Özbudun's identified is remarkable that Art educator training opportunities in the universities of the world of information technology is used as a partial and local. Hence IT, art education, students' communication skills and it can be said to mean the opportunity to develop critical thinking skills.

When the subject is handled in terms of variables, it was determined that lower classes (2.grade) are more optimistic in relation to developing IT's creativity and communication skills. This finding can be related to high expectation level of upper classes. That they cannot realize the problem completely can be also an important factor. Moreover, it is determined in the study that the ones graduated from Anatolian School are more optimistic than the ones graduated from Fine Arts High School on the subject of IT's contribution to students' visual perception. As the ones graduated from fine art high school got same education before, they have higher expectation. This situation can be about this.

On the subject of IT's possible risks in art education, the students did not confirm the research hypothesis "If IT is not used correctly, it can cause some risks in art education". So the students who took part in research did not accept that using IT intensively weakens intuition and memory power, hinders socialization and isolates individual. Those students were undecided about that using BT in art education causes rote learning and makes them lazy. This finding can show that the students don't have enough knowledge about the subject or have doubt about the subject. That the students don't have enough knowledge about the subject can be about the traditionality of education that they got.

According to results of research, in parallel with literature, it was found out that the students perceive IT in art education as an opportunity; not as a risk or a threat. Although sample of research is limited, this result can be mostly related to the positive emphasize of IT on education in literature. There are few comprehensive and elaborate researches about the roles of IT in education and especially in art education. This situation may have affected the views of the students on this aspect.

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***School Leadership: Impact of changing school
management for internal stakeholder satisfaction***

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Abstract

Once a nearly collapsed public primary school has been determined to be a successful and well managed by the new principal. The case highlights the study of (1) how a woman and the new principal was successfully carried out a change in school management; and (2) how this change improve the satisfaction of the school teachers as internal stakeholders. The research was carried out in two stages: First, in-depth interviews with the principal and senior teachers on the basis of the model of organizational change of Lewin's - unfreezing, changing, and re-freezing – to map the model. Data collected was analyzed by dialogical interpretation method and change management was identified with a focus on 'the transparency of financial management'. Second, the transparency of financial management approach as found in the first stage was then measured its impact on internal stakeholder satisfaction structured into 'supplier-customer work chain', and team work into 'teachers' perception on successful teamwork'. Data was collected through survey on 30 teachers and then analyzed using descriptive technique. The result showed that average internal stakeholder satisfaction score was higher than that of team-work. Meaning that the implementation of *financial transparency* in the organization, gave an impact to the internal stakeholder satisfaction. This study also suggests further research on how the financial issues could trigger internal work satisfaction that lead to the achievement of organizational goals.

Keywords: education, leadership, organizational change, school

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Introduction

In the past, a change is defined by the presence of a new phenomenon or something newly discovered; whereas now the discussion about changes more emphasis on accelerating the change itself (Jackson, 2007, p.3). Changes at all levels on both individually and organizationally happened are not alone. There are trigger factors that influenced the dynamics organization interacts with its environment. Environmental factors are then given effect, even pressure against the possibility of an organization to make changes (McShane & vonGlinow, 2008, p.19).

When we are talking about change, there are 3 important factors can be discussed: the reason to change, target components of change, and how the change conducted.

The reason to change could be the strong motive of change. For example can be mentioned are the unfavorable circumstances organization dealt with.

Target components of changes need to be recognized and identified for the changes to take place as planned. Jones (2005) and Robbins (1998) suggested four components – human resources, functional resources, technology advance, and corganizational structure/culture. Those components can be explained: (1) human resources, as an organizational asset, are very valuable in the change process. Employees with high skill abilities will provide high competitiveness; (2) functional resources as the change target will affect the procedures, systems, and work patterns that support the manager dealing with changing process and accelerate the process of goal achievement; (3) technology as the change process will keep the organization communicating with both internal and external stakeholders. Finally, the fourth is structure and organizational culture as change target will change bound employees become mutual interrelated and integrated functions.

How the change process being conducted can be exposed through steps of changing. Commonly different expert gives his own argument but basically they describe the same steps. One very well known model of change management is recommend by Kurt Lewin (Schermerhorn, 1993, p.667)). Lewin suggests that the change consists of three main phases, namely: (1) unfreezing; (2) changing, and (3) re-freezing. The phases of the change is shown in the following chart.

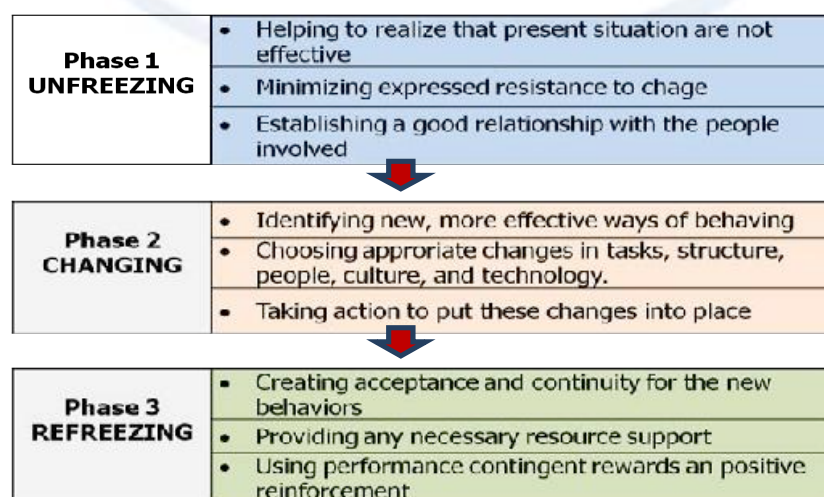


Figure 1. Lewin's Three Steps of Organizational Change Management

This current research narrates about one nearly collapse public primary school that has been determined successful and well managed by a new principal. The case highlights the study of (1) how the new principal has been successful in carrying out the change on school management. This study was carried out by doing in-depth interviews with the principal and senior teachers on the basis of the model of organizational change of Lewin's - unfreezing, changing, and re-freezing – to map the model; and (2) how this change has given an impact to the satisfaction of school teachers as internal stakeholders. The latest focus of the study will explain later.

Regarding to first stage of study, the changing management process has already conducted started two years ago in 2011; and when the data of first study is being collected, the said changes are being implemented to date still. After being implemented for two years, the changing process or the situation now is on the Phase 3 – Refreezing, the phase where a school principal is dealing with the effort of sustainability to keep running new system. As a result, some impacts may occur. Two impacts are expected: to teamwork pattern and to internal stakeholders satisfaction. This current study, as noted on second study is addressed to know which one aspect is more impacted over the change management.

Research Method

This is a qualitative research approach, focused on organizational change management, and its impact to internal stakeholder satisfaction. By applying qualitative research, researcher may use observation and interview methods, and documentation study (Stake, 2010, p.20). Qualitative approach also emphasizes on the integrity of reality as phenomenon, obtains data from a series of events that was seen as something different or unique, and much depends on the interpretation of researcher.

The organization as the object of this research is determined on purpose. It is a Primary Public School in Pekanbaru Riau, namely SD-No.37-Tampan. The said primary school is deliberately chosen because of its achievement values deserved to be revealed for the advantage of knowledge and practice matters.

In term of data collection, the primary data is obtained from key informants (the principal of the school and senior teachers) by doing in-depth interviews on the basis of the model of Lewin's organizational change - Unfreezing, Change, and Re-freezing – to map the model. The data will be analyzed by dialogical interpretation method, combined by Focus Group Discussion technique. Data of the second study is collected after the change has been implemented for about two years. Two set questionnaire are collected from 30 teachers, then are analyzed using descriptive technique. The aim of this second study is to measure its impact on internal stakeholder satisfaction, structured into 'supplier-customer work chain', and the teamwork pattern into 'teachers' perception on successful teamwork'.

Result and Discussion

The Situation Triggers the Change

The school of SD-No.37-Tampan is one of four primary schools in the City of Pekanbaru located in Tampan area, Pekanbaru City. The school was established and

started operations in 1971. On the map, Tampan area is a suburb area connected to another suburb located at different city, called Kampar City.

Name of SD-No.37-Tampan is not an original name given by the Government in 1971, but SD-No.50-Kampar. In 1988, there was an extension of Tampan bounding area covered the area where the old SD-No.37 is located. Since 1988 the SD-No.50 is moved to under jurisdiction Pekanbaru City with new name SD-No.17-Tampan. Furthermore, in 2010 SD-No.17-Tampan has a new name to SD-No.37- Tampan, Pekanbaru until now.

Similar to other elementary level, primary school of SD-No.37-Tampan also has a basic objective of education, which is laid on intelligence, knowledge, personality, attitude, and independent. Right now in academic year of 2013, daily operation of the school is supported by 41 teachers, two administrative staff and librarian, two personnel of security and janitor. It has 1,176 students which is divided into 30 classes. Due to the limited number of class rooms, learning process is done with 3 shifts of class in one school day.

In 2010 SD-No.37-Tampan has already achieved the status of RSBI, stands for Rintisan Sekolah Berstandar Internasional, or International Standard School. The school is classified as a great school and received more funds from the Government compared to schools with national standard (SSN). Unfortunately, the school dealt with serious problem. Let us say that the school is no longer managed efficiently, be short of work motivation of teachers and staff, and decrease student academic achievements. Thus, the school was put into vulnerable condition. Accreditation assessment team stated the warning indication to close the school. Dealing with this critical circumstance, the local school administrator has assigned new principal to cope with school problems, in terms of school management innovation

Steps of Change Management of School

The change of school management carried out by new principal of the SDN-37-Tampan was mapped according to Lewin's Three Phases of Change – Unfreezing, Change, and Re-freezing. The data presents the change process conducted in two years (2011-2013), obtained through in-depth interviews to the principal and a number of senior teachers, validated with document related.

First phase, unfreezing. This phase is basically a stage of implementing something new, because the old system perceived no longer relevant and needs to be replaced. The old system need to be melted. In this context, all teachers and staff at the school who involved need to realize that the old system has no longer accurate, inefficient and ineffective. Step of unfreezing helps every person ready to accept the presence of new system as a necessary requirement for the better organization.

Research found a number of steps taken, as the first phase - unfreezing, as follows:

- a. Figure out the core problem and discover solutions. Managing 'sick' organization firstly one should notice the root problem. To do so, new principal do it by reflection alone. Looks like such contemplation action was quite unique silently at her unpleasant office with a bleak color wall that is not comfortable. She also toured around the school yard to obtaining inspiration over the root problem. Based on information she gathered, investigations then was followed by doing

discussions with a number of senior teachers and sharing their experiences.

Together with those who trusted and dependable, most of them are senior teachers. They are talking about root causes in order to find solution. Many alternatives emerged and need to be selected in order to find the right one, simple and easily understood to be implemented in a short or medium-term targets. As a result two core problems are wrapped up: Database problem, and Financial matters.

- b. Communicate to all teachers and staff as internal stakeholder of the school.
After having information about the core problems as well as solutions, she, a new principal creates communication channels with a major aim to disseminate any update situation to all teachers and staff. They are internal stakeholders of school to whom the school achievement depended on.
- c. Socialize new system.
Socialization is an important part to the changing, therefore, another major aim of creating communication channel is to reduce refusal and negative response may occur from internal stakeholders. On various occasions giving a speech is always present to communicate messages related to change management. Days selected to propagate the significant of the change are at any official ceremony, at beginning of internal meeting, and at every week on regular strategic meeting.

Much efforts to apply the new system continue to be implemented. The principal should be aware watching the reaction of the teachers and staff. If there is any person reacts by doing 'no-action', then immediate advocate and encouragement is made. Such reaction does not mean reflected the attitude of rejection; on the contrary, it may be happened due to lack information. This advocacy steps need to be done to build and strengthen synergy because as more and more teachers and staff are aware to the need for change, it means the changing needs more socialization.

Providing with communication channel will make messages movement flow fluently and smoothly from the principal to internal stakeholders - teachers and staff. This existing strength built the Unfreezing phase. The phase of changing management then switch to the second phase – Change.

The phase of Changing is basically an implementation phase. There are two steps on Changing phase taken by the school, namely: Implement the concept of financial transparency; and Work distribution to some selected teachers on the basis of teamwork.

The implementation of second phase, Change, is conducted by:

- a. Introduce the concept of 'transparency of the financial sector'. The actual step taken is to assign financial management to a teacher who can be trusted and being selected by all teachers. There is a financial transparent system by which teachers any time are able to access financial status. When this such transparent financial management technically has been running well, then it is not just a matter of financial accountable (note correctly) but also financial auditable (reasonably of the use of funds). As a result, financial transparency determines the status of unqualified opinion, and in turn generates trust to each other among teachers and to management level.

- b. Working on the basis of teamwork pattern. This is the agenda of the next implementation which is done by facilitate internal sphere in teamwork pattern. The school experienced with a session of morning tea. Morning tea is the term naming on briefing activities once a week. It seems that it is duplicated from the western way but finally after implemented several times, morning tea session is worthy and valuable.

Additional way to form a teamwork pattern for any kinds of school task was carried out based on the classification quality standards set by the government. There are 8 quality standards to be accomplished. All teachers are divided into 8 task groups.

These two steps in the phase of Change have been implemented for about two years. Is there any conflict occur? Of course!! Conflict is not expected but undeniable. Conflict may occur when there is exist an uncertainty and distrust over the implementation of 'financial transparency'. What school leaders need to do is to prove that the solution determined is the correct answer. At this stage in the range of leadership, change will be a challenge.

Beside conflict, another impact has arose is on 'work distribution' to teamwork pattern. School management should allocate additional honorarium for the additional assignment of teachers.

On the other hand, some progresses are accomplish and have a positive impact. The positive impact over the implementation of financial transparency system is the collection of a sum of money getting from efficient way of working. The money was then used to support the session of get-together – visiting neighbor country during school holiday.

The third stage is the Stabilization. At this stage, the leader of the school need to maintain new system which has been implemented successfully. The new situation existed must be assure controlled. There are various forms of reinforcement, starting from the leadership to the people involved to support provide intangible growth acknowledgment (reward) over the greatest achievements at any aspect. Many accomplishments obtained during the period of Change needs to be legalized and to be internalized formally. Of one way to realize it is by putting the programs into the document of Strategic Planning of the school.

To maintain and stabilize the progress achieved, the school needs to strengthen monitoring and evaluation systems. Establishing strong organizational structure in the form of collaboration may drag internal stakeholders to form the trusted work environment. Four teachers selected and assigned as vice principal, respectively for the affairs of the curriculum, administration, student, and community relations.

All three phases covered Unfreezing, Change, and Refreezing has mapped the change management process of the primary school of SD.No:37-Tam pan in Riau Indonesia. It is presented in Table 1.

Table 1. Phases on Change Management in Primary School - SD-No.37-Tampan, Academic Year of 2011 s/d 2013

UNFREEZING	CHANGE	REFREEZING
1. Figure out the main core problem as well as the concept of financial transparency to cover solution	1. Implement the concept of financial transparency	1. Set up policy within the Strategic Planning procedure
2. Create communication channel to up-date situation and to motivate teachers – significant of the change	2. Work distribution to some selected teachers	2. Strengthen monitoring
3. Socialize new system in order to reduce refusal & negative response.		

The changing process is conducted by new principal of SD.No:37-Tampan in order to cope with terrible condition caused by former principal. When the data was collected, this kind change management has been implementing for about two years.

The year of 2012-2013 is the second year of the change. Lewin's three-stage process is flowing like a cycle. There are always new provisions produced which is actually addressed as the phase of Unfreezing. For example, due to government's decision on the implementation of new Curriculum 2013, the curriculum itself is bringing new values that need to be introduced the objectives and long-term benefits.

Other thing interested to be discussed over new system is the determination of 'financial transparency' has implemented consistently. Many people realize that financial management is a sensitive matter that needs to be managed properly and consistently.

Research results gathered from 'depth interviews' to primary and companion source persons have revealed that there is one element of verstehen (a hidden finding that need to be revealed) that answers why 'financial transparency' is the key factor. The answer is the attitude of 'sincerity' (sincere or genuine) of women leaders. Could the male leader also claim this attitude of sincere or genuine ?.

Leadership with a sincere attitude or an attitude of genuine major reflected as a transformational leader. The term transformational refers to the concept of transform or change into another form something different. She or He commonly is able to manage the energy of organization's resources (school) to achieve school improvement goals.

Second Study

School management with new system emphasizes two things: Financial transparency and Work distribution based on teamwork pattern. Having applied for two years, the change then be measured its impact on two variables - Team work pattern and Internal stakeholder satisfaction

Teamwork is understood as a group of people working together to achieve one same mission. All kinds of school tasks are performed by teamwork pattern. The transparency of financial management approach as found in the first stage was then measured its impact. The impact is measured using items that focused on 'teachers' perception on successful teamwork'. The questionnaire consists of 16 indicator is constructed based on three aspect measurement – Understanding teamwork concept, Characteristics of team members, and Accountability (Goetsch & Davis, 2013, p.152).

Furthermore, the transparency of financial management approach as found in the first stage was then measured its impact on internal stakeholder satisfaction structured into 'supplier-customer work chain' (Goetsch & Davis, 2013, p.96-97). The chain ranged between supplier-customer reflected their interaction. The supplier is supposedly provide service to customer; how far their support to each other; and support matters, all are constructed into 16 items.

Those two questionnaires then are distributed to 30 teachers. The answer provides 4 options – Completely true (score 4), Somewhat true (score 3), Somewhat false (score 2), and Completely false (score 1) match with the statement (questionnaires).

The result showed that average internal stakeholder satisfaction score (51 or 79,8%) is higher than that of team-work (45,7 or 71,4%). Meaning that the implementation of *financial transparency* in the organization, gave an impact to the internal stakeholder satisfaction. This study also suggests further research on how the financial issues could trigger internal work satisfaction that lead to the achievement of organizational goals.

	Score	(%)
Internal Stakeholder Satisfaction	51	79,8
Teachers' Perception on Success Teamwork Implementation	45,7	71,4

Figure 2.
Comparison of scores between
Internal stakeholder satisfaction
with Teachers' Perception on success

Figure 2 notes the difference score between Internal stakeholder satisfaction and teachers' perception on successful teamwork is not significant, as we can understand focused on interactional.

Conclusion

School change management made by new principal of SD.No.37-Tampan is mapped using Lewin's three-phase model of Changing Management. The changing management consisted of Unfreezing, Change, and Refreezing. In terms of Unfreezing, the principal do steps: Figure out the root of the problem and solution, Communication channels, and Socializations. While the phase, Change, the principal

operating ideas of Financial transparency, and Work distribution on the basis of teamwork pattern. In order to stabilize or to assure the change can run well, two Re-freezing actions are carried out: Set up policy/institutionalized; and Strengthen monitoring. When this new system has been carrying out for two years, the running new system is measured, in terms of teamwork pattern and internal stakeholder satisfaction.

Acknowledgment

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Digital Competencies in the Early Years

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Abstract

The paper presents a model for development of digital skills in early years. The model is structured in four levels and is designed for implementation in Primary school. The content follows the government policy in ICT teaching and learning in Bulgaria.

Year after year, digital skills have become part of a person's literacy. It is of great importance to form a proper attitude in children towards contemporary computer technologies. ICT skills should be used for the implementation of effective learning processes in all educational stages. Students should take the computer as a learning tool, not just as a tool for fun and free time activities.

The main pedagogical accents underlying the model development are: Implementation of project-based learning; Cross-curricular approach; Development of algorithmic, critical and creative thinking. The system follows the spiral and systematic approaches. Methodologically, the model is implemented as the educational system „ITI 1-4“, with a full teaching and learning set.

First two levels are designed for use in environment with appropriate user interface for pupils of ages 6 to 8. Students work with graphic painting applications, develop skills to use a keyboard, operate with text working on interesting tasks and during didactic games. The next two levels include more functionality. Students operate with files and folders, create their own projects, and communicate online. A specific feature is the student's E-book consisting of algorithms, video materials, and instructions. Students do text processing, work with images, sound and video files. Skills for working with widespread software products are developed.

Keywords: ICT in Primary school, digital skills

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Introduction

Education in Bulgaria is mainly supported by the state through the Ministry of Education and Science. School education is compulsory for children from first to eighth grade. The structure of educational system consists of Basic education (1-8 grades) and Upper Secondary level (4 years). The Basic education comprises primary school (grades 1-4) and (pre-) secondary school (grades 5-8). The Upper Secondary level is provided in three types of schools: comprehensive (general) secondary schools, profile-oriented schools and vocational-technical schools (Figure 1).

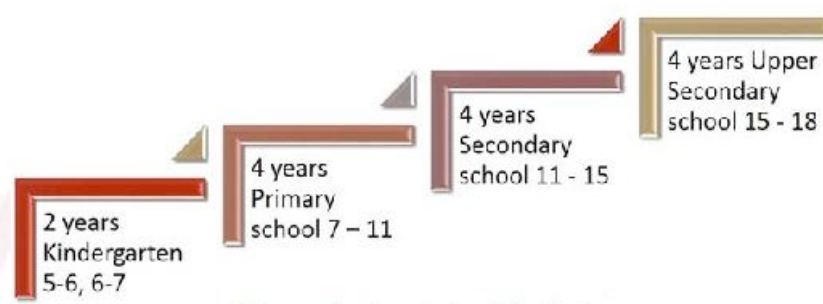


Figure 1: Structure of Bulgarian educational system

Curriculum is unified for all schools. It includes subjects such as Literature, Mathematics, Foreign Languages, subjects from social and natural sciences. The curriculum includes ICT subject which is compulsory from 5th grade. Students from Primary School study ICT in facultative form. There are government educational standards concerning this discipline. According those pupils from first to fourth grade study ICT one hour per week. The content includes knowledge about computer system, software products for processing images, text, multimedia, knowledge about Internet and variety of internet services. Main content kernels are summarized and presented on Figure 2.

1 st grade	2 nd grade	3 rd grade	4 th grade
The computer system	The computer system	The computer system	The computer system
Information and data processing	Information and data processing	Information and data processing	Information and data processing
	Informational culture	Informational culture	Informational culture
		Electronic communication	Electronic communication

Figure 2: The ICT curricula's kernels

Theoretical framework

The nowadays education is facing one of the most difficult tasks – to prepare and train children today for their lives tomorrow. In the dynamic and rapidly changing world, contemporary pedagogical science must predict what should be the skills that the tomorrow inhabitants of the land should possess. The importance of 21st century skills as analytical thinking, problem solving, collaboration and communication skills and digital literacy is indisputable. Knowledge building became one of the most important approaches in education.

The construction of knowledge is linked to the use of ICT. Digital competence is essential for the development of any other personal competence. Its formation is a long and complex process, so it should start targeted by school age. There are different methods by which young students begin to learn computer skills. The study of ICT and formation of digital culture should be linked with learning from different areas of knowledge. Learning from and learning with ICT could provide a very useful conceptual framework when integrating ICT into teaching and learning. Learning from the computer inclines towards the behaviouristic theories of learning whereas learning with ICT has its roots in the constructivist and social constructivism paradigms. More passive behaviours such as reading and listening are associated with learning from ICT, while more active behaviours such as creating, writing and updating are associated with learning with ICT (Harris & Rea, 2009). While learning from computers can help students to enhance their performance on basic skills, learning with computers could facilitate the learning of higher-order thinking (Jonassen, 2000; Lim & Tay, 2003).

Many researchers investigating the use of technology in education have found that technology is most powerful when used as a tool for problem solving, conceptual development and critical thinking (Ringstaff & Kelley, 2002, p 5). However, as compared to the learning of basic knowledge and skills, it is much harder to quantify the learning of higher order type of thinking and skills.

Project-Based Learning (PBL) is an innovative approach to learning that teaches a multitude of strategies critical for success in the twenty-first century. Students drive their own learning through inquiry, as well as work collaboratively to research and create projects that reflect their knowledge. From gleaning new, viable technology skills, to becoming proficient communicators and advanced problem solvers, students benefit from this approach to instruction (Bell Stephanie, 2010). A study of the effectiveness of combining a collaborative teaching approach with inquiry project-based learning (PBL) on the development of primary students' information literacy and IT skills, indicates that learning in this type had a positive impact of on the development of different dimensions of the students' information literacy and IT skills (Chu, S.K.W, 2011).

Using different methods and approaches that have proven their effectiveness and following the national educational standards the authors have developed and implemented a methodological system, named ITI for developing digital skills at primary school. The system aims at building knowledge from various scientific fields and development of the skills of the 21st century.

Research Methodology

Methodology is required to establish on what basis and by what methods new knowledge may be obtained. ITI-model consists of three kernels – content, approaches and outcomes. The content follows the government requirements and give to teachers and students variety of exercises and digital resources. The approaches used concern both learning content and methods of teaching and learning at school. Content and methods should guarantee the achievement of the outcomes set. Model implementation aims at development of digital skills to young students, but as well at development of algorithmic and creative thinking and knowledge transfer skills (Figure 3).

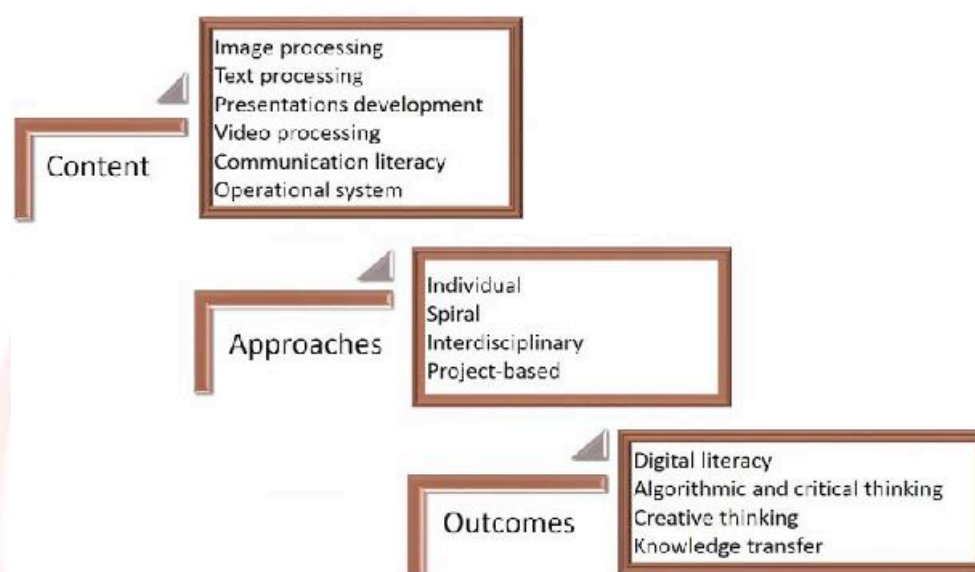


Figure 3: Structure of the methodological system ITI

Content

Digital skills development at primary school level includes skills for working with graphing painting application, text, presentations, video, sound, animation. Children at this age express themselves mainly through drawings, colours, movements, dancing, and singing. Painting and drawing with computer is one of the most effective way to form some digital skills to young students.

On Figures 4 to 8 some examples of computer graphics are illustrated. Different software products for drawing and painting could be used. Within the ITI system all these projects are done with MS Paint application. In first grade students use the painting tool, figures, magnifier, eraser, and airbrush and text tool. On figures bellow the starting points and the final realizations of the tasks are presented.



Figure 4: Examples of student's projects at first grade

In second grade students work with variety of brushes. The motoric of children's hands and fingers is on higher level according first grade and working with brushes provoke young students to create more detailed and precise graphic projects. Free hand drawing gives rich opportunities to pupils to express themselves through interesting thematic projects.

The polygon instrument and the tools for rotation of selected objects are very useful for developing spatial orientation in a child. Any mobile organism must be able to navigate in its world to survive and must represent the spatial environment in order to do so. Spatial intelligence is one of the types of intelligence proposed in multiple-intelligence theory of Gardner. Spatial thinking is often difficult and it is important that this thinking to be promoted in Primary school through integrating spatial content (Newcombe, Nora S., Frick Andrea, 2010).

The concept of copy and paste is introduced to students on an intuitive level. They follow given steps – select, copy, paste – without paying attention to the theoretical background of these actions. Later students repeat this algorithm in order to copy and paste text or other objects. In fourth grade some more information about clipboard mechanism is introduced to primary school students.

Another emphasis of the ITI model is the development of an algorithmic thinking to children. Algorithmic thinking is considered to be one of the key information technology concepts that enable people to become fluent with information technologies. Students should learn how to state a problem clearly, how to break the problem down into a number of well-defined smaller problems, and how to devise a step-by-step solution to solve each of the sub-tasks. One example task that provokes algorithmic thinking is presented of figure 5 (the red car with a bear on it). Students are given starting image, created from figures and final picture produced from the starting one. They should produce the same result without teacher's instructions. They should decide how to do it independently.



Figure 5: Examples of student's projects at second grade

On third grade students study about file system. They create graphic projects using external images. The use of MS Paint is on more advanced level – students use colour picker tool and colour editing features, they create figures filled with different art techniques and use the second colour feature of the MS Paint application.

Creating animated images is powerful tool for developing creative thinking to children. Through given examples some animation techniques are presented – change of colour schemes, change of position, and change of size between frames. Students work with Photo Scape – free photo editing software with appropriate interface.

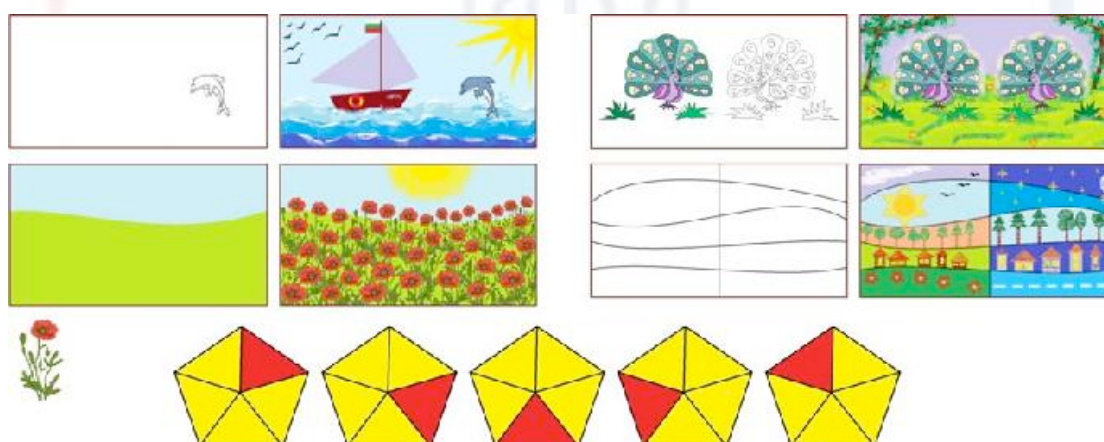


Figure 6: Examples of student's projects at third grade

On fourth grade students create more complicated animations. Children include them into PowerPoint presentations and create animated multimedia products. Graphic projects proposed to students' attention are on quite advanced level and provoke creative and critical thinking.

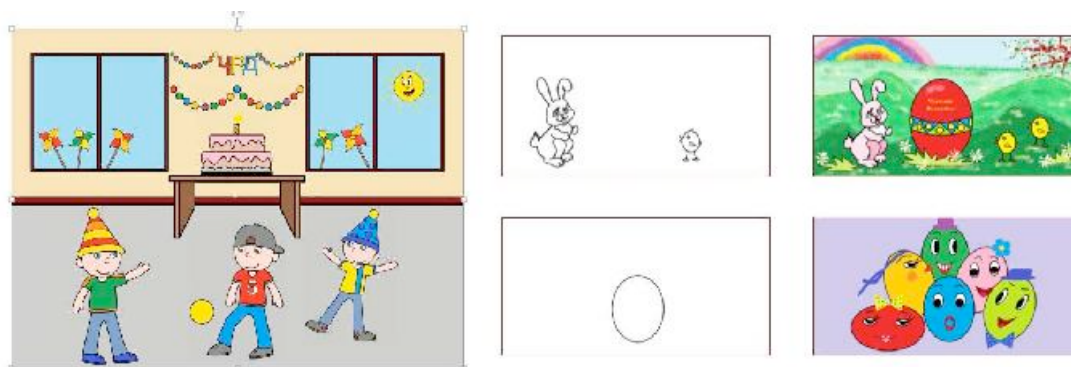


Figure 7: Examples of student's projects at fourth grade

Beside graphical digital skills students acquire knowledge and skills concerning text processing. In the beginning at first grade pupils form skills to work with the keyboard. They enter letters, syllables and single words while playing specially designed computer games, included to ITI educational software package.

All practical work with text from second to fourth grade students do with real text editing software – the MS Office Word. The system of teaching resources includes well-designed and colourful Word documents where students should enter words, sentences or longer text. Gradually to fourth grade students create independently complete reports consisting of text and images (Figure 8). Working with text is of great importance. The skills for entering text and editing and formatting documents are part of the digital literacy which is so important for the future life of the students.

Real research work is closely related with internet literacy and online culture of communication. Within the content kernel named “Electronic communication” students acquire knowledge about Internet and variety of online services like e-mail, messengers, searching engines and so on.

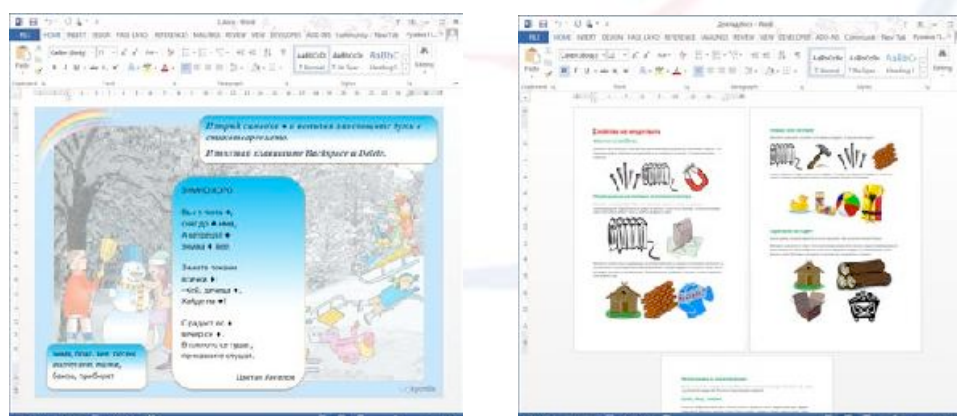


Figure 8: Working with text – comparison between second and fourth grade exercise

The methodological system under consideration includes modules for multimedia skills development – working with presentations, video and sound. Concerning video and sound knowledge students first create photo stories working with Movie Maker. They include pictures, set transitions and effects, add music, title and text. On next

level children work with real video files. They cut or combine clips and produce their own movies.

The acquisition of skills for creating multimedia presentations is very important. By presenting their project works students become more confident and behave in more responsible and self-critical way. Children work with PowerPoint application. They enter text, include pictures, and work with design templates and layouts. Children insert video and music, record sound, set transitions and save their final work.

From technical point of view the model ITI is designed in two conceptual levels. For first and for second grade the educational software packages ITI-1 and ITI-2 offer completely integrated environment. Students have direct access to all exercises and help resources by clicking on certain buttons. They don't need to know something about file system in Windows. On figure 9 the steps of a student's actions are presented. The student first selects a lesson, then selects an exercise from this lesson. As a result the corresponding software application is started automatically for further student's work.



Figure 9: ITI-1 educational software package.

In third grade students acquire knowledge about file system and could work independently with different files containing certain exercises or digital resources as pictures, sound files, video and so on. The software package is no more integrated environment but personalized e-book of the student. All tasks are clearly stated and well-illustrated by pictures. For more complicated algorithms video demonstrations are included. On figure 10 some screenshots from ITI-3 package are illustrated.



Figure 10: ITI-3 educational software package.

Approaches

Today, a real learner-centred approach can be seen in skills-based courses. It can be readily acknowledged that students differ both in ability, prior knowledge and motivation (Mayes J.T. 2004). ITI educational system is multiuser environment and

the individual approach is implemented through registration rules. Each student select his/her avatar (Figure 11) and work independently from the other users, registered on the same computer. This feature is especially useful in classroom working mode. The teacher could check the individual progress of a selected student in any time during the school year, using specially developed administrative module. In third and fourth grade each student could work faster or slower on his/her tasks. The student has access to help resources in any time and could work independently from the others.

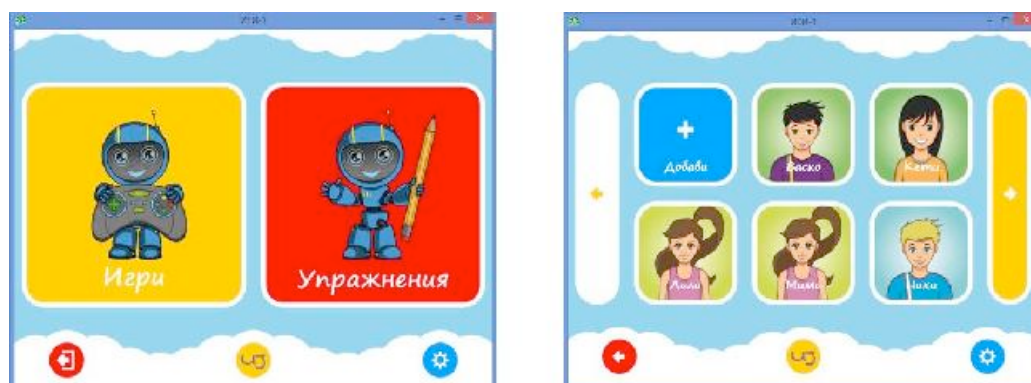


Figure 11: Multiuser environment and avatar's system in ITI packages

Project-based approach is widely used in ITI methodological model. Through creating the content authors' aim was to develop thematic lines and to put students in active position of researchers, creators and presenters. Project work starts in first grade where students create graphic pictures on given theme – to illustrate seasons using geometry figures, to illustrate Christmas songs, to create animal alphabet and so on. From grade to grade the project work becomes more complicated and in third and fourth grade students develop real digital products in form of video, presentations and reports on interesting research and creative tasks (Figure 12). Rich interdisciplinary connections are realized that help students to transfer knowledge between math, science, literature and art.



Figure 12: Example of project-based works

The system follows the spiral and systematic approaches as well. The methodology system is designed to prepare students for further ICT knowledge on next educational levels.

Outcomes

Authors' aim was beside digital literacy some very important skills as algorithmic, critical and creative thinking to be developed. Critical thinking helps students to extract the most important, short and clear content from the huge information flow around us. One way to practice this skills is the realization of researches on variety and interesting for the children topics.

An example of creative task is illustrated on figure 13. Children are given starting template, shown in the down left corner of the frames. Fantastic realizations as colourful, rich and full of objects pictures reveal the unlimited children fantasy and ideas. ICT teaching and learning could be exploit as an excellent tool for developing of creative and original thinking.



Figure 13: Example of creative students' works

Implementation

The methodology system ITI was fully completed. The system is implemented in practice 2014/2015 school year in Bulgarian Primary school. Complete set of student's book with installation disk and all teaching materials for the teachers are presented in figure 14 (Papancheva, R, Dimitrova, K., 2014).



Figure 14: Final realization of ITI model

Conclusion

Year after year, digital skills have become part of a person's literacy. It is of great importance to form a proper attitude in children towards contemporary computer technologies. ICT skills should be used for the implementation of effective learning processes in all educational stages.

Teaching and learning through and with technologies set new challenges to society in general. Developing digital skills at early ages is a way of more effective future education and personal realization of the nowadays primary school pupils.



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Critical perspectives on arts integration in learning: for whom and why?

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Abstract

In the current educational marketplace, the range of school options has made parents key players in their children's elementary school education. Unlike previous decades, where students typically attended their neighbourhood schools, today's parents are more likely to transport their children greater distances to their school of choice. This paper draws on a case study that investigated parental perceptions of an arts-integrated (generally known as fine arts) public elementary school in British Columbia, Canada. The arts-integrated curriculum attracted a growing number of families who resided outside of the school's catchment area. Data collected through interviews with both parents and educators detail among other things, parents' expectations and understandings of such schools, and the complex reasons why they enrol their children. The study also supports research which suggests that schools of choice are generally accessed by the middle-class families seeking advantage for their children. To whom does an arts-integrated pedagogy appeal, and why? The study reveals that the main value of arts-integrated schools may be as enablers of student success in behaviour, socialization and academic terms. But, arts-integrated schools can also be spaces of self-fulfillment for parents who, through choice of school and active participation there, feel that they have played a more profound role in their child's education.

Keywords: space, school choice, arts integration, middle class, parents, educators, neo-liberalism

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Critical perspectives on arts integration in learning: for whom and why?

Once upon a time there was a public elementary school, sitting on the brink of closure. Situated in the Lower Mainland of British Columbia, it had once accommodated more than 240 students. Now its population sat at 90. But it was not to suffer the fate of many small elementary schools whose student populations disappear. It did not become a book deposit or storage facility. Nor did it become a rentable space for community groups. Instead, it came to life as an arts-integrated school. Purporting to offer a new pedagogic approach, its classrooms quickly became full once again. This has motivated my investigation into the value of the visual and performing arts in education, ultimately questioning to whom they appeal, and why?

A little history

In 2002 the British Columbia Ministry of Education passed Bill 34 which placed the onus on school districts to create their own revenue. The Ministry would now provide funding, based on a per-pupil basis, and thus school districts now found it necessary to become entrepreneurial, corporate entities (Fallon & Paquette, 2009, p. 7). Within public education there are limited means to do this, the main two being the recruitment of international students, and the other, that of program option, or choice schools: those that draw students into school districts through the provision of a specific learning focus. Mosaic Elementary School¹ is one such school. Now an arts-integrated elementary school, its population has risen dramatically due to the number of students enrolled from outside of the school's catchment area. My interest is in the motivations of those parents residing outside of the catchment area, who are prepared to transport their children longer distances in order to attend Mosaic. The research focusses on Mosaic's appeal to parents, but in order to provide a fuller context, includes interviews with educators who were or who have been active in the development of Mosaic's arts-integrated pedagogy over time.

Framing the space of a school and its community

The community of any school has a unique cultural ecosystem (Charland, 2011, p. 1), differing players all being key to its success. Therefore, to provide a full picture on this space of learning, my 2013-2014 research (case study) includes interviews with 13 outside-catchment Mosaic parents (2 male, 11 female), 5 teachers (all female), 2 school administrators (female), 1 district administrator (male), and 1 non-teaching staff member (male).

The overarching theoretical framework for this case study is Henri Lefebvre's theorization of space (1991), supported by Pierre Bourdieu's (1993) theorizing on the fields of position-taking, and that is the heteronomous and autonomous fields (p. 30). In my interpretation, the heteronomous field is the general populace, whereas the autonomous field is the specialist -- the supporter of art for art's sake. Hence it parallels the integration of the visual and performing arts (herewith VPA) into a

¹ Mosaic is a pseudonym. Pseudonyms have been used throughout this paper with regard to parent and educator names, and school names. This is in compliance with the ethical parameters as directed by the school district in which this research took place.

school's curriculum (heteronomous), and also acknowledges the VPA as discrete subjects (autonomous). Lefebvre's theory of space is a particularly appropriate framing of Mosaic if one likens it to the metaphor of an abstract canvas upon which the spaces change and are changed. It is evocative of Lefebvre's (1991) discussion on Picasso's radical approach to painting:

What we have therefore, all at once, are: the objective end points of reference; a space at once homogeneous and broken; a space exerting fascination by means of its structure; a dialectical process initiated on the basis of antagonisms (paradigms) which does not go so far as to fracture the picture's unity; in an absolute visualization of things that supersedes that incipient dialectical framework. (p. 301)

Like an abstract canvas, Mosaic and its spaces of learning have altered since its transition to an arts-integrated school in 2005.

The spaces of learning

In a school community there are many spaces of learning, or of just trying to BE. As a teacher at Mosaic, I have held differing perspectives on the student population. I have questioned why so many arrive from outside the school's catchment area. What is the appeal? Is it a belief in the arts as enablers of other attributes, or is it the value of the VPA as discrete subjects? Or, is it the supposition that any new type of learning space will better educate?

Arts-integrated pedagogy

Arts-integrated pedagogy is not a particularly new concept, the most important Canadian example being the Langley Fine Arts School (Gaskell, 1985). Yet, it is one that is gaining more notice both nationally and internationally as parents seek alternate learning choices for their children. But such pedagogy is difficult to implement depending on the skills that each teacher possesses, ranging from simple arts add-ons, to the full integration of the arts throughout the curriculum (Bresler, 1995, para 18). If the arts in education have suffered from the larger demands of science and technology, strategic timetabling which places them at the centre of the curriculum guarantees they will not be relegated to a 7:30 am time slot, in effect becoming extra-curricular. "Moving the arts from the periphery to the core of instruction tremendously increases the chances that the arts will endure when potentially debilitating events occur" (Noblit et al, 2009, p. 76). That the arts can enable a range of life skills including confidence, poise, improved social skills, discipline and self-motivation, is attractive to many parents. (Colley, 2010; Brouillette, 2010; Alter, Hays & O'Hara, 2009; Winner & Hetland, 2008; Brewer, 2002).

Neo-liberalism and the middle class

As the welfare state recedes and neo-liberalism's privatization or marketplace thinking emerges, so our public education systems have had to change. As noted earlier, within British Columbia, public school districts have had to corporatize (Fallon & Paquette, 2009, p. 3). But Simon Marginson (2007) reminds us that within the field of education, neo-liberalism offers only a sense of disequilibrium.

“Neoliberalism has little warmth or generosity about it; it is considerably less attractive than the notion of equality of educational opportunity (p. 207). Likewise Harvey (2005) exemplifies the anxiety that today’s parents must feel as they worry about whether or not they have invested significantly enough in their own human capital for the sake of their children’s education, and consequently, their future careers. “Individual success or failure are interpreted in terms of entrepreneurial virtues or personal failings (such as not investing significantly enough in one’s own human capital through education.” (p. 65)

Not surprisingly, then, the educational marketplace as one product of neo-liberalism has arguably created a re-birth of class and opportunity, most typically attributed to the middle class. Mosaic, with its arts-integrated focus, is a school of choice. As such, it has been a new educational product for parents to investigate, and this could be one of its appeals. Or it might be an assurance that it will be particularly inclusive of a particular group through social networking. Choice schools can also signify higher socio-economic neighbourhoods as exemplified by Cucchiara (2008), or Bosetti and Pyryrt (2007) who speak to the importance of upscale neighbourhoods in relation to school choice, referencing this as “selection by mortgage” (p. 100). Preservation of a particular culture, such as in Levine-Rasky (2008), whose research documents parental attitudes and understandings at one Canadian school after an immigrant population began to reside in or near its school catchment area, may also figure into the decision to re-locate children to a school of choice – even if it requires travelling considerable distances. Levine-Rasky’s research also discusses the hidden agendas of some middle class parents to assure that their social group remains intact. While it may foster inclusion, it also potentially creates a new space – that of exclusion (p. 483). Hidden agendas are also discussed by Reay and colleagues (2007) in their interesting research into some middle class families who choose their neighbourhood school and not a choice school, in the belief that their middle-classness will assure higher academic achievement and opportunities. This she defines as a “value added gain” (p. 1046).

Whatever the case may be, the middle class, in their continual pursuit of the ideal learning space for their children, potentially justify Lefebvre’s (1991) perspective on the middle class and the space that they have carved out for themselves:

[This is] the space where the middle classes have taken up residence and expanded...a social world in which they have their own specially labelled, guaranteed place. The truth is, however, that this space manipulates them, along with their unclear aspirations and their all-too-clear needs. (p. 309)

If a guaranteed space provides the middle class with a certain comfort level it nevertheless perpetuates parental anxiety about children’s perceived needs. Perhaps this is why a school of choice, such as an arts-integrated school, is an attractive option for many middle class families. But if it alleviates one type of anxiety, it nevertheless continues to cause a dilemma.

While much of the research on school transition tends to be focussed on the elementary-to-secondary years (for example, Oria, Cardini & Ball, 2007; Williams, Jamieson & Hollingworth, 2008), the middle class also suffer the dilemma of transferring their child from one elementary school to another: despite their belief that the new school will provide advantages and further opportunities in the future.

Known as “concerted cultivation” (Davies & Aurini, 2009, p. 57, citing Laureau, 2002, 2003), such parents structure a particular lifestyle for their children, which promotes specific areas of learning and personal interests. An excellent example of this is Williams, Jamieson and Hollingworth’s (2008) research into families who directed their boys into specific disciplines and interests so as to ensure that they did not become like the local “ragamuffins” (p. 483).

Wilkins (2010) neatly encapsulates this middle-class dilemma in his summative table (p. 179).

Choice	Community
Individual	Collective
Self-regarding	Community-regarding
Consumer	Citizen
Commercial	Political
Monocultural	Multicultural
Social selection	Social mixing

Here, choice could be interpreted as a selfish act of promotion and elitism. Wilkins sees school choice as a contributor to the undermining of “public welfarism and a democratic citizenry” (p. 172). Maybe this is why throughout his and other researchers’ papers (eg., Oria, Cardini & Ball, 2007; Cucchiara, 2013), there are parents trying to resolve their inner conflicts or private dilemmas about school choice. Bosetti and Pyryt (2007) also reference “collective” in their discussion on parent dilemmas, which they define as “parentocracy” (p. 105); “the needs, values and preferences of parents as consumers take precedence over impersonal and impartial values of the collective good” (p. 105).

A first-hand example of the dilemma of school choice is found in a conversation I had with Grace, a Mosaic parent, who had transferred her daughter to the school because she felt it would offer a more enriched curriculum. “[It was] traumatic for her. She was only eight or nine so we pulled her against her will and put her in here...it was very traumatic for her.”

It is clear from the research that the dilemma or anxiety that neo-liberalism has wrought upon this generation of parents as they search for the best educational site of learning for their children, is real. And, we can no longer assume that the neighbourhood school is going to be a parent’s first choice.

Mosaic then and now

How did Mosaic’s student population grow so rapidly? Through the arrival of students from outside of its catchment area. The dramatic rise in student population—from 90 to 240—would naturally dictate more teaching and non-teaching staff and facilities. More remarkable is the number of ministry-designated² students attending Mosaic. In 2005 there were 4, and at the time that this research was completed, there

²Ministry-designated students is the term used to identify any child with a particular learning need, including gifted, autistic, learning disabled, intellectually disabled, blind, deaf, chronic health impairment, behavioural, and physically dependent.

were 31, for a ratio of approximately 1:8 students designated. This rise in ministry designations is dramatic. Clearly, for parents of designated children, arts-integrated schools have a particular appeal, and one wonders what the inherent value of the Arts is for them.

As Hannah, the Principal tasked with opening Mosaic as an arts-integrated school stated, Mosaic “is a place for everybody and anybody.” Therefore the number of ministry-designated students should not be considered paramount to the discussion here, although it does affect programming. Of more importance to this paper is the fact that it has impacted on teaching staff and how they regard the school, its pedagogic approach, and its student population.

A dramatic beginning

Before Mosaic opened its new doors and offered up a new pedagogy and curriculum design, there were the teachers. And, in the beginning, there were difficulties as teachers already at Mosaic competed against those Arts-trained teachers coming newly into the school. It was a dramatic beginning, and as misunderstandings arose between teachers, and between teachers and administrators, one could say that it was a bumpy start.

More recently, and as my interviews disclose, an ongoing concern to the Mosaic staff, has been the integrity required to fully maintain and practice an arts-integrated pedagogy. “Are we doing what we say we are doing?” (Angela, Mosaic administrator, retired). However, the point most often raised in these teacher interviews centres on student behaviour. This is exemplified by comments made by Emma, a teacher research participant.

I was starting to notice, and you know, I don’t spend much time looking at the enrolment. We have a lot of special needs kids, a lot of behaviour kids, a lot of that kind of thing going on. “Oh, they like art, we’ll put them there they will be ok,” and I was thinking, “these are the kind of kids who shouldn’t be at the school.”

Her observations support the general staff feeling that the main parental appeal has been a perception that schools offering an arts-based curriculum can resolve negative behaviours in ways that other schools cannot. But further into the conversation, Emma discusses why this perspective is problematic.

Well it’s one thing if you say, “My child struggles with behaviour,” but they’re maybe gifted musically. I see that as something completely different than what we’re talking about. Because what I was seeing was, well, “My kid can’t hack it at this school so I’ll try the fine arts school where they spend more time doing drama and music”...It was really scaring me when I was here and I saw that happening and I thought, “What are we becoming a behavioural school?”

Because many of the children enrolling from outside of the catchment or school district, have struggled with behavioural challenges, Mosaic teachers have queried whether the school is not so much about the Arts, as about the Arts as enablers. This is further supported by remarks from Don, who now-retired, was involved with Mosaic from the outset.

The first year we were designated a fine arts school, in my class I had three new students...one who definitely belonged, but was definitely off the wall...The second year...in all the years that I taught, 35 years 28 of those years in grade seven, rarely do you get many new grade seven students, and that year 10 came in. Of the 10 you could not get a more diverse set of students...every single one of them had some sort of exceptional—they weren't exceptional—some specific needs that they thought a fine arts school would be able to address.

Appealing to parents: social and cultural capital

Within my set of parent interviews, and whether it was conscious or not, is the evidence that social and cultural capital have been decisive factors in some parents' decisions to relocate to Mosaic. My interview with Kate, an out-of-catchment parent, is one such example. At the outset when asked why she had made the decision to enrol her son at Mosaic, she stated, "Had I not come here, I would have gone somewhere else. I had brochures for St. George's³, etcetera." Yet as the conversation progressed, she began to criticize the manner in which the school demographics had changed over the years. "I see this school as very, very competitive...[with] additional money in people's pockets in this catchment." The contradictory nature of this interview underscores Lefebvre's (1991) assertion about the "unclear aspirations" of the middle class (p. 309). Whatever the case, Kate was firm in her response to my question as to whether or not she had conferred with her son before transferring him to Mosaic; "He knew we were in a Ford and needed to upgrade to a Cadillac."

Unlike Kate who had further condemned her child's previous school because its student population was too transient, with "too many rentals," Nancy had moved her family to Mosaic because she had been concerned about their children's previous school, where status seemed to be the overall measure of acceptance. "At Laurel Elementary there was a lot of emphasis on fitting in. Because that is how the parents are – worried about how their house looks, what kind of car they drive, the clothes they wear."

Mosaic had a different type of appeal for Nancy; believing that an arts school would offer equality across all families, as well as a new approach to learning, she enrolled her child at Mosaic. Yet other families from Nancy's school transferred to Mosaic, and she did not express any concern about this. In this new setting, she may have felt that she was part of the same group. Whatever the case, social and cultural capital have been at play in drawing certain families to the school. Altogether it has created an inclusive and active parent community. Yet these parents all possess similar backgrounds, being white, middle-class, well-educated professionals. In summation, they could be described as "educated workers between the ages of 35 and 44 who have entered 'prime earning growth years'" (Cucchiara, 2008, p. 167, citing Levy, 2003). Social networking has been an important factor in Mosaic's increasing student population. At the outset Mosaic was advertised in a local newspaper, but this was a short-term measure. Over the years, the better means of communicating has been among parents. As Grace, another Mosaic parent replied when asked how she had heard about the school, "It was just parents talking to parents." Here we see an

³ An elite fee-paying boy's school

excellent example of the productivity of social networking, but it also opens up another field of inquiry, and that is, who has been excluded?

Addressing parent need

If these parents fit the typical profiles of those who access school of choice, there was in fact another appeal to Mosaic: self-fulfillment. While interviewing Hannah, Mosaic's now-retired Principal, I asked her "What was the one question that you remember parents asking you the most—what question came up most often?" Her reply was, "They wanted to know if they could be a part of the school, if there was something they could do to be a part of their child's learning." Mosaic does offer many opportunities for parents to become involved since its process-based curriculum nevertheless results in regular performances as well as fund-raising endeavours. This has created a unique space for parents, as discussed by Brittany, a parent who has found personal fulfilment at Mosaic.

I really enjoyed being involved in that [school production]. I would like to help in all the classes and have more involvement in it...I like being around it and I think it's really neat. Not just for my kids but for myself. It's a place where I can come.

Brittany furthered her statement in a more general comment about the school.

Not all schools have rooms to help. This school has more opportunity for parents to do more if they want to, the art show is amazing, the dance things, and there are just so many interesting things for parents to do.

Parent involvement is an important component to the success of any elementary school. However, the interplay between parents and teachers requires balance. Some teachers were somewhat perplexed as to the level of parent involvement, seeing it as excessive. As Annie, an upper intermediate teacher stated,

The parents are needy. I think too a lot of these kids are from wealthy families and the mothers are around because they don't work, they're always around. You have these parents who have the time and the money. I think there's definitely a sense of need here, for instance some of the teachers have put up with a whole lot worse than I do, have allowed parents to come in and teach once a week...I've never seen teachers who put up with it and I don't get it.

This particular issue really comes down to whether one is a teacher, or whether one is a parent. But it is clear from both teacher and parent statements, that the school has been fulfilling the personal needs of parents, and this can certainly be considered one of Mosaic's appeals.

The appeal of place and space

Also attractive to parents were matters of place and space. Interestingly, this was not part of any interview question, yet Candace, a parent whose children had previously been in a private school, was attracted to Mosaic in part due to its small size. "The kids, they get to know all the other kids in the school. They may not know them really well. But they know where they belong." She also added that there were "lots of opportunities to get involved because it is a small school." Likewise, Lily, another Mosaic parent, shared her distaste for her child's catchment-area school, describing it

as “a sort of insane asylum. It’s so bizarre, it’s so white and clinical!” Her husband Jim, added to this by stating that the Mosaic environment “doesn’t seem as oppressive.”

The appeal of an arts-integrated pedagogy

In this place—this space of learning, parents were attracted to the arts-integrated pedagogy and the reasons are as interesting as they are diverse. For example every parent interviewed believed that Mosaic would not use textbooks or worksheets in their instruction. These parents were tired of more typical strategies of knowledge acquisition and their assumption was that if the arts were part of the curriculum, the structure of learning would differ. Candace offered this comment when discussing her child’s previous school. “I just thought, this isn’t working anymore. Too workbook-oriented, no creative thinking, no problem-solving. You know what, I think we’re done here!”

Some or all of these parents also believed that Mosaic would offer a flexible curriculum, flexible assessment, with VPA accessible throughout the day. But one cannot negate the appeal of creativity, and for some parents, creativity was paramount as they believed it to be the key to a successful education: the foundation upon which all future learning success would rest. The Arts were in fact, the architect of the concept of the ‘whole child’. Lydia, another Mosaic parent, believes that, “creativity is a foundation. That’s where you generate ideas and problem-solve and all those skills, and so creativity; they can just grasp anything, tackle anything. It’s a foundation.” Likewise, Jim believes that the arts are organic, an intrinsic part of our being. “It’s like living in the moment. It’s like living through the moment as opposed to this is something sacred [instead] this is what we are just going to do.”

Living in the moment. Living through the moment. Jim’s point that the arts should be a natural part of our lives, is somewhat akin to Bresler’s (1995) discussion on levels of arts integration most commonly practiced by teachers: the most basic being described as an “add on” (para 18), and therefore not organic so much as a curriculum enhancer.

A means to an end?

For some parents a different pedagogy might not be enough, and here I introduce the concept of Mosaic as a means to an end. This is not surprising. Some parents will enrol their children at whatever choice school is available in their district. As such it becomes a means to an end, as in Wendy’s case, who had been unhappy with her children’s previous school, but whose daughter is a natural athlete. “If there was a soccer school of choice, I would perhaps enrol my kids, and that’s what I’m looking at for high school for Mathilda.”

An equally interesting interpretation of Mosaic as a means to an end comes from Isla, who, while discussing a colleague’s decision to enrol at a prestigious university for his undergraduate degree, likened it to elementary school. “In a way, it’s [elementary school] kind of the same, right? Does going [to an Ivy League university] for your undergrad really mean anything and is that what you will become in life?”

Isla had enrolled her son at Mosaic because it had sounded interesting and she thought he might enjoy it. Here she equates an undergraduate degree with elementary school—neither being as highly valued as future education. Mosaic was a means to an end—a new place of learning, but whether or not one should downplay the importance of a child’s elementary school years, is debatable.

The whole child

Without question Mosaic’s greatest appeal to parents fell within the arena of what I call the whole child. If discussions on pedagogy frequently included the phrases, “no textbooks” or “hands-on learning”, then “confidence” is the word most commonly used to support the benefits of an arts-integrated pedagogy. Parents have placed great faith in the power of the Arts to provide advantages in terms of socialization, empathy, and public presentations. In short, life skills that address the development of the whole child appear to be very important to Mosaic parents. Linked to a non-traditional pedagogic approach, parents believe that the most important product that Mosaic can offer is a well-rounded education that prepares their children for secondary and higher education.

It is not just the growth and creativity but also the growth and confidence that you can create something...I think Jessica has more confidence in her ability to create...I think it [creativity] helps with academics too because it really opens your thinking which then translates into how you approach things—confidence, again, confidence. (Grace, parent)

In this same part of the conversation, Grace also discussed how an arts-integrated education affected social relationships positively.

...I think the social and the academic, you know the projects they were working on, all got integrated together which is lovely. They [students] have a deeper relationship...the socialization doesn’t just happen on the playground at recess, it happens through the process of the Arts.

To whom do arts-integrated schools appeal, and why?

In summing up the key points of these interviews, it is interesting to note that within the set of teacher interviews are levels of dissatisfaction, and yet Mosaic parents were generally happy with the school. This seems to be a strange contradiction, but teachers discussed concerns about programming, levels of teacher commitment, the debate around Arts credentialed versus non-Arts-credentialed teachers, and matters of trust among staff. Diane, who had played an active role in Mosaic’s beginning years spoke to some of these matters.

I still find this collective group of people [to be] people who might fit in at another school because they don’t seem to be worried about that level of commitment that I brought so it frustrates me as an individual.

She further expanded on her frustrations when querying some teachers’ personal motivations for transferring to Mosaic.

There were people who were recently hired who say, “I don’t do this, I don’t teach that”...I’m curious about their understanding and what are you doing differently, why would you plan on this? [teaching at Mosaic]. I wouldn’t go to a French immersion school unless I was committed to learning French I

wouldn't go to the BC Provincial School for the Deaf unless I was committed to learning signing.

Some teachers were at Mosaic based on its proximity to their home, while others had wanted a new challenge. On the matter of credentials, Diane, who is not Arts-trained stated that it was "more about the person and personality and their teaching style than their teaching credentials," while Nina, an Arts specialist, disagreed, arguing that "there has to be that core understanding of skill and foundation to be able to build skills for the students themselves."

Whatever teacher attitudes, understandings and concerns about Mosaic continue to persist, they have not been transferred to the parents, who are generally positive about their children's learning experiences. Mosaic's student population continues to grow, hindered only by a lack of classroom space. Apart from those issues discussed in this paper – academic, social and behavioural issues; a means to an end; the pursuit of academic advantage – in the end, it is very interesting to capture the variable factors such as transportation systems, and proximity as well as the cultural politics determining parental choice. And, this has implications across diverse geo-political entities.

Conclusion: the appeal of arts-integrated pedagogy

What is the appeal of an arts-integrated pedagogy, and who should benefit from it? All children should, and yet they don't. Arts-integrated public elementary schools sit apart from the neighbouring school, potentially perceived as better sites of learning, and yet this is not necessarily the case. It depends on the individual child. Yet parents seek out such schools of choice, sometimes in an effort to ensure their child's future educational advantages, and sometimes hoping it will be a place of nurture or even structure.

The Arts provide for many enriching opportunities for children kindergarten through to secondary school. This paper has sought to discuss the results of some parental (and teacher) perceptions of arts-integrated learning. What appeals to parents? Art for art's sake is under-addressed in both parent and teacher interviews, and yet there is a place for the discrete arts as well. If not, then the VPA could disappear as valued, individual subjects.

If the arts are not studied for their own content and ways of knowing, if they are always studied as humanities disciplines or as supports to other disciplines the specific knowledge and skills associated with artistic modes of thought will not be present in a student's education. (Brewer, 2002, p. 33)

If the Arts in education can in fact positively change children's academic, social and behavioural patterns, then indeed, why are the arts not at the centre of all of our schools – public and private? Indeed, should they not be organic, and intrinsic to our learning?

I have not found an answer to that question. The research continues...

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Continuous Professional Development for Novice Teachers of English

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Abstract

Novice language teachers, especially those who are in their first or second year of teaching, generally feel a need for in-service programs that better equips them for the institutional needs, expectations and challenges, as well as meeting their own professional development agenda. Although most educational institutions have their own induction and in-service programs, most of these programs are pre-planned or set programs addressing the institutional needs and may not always meet the individual needs of the novice teachers. Therefore, novice teachers may feel in despair and search for ways to develop themselves professionally, academically, as well as personally. In recent years, continuous professional development (CPD) programs are in rise and many educational institutions now have started to establish their own CPD programs to meet the needs of all of their teachers, but especially those who are relatively new to profession. In accordance with the new changes and trends, Anadolu University, a state university in Turkey, School of Foreign Languages initiated a new CPD program for its teachers. In this paper, the preliminary findings, namely findings from the needs of novice teachers are presented. In part of the needs assessment, novice teachers' needs and expectations from a CPD program is sought and based on their responses, a new, institutional model is proposed.

Keywords: In-service training, CPD, novice teachers

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Introduction

As part of its teacher development program, an in-service teacher training (INSET) program was implemented at Anadolu University School of Foreign Languages (AUSFL) in 2002-2003 academic year. The researcher conducted a study regarding the usefulness of INSET courses for the participants. Seventeen novice teachers who were in their first year of teaching participated in INSET courses at AUSFL. The aim of the study was to explore the novice teachers' perceptions of these INSET courses. The study had revealed that the factors affecting the usefulness of INSET courses were;

- a) Amount of contextual relevance of the knowledge presented,
- b) Timing of the workshops,
- c) Amount of reflection and participation allowed in training sessions

Again as part of its professional development program, AUSFL carried out an INSET program for its 8 newly recruited novice teachers in 2014. The purpose of the study is to compare the results of these two studies to provide an institutional INSET model and give some insights for the institutions planning to hold INSET programs especially for novice teachers.

Participants:

Novice teachers have been defined as those who have three or fewer years of teaching experience (Freeman, 2001). However, Anadolu University regards novice teachers as those who are in their first year of teaching. The study was conducted with 8 novice English teachers of Anadolu University School of Foreign Languages (AUSFL) in 2013-2014. The teachers were in their first year of teaching. Six of the participants have BA's in TEFL, one of them has BA in English Language and Literature and one participant has BA in Translation. Only two of them had some previous teaching experience at different schools which are completely different from AUSFL. Participation for this INSET program was obligatory for these novice teachers.

Setting:

The study was conducted in Anadolu University School of Foreign Languages, Eskişehir, Turkey. AUSFL provides one year intensive English, German and French language education before students pass their departments for content education. There are almost 150 English instructors and 2800 English language learners at AUSFL.

Procedure:

The INSET program lasted almost 4 months. The first month of the training was just before the beginning of the semester and the participants had both theoretical and practical training on their subject matter and the institution in which they teach. Their training included academic readings and discussions as well. The rest of the training continued while they were teaching at AUSFL. During this part of the INSET program, the trainees (the novice teachers) participated in seminars which were conducted once a week. The participants observed their trainers and other experienced teachers working in their school. They were also observed by their trainers and peers.

In addition to the observations, they video-recorded their lessons and evaluated their performances with their trainers and peers.

Instruments:

- A survey consisting of 11 questions;
- Semi-structured interviews with randomly chosen participants
-

Data Analysis:

Qualitative data analysis procedure was used by the researcher. After the survey was collected, participants' responses were analysed based on the interpretations of patterns emerging from their responses. The second step in data analysis was the interpretation of the interviews. The interviews were transcribed and emerging themes were highlighted.

Findings:

While analyzing the open-ended questions in the survey, the researcher identified three categories which emerged from participants' entries.

1- Practical Applications and Reflections of the Program:

The participants mentioned that some of the knowledge and practice they gained from the INSET program had an immediate impact both the way they feel in their new institution and on their teaching. This helped them overcome their anxiety in their first year of teaching and put them at ease. Especially the orientation part of the program helped them a lot in getting familiar with their institution and with their new roles and responsibilities. Below you can see some responses regarding this theme.

"novice teachers can have a chance to observe and learn the system applied at this institution."

"It could help them in terms of adapting themselves to the environment."

"It was very helpful in adjusting to the new work place and surroundings."

"It helped me break the tension I had at that time."

"Starting with the orientation part, it was necessary and %80 useful because we had a chance to get to know the units, unit responsibilities and their role at the school."

"Lesson observation was the most efficient way of finding out the system in a new institution."

"because I learned many things about the curriculum and assessment system in our institution."

Some responses of the participants showed the immediate impact of the program on their teaching practices. Classroom observations, getting advice from the trainers and experienced teachers, self-evaluations and reflections helped novice teachers either gain new methods and techniques or some practical ideas about the issues they had limited knowledge or no experience. The responses below support this.

"I took my trainers' and friends' advice into consideration."

"The advice of the experienced teachers I observed and our trainers helped me to see my strengths and weaknesses."

"I mostly changed my methods of grouping students in the classroom and giving feedback."

"because I obtained some novel ideas and some "Do's and don'ts" in terms of specially classroom management and lead-in activities."

"realizing what I did and what I can or should do for a better, more fun and versatile education both for me and students"

Alan's (2003) study had already revealed that participants found the INSET workshops the most valuable when the knowledge presented during these INSET courses were contextual and addressed the immediate needs of the participants. This study also revealed similar results regarding the content of the workshops and courses presented during the program. Therefore, an INSET or professional development program should keep in mind that every institution is unique in terms of students, available resources and requirements, so the programs should be designed on an institutional basis which will equip the participants with the relevant and urgent practical knowledge. This may help participants who are especially novice teachers feel comfortable and confident when they start teaching in an environment which is unfamiliar to them with their new roles as teachers. In addition, when the participants do not find practical knowledge or feel a mismatch between what has been presented during the INSET program and what they have been actually doing in their teaching may hinder their faith in the usefulness of such professional development programs that will be held in the future (Alan, 2003), or their negative attitudes and experiences might negatively affect the attitudes of prospective novice teachers who will start teaching in the following years in the same institution. Below you can see some negative responses regarding irrelevant data.

"The only thing which was inefficient was that our trainers made us read some books about CEFR which didn't work for us."

"In terms of knowledge in field, I cannot say it helped a lot."

"We didn't specifically focus on local requirements or goals. It was for general professional development."

"I don't think it was localized. It could work well for any prep school because it didn't aim at any special difficulties such as outcomes of CEFR, special student profile of our school, etc."

We didn't specifically focus on local requirements or goals. It was for general professional development.

In terms of knowledge in field, I cannot say it helped a lot.

Apart from their responses to the survey, the interviews also revealed that some knowledge they gained from the INSET program such as how to assess and give feedback to written assignments, how to conduct speaking exams, marking portfolios was totally new for them. They confessed that it would have been unfair for the students if they had started practicing these without taking any specific training.

2- Timing:

Another emerged theme mostly stated by the participants was timing. Having limited time after lessons to pursue a professional development program was a challenge for the novice teachers. Their heavy workload in a tight schedule did not allow them to fulfil the necessary requirements of the program. Below you can see how these novice teachers expressed their views regarding lacking time.

"We had 24 class hours a week and we used to spend a lot of time preparing for the lessons, so we couldn't concentrate on our in-service training course."

"it was during the academic semester so both for the trainers and trainees it was difficult to get together systematically."

"at a time when we didn't have much time,"

"It could have been enough, but under the intense working conditions of AUSFL it wasn't."

"24 hours of lesson in a week the first time you are giving lessons"

The time given to each practice was not enough although the practice was valuable in itself."

"I don't think it was enough. Four months would have been enough if we- novice teachers hadn't had so many lesson hours in a week. Then we could have spent much time for in-service training instead of just one day a week."

"...but I had difficulties on managing all my lesson preparations, portfolio evaluations, doing research on my area and the weekly in-service training meetings at the same time. So I think we needed more time for more effective training."

"because of the heavy teaching load as I mentioned before. We couldn't work through all teaching contents such as teaching writing, lesson stages, different methods for different learners."

The responses of the participants suggest that novice teachers especially the ones who are participating in an INSET program should have a light schedule in order to make the best of these professional development programs. The participants stated that they did not have time to internalize the knowledge presented to them. They also had difficulties to cope with the requirements of the program while teaching intensively at the same time. This prevented them from applying some of the methods, ideas or knowledge covered in the program since they did not have enough time to prepare their lessons in the light of course content. As a result of this, they felt that the program content sometimes was superficial, and they did not have time to discuss and apply the knowledge they gained in depth. When they do not apply and see the benefits of the knowledge presented in the program, it is really difficult to convince them in the usefulness of such professional development programs.

So, an INSET program for novice teachers must be conducted in a context where they have a light schedule. Their timetables should enable them to concentrate on their requirements for the INSET program. Besides, because they are not experienced and not accustomed to their new roles, they may not fulfil their responsibilities in terms of teaching and this will create other problems. Participants' interviews also supported their views. They stated that novice teachers should not have many lessons and should not have many responsibilities in their first year of teaching along with the INSET courses they take. They also added that they should not teach at all for a while if possible.

3- Classroom Observations and Recordings:

Participants' responses revealed that observation sessions were an important component of the training program. Almost all participants mentioned about the impact of observations both on their perceptions of the program and on their teaching practices. However, participants' responses were half positive and half negative. Therefore, the researcher further analysed the reasons of this contradicting data through interviews which will be discussed later. Below are the samples of positive views regarding observations and how they influenced their teaching practice.

Specially video recording part with post-revision and criticism from trainers and trainees were beneficial for me.

the more we observed, the more secure we felt about our upcoming classes.

We should have done more observations.

Also, via video-recording part, I had a chance to have an everlasting proof or phase that I can see and think on it.

The only positive side for me was the observation parts where I could take one good thing from one teacher and another from another teacher.

I believe lesson observation was the most efficient way of finding out the system in a new institution.

Interviews with participants also supported their responses. When the researcher asked them what the most beneficial part of the program was, they expressed their content with the observations. They stated that they learned a lot from both their peers and the experienced teachers they observed. Participants in the interviews stated that they are still applying some methods they gained from observing other teachers.

The findings above complements Alan's (2003) study that novice teachers do not want to be passive listeners in the courses presented during INSET programs. They want to take active roles in the professional development programs where they can discuss the usefulness of the methods and techniques they gain in the reflection sessions. They want to express their thoughts and views about the proposed models.

Besides, novice teachers are eager to learn the experiences of novice teachers on certain cases in the institution they teach. They want to be prepared to the situations they will likely to encounter. During the interviews participants stated that each of them could have been matched with a mentor teacher. Sometimes they felt lost since they could not always find someone to help them around and they did not know what to do or who to consult in those situations. They added that if they had had an experienced mentor teacher who knew the institution very well, it would have been great help for them.

As part of observation process, the participants sometimes video-recorded their lessons and this created a tense and artificial environment in the classroom.

...but it caused a tense environment in the classroom. So, it wasn't a good way to observe the class in its regular way.

Recording and afterward giving feedback session was total disaster since the students were nervous because of the camera in the class.

Didn't work – students did not behave natural or were nervous.

Both the teacher and students didn't behave normally while they were being recorded. Even good students did not want to talk in the classroom or students were not risk-takers and this reduced the class participation. One of the participants' stated that sometimes he had to tell lies to his students.

One day I cheated my students. I said the video recorder was off, but actually it was on and recording our lesson. We had a great lesson.

Another participant stated that during those video-recording sessions it was difficult for her to explain the purpose of video-recording. The students thought that the purpose of the recordings was to test the teacher's competency. She said her students sometimes asked:

Teacher, are you new? Are they (administration) observing you because you are new or because of something else?"

She also stated that recordings influenced both the teacher's and students' performances negatively; therefore, did not serve the intended purpose. Instead, participants stated that there could have been more observation sessions to become aware of what other teachers are doing and also to get feedback about their own teaching practices.

Conclusions and Implementations

The study revealed that the characteristics of novice teachers participated in this study are similar to the characteristics of the novice teachers who participated in the INSET program in 2002 at Anadolu University School of Foreign Languages. The findings suggest some considerations while holding an INSET program taking the needs and characteristics of novice teachers into account.

Both studies compared in this paper indicate that INSET programs should meet the immediate needs of novice teachers. First of all, an INSET program should make novice teachers become aware of their responsibilities and challenges they will have in their new institution. Therefore, it should equip them with the necessary knowledge and skills that will enable them to cope with those challenges. The teachers may come from different backgrounds with different experiences, skills, and views about teaching. Their pre-service education prepares them to their profession theoretically, but they lack practice, so an INSET program for novice teachers should focus on the areas they are unfamiliar with and should emphasize practical issues. Some of these teachers may have some teaching experience; however, each institution is different and has its own culture that differs it from others. Even some experienced teachers may have some difficulties adapting to their new work place. For this reason, The INSET program should address those issues that will facilitate their adaptation to their new school. In addition, the studies show that participants value the knowledge presented during the professional development programs when it is relevant to the context they teach. They develop positive attitudes towards the professional development programs when they experience the practical applications and benefits of the knowledge they are taught. The teachers who had the most positive induction experiences were the ones who worked for the institutions where they had their own induction programs (Harrison, 2001; Wong, 2004).

The findings revealed that timing of the workshops or seminars in an INSET program is of great importance. To begin with, rather than overloading the participants with lots of knowledge, they should be trained at a time just before they use it (Alan, 2003). This will have two benefits. First, learning the theory and logic behind an implementation and practicing it successively will reinforce the knowledge presented and hence will increase the retention. Second, the trainees will feel confident and comfortable while applying it. For instance, the norming sessions on how to assess writing midterm papers were great help for the novice teachers and they stated that apart from doing it properly, it helped them overcome their anxiety since they had not had such a training in their pre-service education.

Another important consideration related to timing of an INSET program is that it should allow participants to digest the knowledge presented to them. In order to do this, they need a light schedule; otherwise, the knowledge presented to them seem to be superficial. The participants stated that just because they started to prepare their lesson and its requirements for the following day after the training sessions, they did not have time to internalize what they had studied. The participants felt a need for some extra time so that they could discuss the effectiveness of the new methods and approaches with their peers. Also, one of the characteristics of novice teachers is that they spend more time on lesson planning and material development (Richards, Li & Tang (1998), which may prevent them from sparing time for other tasks or pursuing

professional development activities. Therefore, it is better for novice teachers to have minimum teaching hours with less responsibilities in a context where they can have opportunity to practice the knowledge they gain in INSET.

The third main theme emerged from the study is observations. Observations were viewed as one of the most beneficial elements of the INSET program. The participants stated that they had learned a lot from observing their trainers, other experienced teachers and their peers. They especially liked the discussion sessions of the observations and video-recordings of their lessons. As they became more aware of what other teachers were doing through observations and video-recordings, they became more self-confident. This implementation also increased the collaboration among novice teachers and gave pave to sharing almost everything they prepared for their lessons. During the interviews they said they created a group in a social networking site and shared their lesson plans, materials, and games. They also discussed and shared their ideas concerning the lessons they did that day and made their self-evaluations.

Alan's (2003) study had already revealed that novice teachers prefer an INSET program in which they are treated as colleagues, but not trainees. Therefore, an INSET program should be designed on a collaborative basis among both trainers and trainees allowing them to share their experiences and benefit from each other (Alan, 2003; Burns & Richards, 2009). Novice teachers are willing to listen to the case studies of experienced teachers and they want to learn how their trainers or other experienced teachers deal with the occurring problems specific to their institution. The data also showed that novice teachers wish to work with a mentor teacher who will provide continuous help and guidance. The novice teachers stated that they felt a need for an experienced teacher whom they can reach whenever they needed. Continuing support for novice teachers is particularly important. Novice teachers need mentoring programs to meet their instructional, professional, and personal needs through support, encouragement, and coaching (Alan, 2003; Hobson et al., 2009). Assigning efficient mentor teachers who can be good models for novices may help solve some of their problems. INSET trainers have essential roles as mentors for novice teachers.

As part of the observations, the novice teachers were asked to video- record their lessons; however, this implementation caused some problems and did not work for them as intended. The first drawback of video-recording was that the students did not behave naturally. As a result, what was watched and criticized during the reflection sessions of the lessons neither reflected the real picture of the classroom nor the real performance of the novice teachers. Another disadvantage of video-recording was students' misinterpretation about the implementation. The participants stated that their students had some misconceptions about their competencies. The students thought that their teachers were being observed by the administration and they were not qualified enough because they were new. This had a negative impact on the novice teachers' perceptions of the INSET program. The video-recordings were conducted in good purpose and most of the teachers benefited from them; however, the data suggests that it should be implemented carefully especially in contexts where students and teachers are not familiar with it. For this reason, both parties should be convinced of the usefulness and the real purpose of video-recording in the lesson.

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***A Model of Small-Group Problem-Based Learning
In Pharmacy Education: Teaching in the Clinical Environment***

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Abstract

Problem-based Learning (PBL) is an alternative method of instruction that incorporates basic elements of cognitive learning theory. Colleges of pharmacy use PBL to help students achieve anticipated learning outcomes and practice competencies. The purpose of this study was to implement and evaluate PBL in small groups of fifth year pharmacy students in the clinical environment. A PBL model was implemented for one day per week over a period of 15 weeks at clinical practice sites. PBL activities consisted of the provision of pharmaceutical care, collection of patients' base clinical data, evaluation of therapeutic regimens, and development of SOAP notes, peer feedback, and case wrap-up sessions. Data were collected from 36 students who participated in the model by the completion of a 17-item questionnaire using a 5-point Likert scale about their competencies before and after finishing the course (Cronbach's Alpha 0.96). The students also completed an 11-item questionnaire using a 5-point Likert scale about their satisfaction with the course (Cronbach's Alpha 0.87). This data of competencies and satisfaction were analyzed by paired sample t-test and descriptive statistics respectively. The findings of this study indicated that the students' competencies increased after the implementation of the PBL course. Also, it was found that all the clinical skills regarding the application of didactic knowledge to direct patients' care activities, such as the identification, prioritization, and solution of therapy drug-related problems, and clinical communication with patients and/or other members of the interdisciplinary team, were statistically significant ($P < 0.05$). In regard to satisfaction, the mean scores of the responses ranged from high to the highest levels and most of the modes were 4. Overall, it was concluded that the PBL model enhanced the pharmacy students' competencies and the students were satisfied with the course.

Keywords: Pharmacy education: Problem-based learning: Clinical environment

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1. Introduction

Problem-based Learning (PBL) is an alternative method of instruction that incorporates basic elements of cognitive learning theory. It is a student-centered approach that empowers self-directed learning through the development of problem-solving skills in real-world practice situations (Savery, 2006).

PBL has been increasingly used in pharmacy education since 2000 when the American Council on Pharmaceutical Education indicated that “the educational process should promote lifelong learning through the emphasis on active, self-directed learning and the curricula should include teaching strategies to ensure the adeptness of critical thinking and problem-solving” (American Council on Pharmaceutical Education, 2000: p. 52-53). The American College of Clinical Pharmacy (ACCP) also suggested that pharmacy educators need to place more emphasis on the preparation of students in problem-solving, critical thinking, ethics, communication, and self-directed learning because of the expansion of the scope of pharmacy practice, resulting in pharmacists’ involvement in more patient care responsibilities. Pharmacists’ roles in today’s health care system requires greater problem-solving capabilities, effective thinking abilities, sound decision-making skills, and effective communication (ACCP, 2000, pp. 991-1020). As a result, many schools and colleges of pharmacy use PBL to help students achieve anticipated learning outcomes and practice competencies while developing problem-solving, critical thinking, and decision-making skills (Culbertson, Kale & Jarvi, 1997, pp. 18-25).

PBL has been used in a number of pharmaceutical education courses and there have been many reports published that describe the experiences with this method (Culbertson, Kale & Jarvi, 1997, pp. 19-26). Several studies showed the positive impacts of PBL on students’ learning behavior, knowledge, skills, and attitudes (Hamoudi, Nagavi & Al-Azzawi, 2010, pp. 206-219). The results of current meta-analysis indicate that the PBL curriculum seems to improve the academic performance of pharmacy students when compared to traditional methods of instruction (Galvao, Silva, Neiva, Ribeiro & Pereira, 2014, pp. 1-7).

The purpose of this study was to implement and evaluate PBL in small groups in an elective course for fifth year pharmacy students in the clinical environment.

2. Literature Review

Overview: definition, characteristics, effectiveness of Problem-based Learning

PBL represents a major development and change in educational practice that continues to have a large impact across multiple disciplines worldwide. It has been used successfully for over 30 years and has been endorsed by a wide variety of national and international organizations, such as medical education and medical colleges (Muller, 1984; Walton & Matthews, 1989, pp. 542-558), the World Health Organization (WHO, 1993), nurse education (English National Board, 1994), and pharmacy education and pharmacy colleges (Ross, Crabtree, Theilman, Ross, Cleary & Byrd, 2007).

PBL has been defined in many ways to refer to a number of contextualized approaches to teaching and learning anchored in concrete problems (Evenson & Hmelo, 2000). Barrows, a pioneer in the field of PBL, defined it as:

the learning that results from the process of working toward the understanding or resolution of a problem. The problem is encountered first in the learning process and serves as a focus or stimulus for the application of problem solving or reasoning skills, as well as for the search for or study of information or knowledge needed to understand the mechanisms responsible for the problem and how it might be resolved (Barrows, 1986: p. 481-486).

Albanese and Mitchell (Albanese & Mitchell, 1993: p. 52-81) provided a much-quoted definition stating that “PBL at its most fundamental level is an instructional method characterized by the use of patient problems as a context for students to learn problem-solving skills and acquire knowledge about the basic and clinical sciences.” Vernon and Blake (Vernon & Blake, 1993: p. 550-563) defined PBL by its instructional design components, students’ cognitive processes, and teacher’s role, saying that it is:

a method of learning (or teaching) that emphasizes (1) the study of clinical cases, either real or hypothetical, (2) small discussion groups, (3) collaborative independent study, (4) hypothetico-deductive reasoning, and (5) a style of faculty direction that concentrates on group progress rather than imparting information.

In general, PBL is an instructional (and curricular) learner-centered approach that empowers students to integrate theory and practice, and apply knowledge and skills to develop a viable solution to a defined problem (Savery, 2006, pp. 9-20).

Barrows suggested that PBL consisted of six essential elements (Barrows, 1986: p. 481-486). These are: (1) it is student-centered, (2) it involves small student group environments, (3) the tutor works as a facilitator or guide, (4) authentic problems are primarily encountered in the learning sequence, before any preparation or study has occurred, (5) the problems encountered are used as a tool to acquire knowledge and the problem-solving skills necessary to eventually solve the problems, and (6) new information needs to be acquired through self-directed learning.

Positive effects of PBL on student learning have been shown in several previous studies, including optimal learning performance, particularly in the area of knowledge retention, integration of basic science knowledge for the solution of clinical problems, self-directed learning skills, and increased intrinsic interest in subject matter (Major & Palmer, 2001, pp. 4-9). Statistical analyses in one study in East Asia, an area known for its reliance on traditional approaches to teaching and learning, suggested that PBL can exert a positive impact on instructional effectiveness, especially in action-directed learning, student engagement, and assessment and feedback (Hallinger & Lu, 2011, pp. 267-285). Galvao, Silva, Neiva, Ribeiro and Pereira showed that it improved the academic performance of pharmacy students when compared to traditional methods of instruction (Galvao, Silva, Neiva, Ribeiro & Pereira, 2014).

3. Design of a Problem-based Learning Model for Small Groups in a Course titled *Special Problems in Pharmacy Practice*

3.1 Course description

Special Problems in Pharmacy Practice is an elective course of three credit offered to fifth year pharmacy students. The course is designed to allow students to apply didactic knowledge to direct patient care activities and practice their pharmacy knowledge in real-life sites. Students apply their knowledge of patho-physiology, pharmacology, pharmacokinetics, and pharmacotherapy to optimize patient care in a variety of specialty settings, concentrating on patient-specific pharmacotherapy, evidence-based medicine, medication use evaluation, and effective communication with patients and healthcare professionals.

3.2 Course Objectives

Upon completion of this course, students will be able to:

- Review patients' profiles and clinical data gathered from patients and patients' medical records, such as OPD cards and IPD charts
- Design an appropriate treatment plan and evidence-based therapeutics regimens for individual patients
 - o Specify therapeutic goals for individual patients incorporating the principles of evidence-based medicine that integrate patient-specific data, disease and medication-specific information, ethics, and quality of life considerations
 - o Design patient-centered regimens that meet the evidence-based therapeutic goals established for patients, integrate patient-specific information, disease and drug information, ethical issues and quality of life issues, and consider pharmaco-economic principles
- Design patient-centered, evidenced-based monitoring plans
 - o Specify efficacy monitoring parameters for therapeutic regimens that effectively evaluate achievement of patient-specific goals
 - o Specify toxicity monitoring parameters for therapeutic regimens for which adverse effects may occur
- Recommend or communicate evidence-based therapeutic regimens and corresponding appropriate monitoring plans to other members of the interdisciplinary team and patients in a way that is systematic, logical, accurate, timely, and secures consensus from the team and patients.
- Practice communication skills through the provision of counseling to patients and caregivers, including information on medication therapy, adverse effects, compliance, appropriate use, handling, and medication administration
- Refer patients to appropriate health care providers when they have health care needs that cannot be met by pharmacists based on patients' acuity and presenting problems
- Devise a plan for follow-up for a referred patient.

3.3 Educational Environment

A PBL model was implemented on one day per week for a total of 15 weeks for the elective course *Special Problems in Pharmacy Practice* to maintain compliance with the accreditation standard.

Strategies to promote student learning outcomes consisted of lecture-based teaching and problem-based learning in clinical practice sites with a teacher acting as a facilitator.

In the lecture-based teaching (3 weeks), clinical topics consisted of how to gather data, tips for the use of SOAP, introduction to the process of medication use, and medication evaluation in oncology, psychiatric, and community pharmacy.

In the clinical practice sites rotations (9 weeks), each student had the opportunity to provide clinical pharmacy services in three randomly assigned practice sites. The clinical practice sites included an acute care in internal medicine ward, oncology ward, psychiatric ward, and community pharmacy care in a community pharmacy. Each student spent three weeks at each of three sites.

In case wrap-up sessions (3 weeks), the student then completed a case presentation with a teacher in the faculty.

The following is a list of activities representative of pharmacy students' responsibilities during the rotations in the internal medicine ward and community pharmacy.

In the internal medicine ward:

- Complete pharmacists' ward rounds with hospital preceptor and faculty teacher
- Provide pharmaceutical care based on patients' needs by the identification and resolution of problems in individual patients
 - o Review patients' profiles and clinical data-gathering from patients and patients' medical records, such as OPD cards and IPD charts
 - o Review of laboratory data to monitor for appropriate dosage of drug therapy
 - o Evaluation of all medication regimens for appropriateness and cost-effectiveness
 - o Identification of and resolution of any drug-related problems
 - o Proactive involvement in selection, modification, and monitoring of drug therapy
 - o Provision of medication information to interdisciplinary team, such as physicians, nurses, and patients
 - o Monitor and report adverse drug reactions
- Record and report pharmacists' SOAP notes for individual patients
- Discuss with the preceptor and teacher about drug-related problems and solutions.

In the community pharmacy:

- Provide pharmaceutical care based on patients' needs by the identification and resolution of problems in individual patients

- Complete clinical data-gathering from patients
- Perform differential diagnosis based on patients' presenting signs and symptoms
- Design medication regimens for appropriateness and cost-effectiveness
- Provide medication information about efficacy monitoring parameters and toxicity monitoring parameters to patients
- Advocate lifestyle changes that can improve the outcomes of medicinal therapy
- Monitor and report adverse drug reactions
- Record and report pharmacists' SOAP notes for individual patients
- Discuss with the preceptor and teacher about drug-related problems and solutions.

4. Method

This research was a quasi-experimental study of a one group pre-test/post-test design that aimed to study the effects of PBL in small groups in the elective course *Special Problems in Pharmacy Practice* for fifth year pharmacy students.

The PBL model was implemented for a period of one day per week for a total of 15 weeks for the elective course. Strategies to promote student learning outcomes consisted of lecture-based teaching and problem-based learning in clinical practice sites with a teacher acting as a facilitator. In the rotation of the clinical practice sites, each student had the opportunity to provide clinical pharmacy services in randomly assigned practice sites. Students were rotated every three weeks, after which they completed a case presentation to a teacher at the faculty.

Outcomes were evaluated before and after the implementation of PBL in two domains, pharmacy students' competencies and satisfaction.

The participants were 36 students who registered for the elective course. The students were divided into 7 groups of 5 students.

Data were collected from the students' completion of a 17-item self-assessment questionnaire using a 5-point Likert scale about their competencies (Cronbach's Alpha 0.96). In addition, they also completed an 11-item questionnaire using a 5-point Likert scale about their satisfaction (Cronbach's Alpha 0.87).

In the case of students' competencies, inferential statistics (pair t-test) was used to compare the mean scores before and after the course. Descriptive statistics such as mean scores was used to describe students' satisfaction. Rating scales were scaled to provide equal intervals. Interpretation of the mean scores included:

Range of mean scores	Meanings
4.21 - 5.00	Highest
3.41 - 4.20	High
2.61 - 3.40	Medium
1.81 - 2.60	Low
1.00 - 1.80	Lowest

5. Results

Table 1 shows the demographic data of the 36 students who registered in the elective course. There were 8 males (22.2%) and 28 females (77.8%). The mean age and Grade Point Average (GPA) were 22.58 ± 1.02 and 3.18 ± 0.48 respectively.

Table 1 Demographic data of students

Characteristics	Students
Gender	
Male	8 (22.2%)
Female	28 (77.8%)
Age (years)	
Mean $\pm$ SD	22.58 ± 1.02
Grade Point Average	
Mean $\pm$ SD	3.18 ± 0.48

Table 2 shows the pharmacy students' competencies before and after the 15 week implementation of PBL.

Table 2 Self-assessment rating scores in pharmacy students' competencies

Items	Before		After		Mean Differences	P value
	Mean	SD	Mean	SD		
1. Provide pharmaceutical care according to Good Pharmacy Practice concept	2.44	0.88	3.50	0.77	1.06	< 0.05
2. Review patients' profiles and clinical data-gathering from patients and patients' medical records, such as OPD cars and IPD charts	2.22	0.64	3.42	0.69	1.20	< 0.05
3. Recommend individual lifestyle modifications that can improve the outcomes of medicinal therapy	2.22	0.48	3.47	0.56	1.25	< 0.05
4. Identify and refer patients who met referral criteria to an appropriate health care provider	2.31	0.75	3.58	0.55	1.27	< 0.05
5. Design appropriate pharmacologic regimens and non-pharmacologic treatment regimens for individual patients	2.31	0.89	3.69	0.52	1.38	< 0.05
6. Apply didactic knowledge including diseases and pharmacotherapy to direct patient care activities	2.39	0.77	3.64	0.64	1.25	< 0.05
7. Initial assessment of disease severity in individual patients	2.31	0.75	3.69	0.58	1.38	< 0.05
8. Evaluation of all medication regimens in four domains including appropriate indication, efficacy, safety, and cost in individual patients	2.31	0.75	3.72	0.61	1.41	< 0.05

Items	Before		After		Mean Differences	P value
	Mean	SD	Mean	SD		
9. Interpret and analyze patients' medical information for development of pharmaceutical care plans	2.36	0.80	3.67	0.79	1.31	< 0.05
10. Identify risk factors and underlying causes in the development of patients' diseases	2.47	0.81	3.64	0.80	1.17	< 0.05
11. Identify patients' medical problems list	2.28	0.85	3.44	0.61	1.16	< 0.05
12. Prioritize patients' problems list based on urgency and severity of diseases	2.33	0.89	3.61	0.77	1.28	< 0.05
13. Identify patients' drug-related problems	2.25	0.87	3.36	0.68	1.11	< 0.05
14. Solve drug-related problems in individual patients	2.28	0.85	3.42	0.81	1.14	< 0.05
15. Communicate appropriate evidence-based therapeutic regimens through pharmacists' notes on medical records to other members of the interdisciplinary team, such as physicians and nurses	2.14	0.83	3.50	0.77	1.36	< 0.05
16. Encourage patients' medication compliance	2.31	0.82	3.42	0.65	1.11	< 0.05
17. Design patient-centered, evidenced-based monitoring plans including efficacy monitoring parameters and toxicity monitoring parameters	2.39	0.80	3.53	0.65	1.14	< 0.05

Table 2 shows that students' competencies increased after the use of PBL in all items and all the increases were statistically significant ($P < 0.05$).

Table 3 shows the students' satisfaction with various aspects of the 15 week implementation of PBL.

Table 3 The students' satisfaction

Issues	Mean	SD	Mode
1. Satisfied with the role of teacher who worked as their facilitators	4.22	0.54	4
2. Satisfied with students' role as self-directed learner	3.64	0.68	3
3. Satisfied with students' activities in PBL model	4.00	0.79	4
4. Satisfied with interesting PBL cases selected by the teacher in the sites	4.03	0.70	4
5. Satisfied with PBL cases which led to knowledge application	3.94	0.71	4
6. Satisfied with duration of course	3.53	0.70	4
7. Satisfied with chance to independently practice pharmaceutical care	3.89	0.82	4
8. Satisfied with practice sites	3.67	0.83	3
9. Satisfied with the evaluation of this course	3.75	0.84	4
10. Satisfied with overall quality of teaching and learning	4.08	0.60	4

Table 3 shows that most students were satisfied with the use of PBL. The mean scores of the responses ranged from high to highest level (3.41 - 5.00) and most of the modes were 4. The two issues that were mode 3 were satisfaction with students' role as a self-directed learner and appropriateness of practice sites.

6. Discussion

Pharmacy educators will play a significant role in the development of the required knowledge and skills of persons who wish to practice pharmaceutical care. Curriculum modifications and various instructional strategies will have to be considered to facilitate the learning outcomes of pharmacy students. One such instructional strategy and/or curriculum model is PBL (Fisher, 1994, pp. 183-189).

The purpose of this study was to implement and evaluate the use of PBL in small group contexts in the elective course *Special Problems in Pharmacy* for fifth year pharmacy students in the clinical environment facilitated by pharmacy instructors. PBL is an important part of the curriculum that integrates content and prepares students to provide patient-centered care, as indicated by the Blueprint for Pharmacy and WHO patient safety curriculum guide. In the clinical environment, it gives students the opportunity to apply their knowledge and skills to problems and cases in real-world practice, learning environments in which students feel they are able to express their thoughts and ideas (Blueprint for Pharmacy, 2008; WHO, 2011).

The small group instructional method has multiple benefits. Active small group discussion encourages application, analysis, synthesis, and evaluation of facts and concepts. This process is essential for the development of competence in clinical reasoning and critical thinking. Working in small groups allows students to take an active role in their own education. Students learn facts and concepts best when they use them to solve problems. Small group teaching with mixed levels of learners also offers the opportunity to set expectations of learners at all levels and demonstrate expectations for progressive competence in the continuum of medical education (Dennick & Exley, 1998, pp. 111-5).

PBL small group sessions in clinical environments can also complement information presented in lectures by allowing students time to ask questions in non-threatening environments and to think critically. This allows the students to detect and correct errors (their own and sometimes those of the facilitators) and also offers students opportunities to solve problems, make clinical decisions, and practice clinical skills, especially communication skills. These are also useful in the promotion of student reflection, independence, and life-long learning (White & Manfred, 2010).

As pharmacy practice promises to incorporate a greater patient care component, pharmacists will be held responsible for the identification and solution of higher order clinical problems and/or encounter patient care problems that will require critical thinking skills and precise decision-making abilities. Pharmacists will be involved in the clinical treatment of patients (pharmaceutical care) that requires more detailed communication with patients and health care providers. This expanded professional interaction will require pharmacists to utilize effective problem-solving skills.

This study indicated that pharmacy students' competencies increased after the implementation of PBL, mainly in clinical skills regarding the application of didactic knowledge to direct patients' care activities, such as the identification, prioritization, and solution of therapy drug-related problems, as well as clinical communication with patients and/or other members of interdisciplinary team. These increases in competencies are consistent with the study of Fisher (1994) of the potential for PBL in pharmacy education that found that practice competencies of pharmacy students can be increased by this approach. Results of meta-analyses of PBL in pharmaceutical education also found that pharmacy student's knowledge was improved by the PBL method. PBL students performed better in mid-term examinations (odds ratio [OR] =1.46; 95% CI:1.16, 1.89) and final examinations (OR =1.60; 95% CI:1.06, 2.43) compared with students in traditional learning style groups, but no differences were found between the groups in subjective evaluations (Galvao, Silva, Neiva, Ribeiro & Pereira, 2014).

Recent meta-analyses comparing PBL to conventional approaches indicated that PBL was superior when it comes to long-term retention, skill development, and satisfaction of students and teachers, while traditional approaches were more effective for short-term retention as measured by standardized board exams (Strobel & van Barneveld, 2009, pp. 44-58). In a Thai pharmacy and medical education context, a one group pre-test/post-test designed study of PBL effectiveness found that it can also increase students' competencies, practical skills, self-directed learning skills, and lifelong learning skills (Chuangchum, Pholchan, Nopkesorn & Pannarunothai, 2011, pp. 34-40).

Another advantage of PBL is that the teacher works as a facilitator of discussion rather than as an instructor. The facilitator's primary function is to allow students to deal with a problem, providing guidance, reinforcing what is right, correcting errors, and giving individualized feedback on students' performances (White & Manfred, 2010). Students challenged by the teacher who works as a facilitator are likely to progress their learning more rapidly (WHO, 2011).

Although most students were satisfied with the implementation of PBL at high and the highest levels, there were two issues that scored lower, satisfaction with their role as self-directed learners and appropriateness of practice sites. The result related to a role as a self-directed learner is consistent with the study that found that 35% of students were satisfied with traditional passive learning compared to the self-directed learning of PBL (Chuangchum, Pholchan, Nopkesorn & Pannarunothai, 2011, pp. 34-40). Regarding the appropriateness of practice sites, the feedback process between teachers and students may be limited by lack of space in these sites.

Interpretation and generalization of the study's results needs to consider some limitations. First, the main data in this study were subjective based on the students' self-assessment rating scale and these are difficult to verify. However, the questionnaire used in the study was tested and considered as reliable before use. Second, the assessment of outcomes of this study was based on perceived skills or perceived knowledge, and not based on actual knowledge measured by a score in an examination. Third, this study was of a one group pre-test/post-test design and there was no use of a control group, such as a group exposed to traditional teaching, for comparison purposes.

7. Conclusion

The results showed that the pharmacy students' competencies increased after the implementation of PBL and these increases were statistically significant ($P < 0.05$).

Most of students were satisfied with the implementation of PBL. The mean scores of the responses ranged from high to highest level (3.41 - 5.00) and most of the modes were 4.

It is concluded that the implementation of PBL enhanced the pharmacy students' competencies and that generally the students were satisfied with the PBL course.



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***The Result of Using Notebooks for Increasing Competency in the
21st Century of the Elementary Students in Thailand***

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Abstract

Reading is a process essential for all aspects of development. It is an integral part so important in building up quality competency in the 21st century skills: the citizens as well as children who will become the nations in the future. These statistics were in line with the result of the reading survey of the Thais in 2008 which found that on average the Thai children read only 2-5 books a year, such a low figure comparing to other countries in South East Asia among which the Vietnamese was reported to read 60 books a year, Singaporean 45 books a year, and Malaysian 40 books a year (National Statistical Office Thailand, 2008). In 2011 the National Statistical Office Thailand surveyed the reading rate of the Thais by comparing to figure of 2008 and found out that the rate had been improving, especially among small children aged below 6 six years old whose reading rate had been increasing from 36.0 per cent to 53.5 per cent. Meanwhile the reading rate of those above six years old had also been improving from 66.3 to 68.6 per cent (National Statistical Office Thailand, 2011). That the students should be encouraged to read more eagerly is essential, and in this regards the school library bares the direct responsibility of advocating for positive quality to building up competency in the 21st century skills behavior and elevating students' capability in relevant areas. According to the aforementioned circumstances and problems, it is relevant to study the effects of reading notebook usage to build up competency in the 21st century skills of elementary school students. Elementary school students are in an age ready to learn with full potential in almost every aspect, both in the classroom and outside of the classroom. Providing a quality reading can ensure that students will be able to access sources of knowledge at their will, and that the students may likely be able to develop competency in the 21st century skills of self-directed learning continually with less, if not none, limit. The purposes of this research were: 1) to explore and compare the reading habit between two groups of grade 2 students that use and not use reading notebook evaluated by students, parents and teachers; 2) to compare reading habit in groups of grade 2 students that use and not use reading notebook; 3) to study the opinions problems and suggestions of students and parents to use the reading notebook. This research is experimental research. The research sample consisted of: 1) 78 grade 2 students from two classrooms were the sample by a probability. By simple random sampling from a population of seven classrooms, two classrooms of the random sampling units. The experimental conditions are given by the first class in the experimental group and control group classrooms, each with a group of 39 students of Chulalongkorn University Demonstration Elementary School in academic year 2014; 2) parents of a sample of students evaluated reading habit; 3) teacher evaluated reading habit. The research instruments were reading notebook, questionnaire, evaluated forms and behavioral observation study. Data is collected by questionnaire and interview and analyzes using frequency, percentage, means, standard deviations.

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Education is a process essential for all aspects of development. It is an integral part so important in building up quality people: the citizens as well as children who will become the nations in the future. The importance of education is acknowledged by His Majesty King Bhumibol Adulyadej. He thinks that it is the process of human life development. His speech delivered to the award-winning teachers and students at Dusidalai Hall in Chitralada Villa Royal Residence on July, 27, 1981 demonstrated his idea on education, books and reading. An excerpt from the speech reads as following. 'Education is an important part developing people's knowledge, thought, behavior and virtue. If society and country delivers quality education to all its youth, this society and country will of course possess quality citizens, maintain its stability and enjoy its prosperity. In this regards, we see the significant of books. Libraries and librarians must be available to serve the people, but the crucial problem is that even though there are books available in all the closets, they may be meaningless when no one pick them up to read or when people cannot choose the right one to read. Hence it is the duty of a librarian to select and categorize the books in order to guide the reader to access the right book. It is, therefore, essential for a library to have a good librarian; that will benefit the people most when they are utilizing the library in this learning society' (Chareunrat, Ornsuda., Ed., 1999: 87).

The situation of the Thai Education since the enactment of the National Education Act of 1999 until now has still been problematic. Many researches show these problems. The follow up study of the Education reform efforts assessed external quality of 17,562 schools - 49.1 per cent of all the schools from around the country - showed that the quality of 'student-centered method of teaching' was at 39.2 per cent; while the quality of 'arrangement of activities which stimulated aspects of thinking in learners such as analysis, creative, problem-solving and decision making process' was at 13.5 per cent; whereas only 21.6 per cent of all the schools had 'teachers who could integrate results of the assessment to adjust quality of the existing schooling methods.'

The evaluation of the students revealed that academic achievement was still very low in every groups, especially an 'ability to think critically, synthetically, with discretion and creativity,' the quality of which was at 11.1 per cent; while the quality of skills in 'self-directed knowledge pursuing, appreciation in learning, and continuing self development' was at 26.5 per cent for all the schools. (Candy, P.C. 1991)

These statistics were in line with the result of the reading survey of the Thais in 2008 which found that on average the Thai children read only 2-5 books a year, such a low figure comparing to other countries in South East Asia among which the Vietnamese was reported to read 60 books a year, Singaporean 45 books a year, and Malaysian 40 books a year (National Statistical Office Thailand, 2008).

In 2011 the National Statistical Office Thailand surveyed the reading rate of the Thais by comparing to figure of 2008 and found out that the rate had been improving, especially among small children aged below 6 six years old whose reading rate had been increasing from 36.0 per cent to 53.5 per cent. Meanwhile the reading rate of those above six years old had also been improving from 66.3 to 68.6 per cent (National Statistical Office Thailand, 2011).

That the students should be encouraged to read more eagerly is essential, and in this regards the school library bares the direct responsibility of advocating for positive quality to building up competency in the 21st century skills behavior and elevating students' capability in relevant areas.

Because of the deficiency in education quality, Thailand has continually improved the education system that the focus has now been placed on methods of learning. However, the rapid changes in technology and new body of knowledge have made it difficult for educators to construct a sound and complete curriculums and deliver them to the students effectively (Panich, W., 2012: 15).

It is more effective, thus, for educators to encourage the sense of 'appreciation in learning' in the students, especially the self-directed learning (SDL) (Hammond, M., Collins, R., 1991). This idea has been evolved in many countries and gained much attention. It is believed that those who are self-directed will have capability to learn more, possess higher intention, clearer goals, and more motivation in learning. They hence could utilize the knowledge gained in a more lasting way comparing to those who learn only on the classroom, the factor that makes self-directed learning an important skill in the promotion of life-long learning (Sinlarat, P., 2007: 1).

Teacher needs to reduce a role as instructor and meanwhile works more in designing the learning models and methods as well as facilitating learning process to the students in the classroom such as utilizing various teaching apparatuses, raising questions and problems to resolve, stimulating and motivating students to learn by researching and pursuing knowledge by themselves, and assigning group work for students to collect knowledge and data from various sources such as community library, temple, organization, nature environment and person. (Savard, Stewart 2007)

Office of the Basic Education of Thailand (2009: 2-4) has been supporting all schools to improve their libraries in an aim to make them learning places for both schools and local communities, and to enhance capability of the students to be knowledge people with good attitude to reading and continuing pursuit for new knowledge. To make library management successful with equivalent standard, the criterion of school library has been elaborated in 2009 to use in all the school under control of the Office of the Basic Education. The criterion composes of 4 sections including 1) policy 2) personnel 3) budget 4) property and supply 5) technology 6) schooling and 7) reading promotion activities.

According to the aforementioned circumstances and problems, it is relevant to study the result of using notebooks for increasing competency in the 21st century of the elementary students in Thailand. Element school students are in an age ready to learn with full potential in almost every aspect, both in the classroom and outside of the classroom. Building school library to be an effective learning place, hence, will address the key issues effectively. Providing a quality library can ensure that students will be able to access sources of knowledge at their will, and that the students may likely be able to develop skills of self-directed learning continually with less, if not none, limit.

Notwithstanding, the study aims to understand attitude of school educators and librarians at different levels on development of self-directed learning in elementary school library. The objectives are:

- 1) to explore and compare the reading habit between two groups of grade 2 students that use and not use reading notebook evaluated by students, parents and teachers;
- 2) to compare reading habit for increasing competency in the 21st century of the elementary students in Thailand in groups of grade 2 students that use and not use reading notebook;
- 3) to study the opinions problems and suggestions of students and parents to use the reading notebook for increasing competency in the 21st century of the elementary students in Thailand. This research is experimental research. The research sample consisted of:

A mixed methodology, qualitative and quantitative research approaches, is employed to understand the phenomenon. A qualitative research is engaged to confirm and disconfirmation the literature.

- 1) 78 grade 2 students from two classrooms were the sample by a probability. By simple random sampling from a population of seven classrooms, two classrooms of the random sampling units. The experimental conditions are given by the first class in the experimental group and control group classrooms, each with a group of 39 students of Chulalongkorn University Demonstration Elementary School in academic year 2014;
- 2) parents of a sample of students evaluated reading and habit for increasing competency in the 21st century of the elementary students in Thailand;
- 3) teacher evaluated reading habit for increasing competency in the 21st century of the elementary students in Thailand. The research instruments were reading notebook, questionnaire, evaluated forms and behavioral observation study. Data is collected by questionnaire and interview and analyzes using frequency, percentage, means, standard deviations.

SPSS will be used to analyze the qualitative data and present them in (specify how to present i.e. frequency, mean and median). Data from in-depth interview will be analyze by using (specify analyzing technique content analysis).

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Panangisuro iti Ilocano (Teaching in Ilocano): Perceptions of Elementary School Teachers on the Role of MTB-MLE in Preserving Cultural Identity

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Abstract

Language in education can either empower or marginalize students and their communities. The Bilingual Education policy that has long been practiced in the Philippine basic education setting has been viewed to contribute language loss at the expense of native languages.

The full implementation of Mother Tongue-Based Multilingual Education (MTB-MLE) thru the Philippines' Department of Education Order No. 16, s. 2012 seeks to address the issue of language loss. By extension, this can be glimpsed from President Benigno Aquino Jr.'s 10-point agenda which includes the Philippines becoming a trilingual nation: "Learn English well and connect to the world. Learn Filipino well and connect to our country. Retain your mother tongue and connect with your heritage."

While various studies have been made on describing the effectiveness of MTB-MLE on formative tests in the core subjects English, Math and Science, this study seeks to describe the perceptions and experiences of Ilocano teachers in the implementation of MTB-MLE.

Taken into consideration the recently institutionalized MTB-MLE program of DepEd, this study aims to: 1) explore teachers' perception and understanding of the implementation of MTB-MLE, and 2) describe how teachers implement MTB-MLE inside the classroom.

This descriptive study employs both quantitative and qualitative methods. Along with key respondent interviews and focus group discussions, this study also involves a philosophical analysis of the role of MTB-MLE in the preservation of one's cultural identity.

Keywords: mother tongue-based education, language preservation, cultural identity, philosophy of education

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I. Introduction

Arzadon (2010) holds that our language is a major part of our identity. Language defines who we are. However, there are those who consider the use of the mother tongue to be less prestigious than using other languages like Filipino and English in particular. When asked why, others answer that the use of the mother tongue is too “native” – indicating that the word “native” has been associated to mean something “inferior”. These are instances of undervaluing one’s linguistic identity, and further, one’s cultural identity as a whole.

In connection to education, the tendency of some teachers towards giving prestige to the English language over the mother tongue is implicitly conveyed to the students, and has a high possibility to be emulated by the students beyond the classroom.

To address issues such as language loss, the Department of Education (DepEd) has started institutionalizing the use of Mother Tongue-Based Multilingual Education (MTB-MLE) through DepEd Order No. 74, s. 2009. More recently, thru DepEd Order No. 16, s. 2012, DepEd has mandated that starting SY 2012-2013, MTB-MLE shall be implemented in all public schools, specifically in Kindergarten, Grades 1, 2 and 3 as part of the K to 12 Basic Education Program.

As cited by Dr. Giron on her presentation entitled *The K to 12 Basic Education Program and MTBMLE: From Policy to Practice*, the MTB-MLE envisions that: “Learners are enjoying relevant and quality education which supports their home languages and cultures; learning outcomes are improved nationwide; and the Philippines is succeeding in its goal for Education for All.” The MTB-MLE aims to provide education that is closely linked with the pupils’ home languages and cultures.

The full implementation of the MTB-MLE in the SY 2012-2013 is viewed to address the issue of the decline in the use of Iloko in the province of La Union. Among the desired outcomes of MTB-MLE is the “conscious reflection on heritage language and culture” (Young, 2012). By extension, this can be glimpsed from the 10-point agenda of President Benigno S. Aquino III which includes the Philippines becoming a trilingual nation: “Learn English well and connect to the world. Learn Filipino well and connect to our country. Retain your mother tongue and connect with your heritage.”

In view of these, this study seeks to examine the role of mother tongue education in preserving one’s cultural identity. It also seeks to provide baseline information on the perceptions of teachers regarding the initial implementation of MTB-MLE.

II. Methodology

2.1 Research Questions

Taken into consideration the recently institutionalized MTB-MLE program of DepEd, the main purpose of this study is to describe how teachers and students perceive the implementation of MTB-MLE. In particular, this study aims to answer the following research questions:

1. What are the teachers' perceptions on the implementation of mother tongue-based multilingual education?
2. How are the teachers implementing mother tongue-based multilingual education?

2.2 Research Design

The descriptive research design, particularly qualitative research is utilized in this study. According to Calmorin (2003), the descriptive method of research is useful in gathering information about the present existing condition. This study describes the perceptions and experiences of students and teachers on the recently implemented MTB-MLE.

2.3 Sampling

The sampling method used in this study is purposive sampling.

The school was chosen by the researcher from a list of all the elementary schools in the Division of La Union based on the following criteria:

- The school must have started implementing MTB-MLE from SY 2012-2013
- The school is in a rural area in order to look into the perception of teachers where the Ilocano language is spoken by the majority.

The school where the study was conducted was a public elementary school located in a rural area in the province of La Union. It is primarily an agricultural town with 13,422 people in 2,520 households (according to 2000 census). The estimated travel time by car is one (1) hour from DepEd Region 1 Office located in San Fernando City, La Union. From DepEd National Office located in Metro Manila, the estimated travel time by car is four to five (4 – 5) hours. The distance of the school is noted in relation to the cascading of learning materials and other directives from DepEd.

A total of seven (7) respondents were included in the study.

The teachers interviewed were from Kindergarten, Grades 1, 2 and 3 – the grade levels specified in DepEd Order No. 16, s. 2012 regarding MTB-MLE implementation. In order to gather perspective of a teacher not implementing MTB-MLE inside the classroom, a Grade 6 teacher was included in the study. Students who were available at the time of the researchers' visit were also interviewed.

The head teacher or principal of the school was also interviewed to provide a school administrator's point of view. In addition, one (1) language consultant on language rights and policies from the province of La Union was included in the study to provide insights on the local government's initiative towards the preservation and promotion of the use of the Ilocano language in the province.

2.4 Research Instrument

Focus group discussion (FGD) and in-depth interviews were conducted for data collection. The FGD enabled an interactive and lively response from the teachers as

they were able to collaborate and share with each other their experiences in MTB-MLE implementation.

To establish rapport with the respondents, the researcher opted to use Ilocano in conducting the interview and focus group discussions.

The respondents granted the researcher permission to audio-tape the focus group discussions and interviews.

2.5 Data Analysis

The researchers' field notes and transcript of audio recordings of interviews and focus group discussions were consolidated for the coding of responses. The responses were coded based on the ID No. assigned by the researcher for each respondent. The responses were classified under emerging key themes. A synthesis summarizing the responses from each identified theme, including selected verbatim quotations are presented in this study.

III. Findings and Analysis

The following results are classified to address the two key questions: 1) What are the teachers' perceptions on the implementation of MTB-MLE? and 2) How do teachers implement MTB-MLE?

The result of the interview with the language consultant on language, rights and policies is also presented in this section.

3.1 What are the perceptions of teachers on MTB-MLE?

In the case of the school where the study was undertaken, the overall perception of the students and teachers on MTB-MLE implementation varied.

The teachers have both positive and negative perceptions regarding the implementation of MTB-MLE. As one teacher provided as a comment in the course of MTB-MLE implementation,

- “*Minsan mayyat, minsan maddi*” (Sometimes it's good, sometimes it's not.) (T2)

When probed further, the teachers explained their perception of MTB-MLE into the following topical areas: (1) better understanding of lessons, (2) more active class participation of students, (3) catering to students whose mother tongue is not Ilocano, (4) unclear transition from Grade 3 to Grade 4.

3.1.1 Better Understanding of Lessons

The teachers claimed that MTB-MLE helps students to understand the lessons better. As one teacher reasoned out, “*Natural. Nalaklaka da nga maawatan.*” (It's natural. They [students] understand easily.) (T1)

In addition, majority of the students interviewed claimed that MTB-MLE is good primarily because they understand the language used by the teachers in teaching. Particularly, the students claimed:

- “*Agsasau ni maestra iti Ilocano*” (Our teachers talk in Ilocano.) (S3)
- “*Mayyat, maawatak*” (It’s good, I understand.) (S1)

To probe the students’ understanding of the Ilocano language, the researcher asked the students interviewed if they understood the meaning of the greeting, “*Naimbag nga bigat yo, patpatgen mi a maestra*.” (“Good morning, our dear teacher.”) The students looked at each other and then glanced at their teachers who nodded. The students then answered, “*Wen, ma’am*.” (Yes, ma’am.) The researcher then asked the students what “*patpatgen*” means. The students looked at their teachers again. The teachers laughed and asked each other, “*Ay wen. Anya aya kayat na kaswen iti patpatgen?*” (“Right. What does ‘patpatgen’ mean?”) After a few minutes, the Head Teacher answered, “*Ay-ayaten*.” (liked/revered/dear)

The scenario above is an instance where students merely memorize words without clear understanding of the terms used. The researcher then asked the teachers what they do in cases where students are not familiar with the Ilocano words used. The teachers answered that DepEd instructed them to stick to the more familiar terms being used in the community. For instance, instead of using the Ilocano word “*maris*”, they can use the more common term “*kolor*” (color).

3.1.2 More active classroom participation of students

All of the teachers noted they have noticed a more active participation from the students as they began implementing MTB-MLE. This supports the study of Stone (2012) that “students participate more actively in the classroom when the teacher and students are speaking the mother tongue”. Further, Stone explains that the increase of students’ participation was “because they can contribute more when they understand the language of instruction.”

One teacher compared her classroom experience in teaching the mother tongue where students were actively raising their hands and answering questions without being asked to recite. This is in contrast with the classroom situation when it comes to the English subject where most of the time, only the teacher talks in class. When it comes to classroom discussions where the medium of instruction is not familiar with them, the students tend to remain quiet in class.

However, one teacher regarded the students’ active participation differently, “*Nalalaing da. Nalaklaka da maawatan. Diyay lang ta sobra iti kina-talkative dan, Ma’am. Talaga nga maexpress da amin nga ideas dan*.” (They are more intelligent. They understand better. However, they become super talkative. They can express all their ideas.) (T1) In this case, the teacher’s role becomes more of a facilitator of learning – gathering ideas from students rather than the teacher solely providing ideas in class.

The researcher recommends that instead of viewing the students’ as being talkative, the teachers should take this as a positive sign of the students’ increased interest in the

subject matter or increased understanding of the lessons thereby allowing the students to have confidence in sharing their ideas with the class.

3.1.3 Issues in MTB-MLE Implementation

There were also teachers interviewed who posed some reservations regarding the implementation of MTB-MLE based on the following issues: (1) students whose mother tongue is not Ilocano, and (2) unclear transition from Grade 3 to Grade 4.

One teacher shared that in order to cater to the individual differences of her students, she exerts extra effort in teaching MTB-MLE to her students whose mother tongue is not Ilocano. Specifically, this teacher noted that, “*nu Tagalog iti estudyante, i-translate ko pay iti Tagalog. Sakak to i-Ilocano*” (If the student is Tagalog, I translate to Tagalog first. And then I translate to Ilocano.) (T2)

Most of the teachers were unclear regarding the transition from Grade 3 to Grade 4 that the respondents asked the researcher if she knows what will happen after Grade 3. This stems from DepEd Order No. 16, s. 2012 which mandates that MTB-MLE will be from Kindergarten to Grade 3. The DepEd Order does not explain what happens after Grade 3. The head teacher/principal even fears that since the English language will only be introduced in Grade 4, the “students may become behind in English” (P1). Another teacher shared that this is also one of the concerns raised by parents of her students: “*Narigat nu Grade 4 awan iti Ilocano, marigtan dan tu ngay talaga*”. (It would be difficult in Grade 4 where there will be no Ilocano. It would be really difficult for them [students]) (T1)

3.2 How do teachers implement MTB-MLE?

When asked how they implement MTB-MLE, the following key issues were raised by the teachers interviewed: (1) teachers’ re-learning of Ilocano, (2) hesitation from parents, and (3) lack of MTB-MLE learning materials.

3.2.1 Teachers’ Re-learning of Ilocano

Before the implementation of MTB-MLE, all of the teachers interviewed noted that all subjects from Grades 1 to 6 were taught in Filipino and English. However, since the implementation of MTB-MLE in SY 2012-2013, the Ilocano language has been used as medium of instruction used in all subjects for Grade 1 to Grade 2¹. In order to teach in the mother tongue, all of the teachers noted that even they have to learn Ilocano.

Paulson (2010) mentions that in order to for teachers to teach effectively, they must have to “be able to read and write in the language, and they also need all kinds of support”.

The data collected demonstrates that the teachers themselves were re-learning the Ilocano language in order to implement MTB-MLE. All of the teachers interviewed

¹ The head teacher/principal noted that in the case of the school used for this study, the MTB-MLE is only implemented in Grade 1 to Grade 2 as the nationwide implementation of MTB-MLE is gradual. Thus, the school is yet to implement MTB-MLE in Grade 3 next school year, 2014-2015 after DepEd conducts MTB-MLE training for Grade 3 teachers.

shared that in the course of MTB-MLE implementation, even they have to learn Ilocano on their own. As one teacher responded, “*pati teacher ag-ad-adal iti Ilocano*” (“Even teachers learn about Ilocano”) (T2). The teachers also shared that they teach each other some Ilocano words such as:

- “*maris*” (color) (T4)
- “*sucog*” (shape) (T1)
- “*ringhado*” (orange) (T3)

3.2.2 Hesitation from Parents

Some of the teachers interviewed shared that they have encountered parents who were hesitant in the school’s implementation of MTB-MLE. One teacher recalled her experience with dealing with parents who were hesitant in MTB-MLE implementation,

“*Adda iti parents nga hesitant lalo Tagalog parents haan da maawatan ken haan nga matulungan dyay anak da iti paggaramid iti assignment*” (There are parents who are hesitant especially Tagalog parents who don’t understand [Ilocano]. They cannot help their child in making assignment.) (T1)

The head teacher/principal shared a similar experience where one parent went to her and said,

“*Behind dan tu iti English nga international language*” (They [students] will be behind in English which is the international language) (T4)

One of the major concerns of these parents was the effect of teaching in the mother tongue in the students’ competency in the English language. The researcher sees this as a result of the prestige given to the English language. By extension, the researcher seems that these parents expect their children’s academic achievement to be measured by their competency in the English language.

To answer the hesitation of parents regarding MTB-MLE, one teacher shared the explanation she gives to parents,

“*Talaga nga issu iti programa iti DepEd*” (That’s really the program of DepEd) (T1)

The researcher deems that the reason why this explanation is effective to thwart doubts of parents regarding the MTB-MLE program is because of their trust that DepEd officials and policy makers know what is best in providing good education to their children.

3.2.3 Lack of Learning Materials

All of the teachers interviewed agreed that while they see the effectiveness of MTB-MLE, they experience difficulty in implementing it due to lack of learning materials. As the head teacher/principal commented, ““*Isu nga nu i-evaluate mo iti MTB-MLE ket mayat dagidyay studies ngem dagiyay materials kurang.*” (That’s why if you evaluate MTB-MLE, the studies are good but the materials are lacking.) (P1)

When the researcher probed what the teachers do while waiting for learning materials to be completed, one respondent shared,

- *“To follow kuna da... Agtagtagawataw manen a mam iti panunot mo.”* (They said it [learning materials] will follow... You have to wreck your brains again.) (T2)

In order to address the issue of lack of learning materials, the researcher recommended that the teachers themselves make their own reading materials such as storybooks written in Ilocano. The teachers may know of artists or even discover some of their students who have talent in drawing to serve as their storybook illustrators. However, the teachers noted that they cannot commit into doing so because they have a lot to do, in addition to finding ways to improve their implementation of the MTB-MLE.

The researcher then shared to the teacher-respondents digital copy of MTB-MLE learning materials acquired from the language consultant interviewed. While the teachers were thankful to the researcher for providing a digital copy of the learning materials, the teachers pointed out that they only have one computer and one printer in the school. As such, they preferred to have a printed copy of the learning materials. In addition, the teachers enumerated that they need the following learning materials for MTB-MLE implementation:

- *“Big books nga Ilocano”* (Big books in Ilocano.) (T4)
- *“Teacher’s guide iti am ammin nga subject nga naka-Ilocano”* (Teacher’s guide in all subject areas translated to Ilocano) (T4)

The teachers noted that while DepEd provides students’ workbooks written in Ilocano, the teachers’ guides were written in English or Filipino. As such, they experience an added task of translating the teachers’ guides into Ilocano.

3.2.4 MTB-MLE as an additional subject in the curriculum

Most noticeably, all of the teachers interviewed preferred that MTB-MLE be implemented as an additional subject in the curriculum. The teachers recommended having one subject teaching the mother tongue instead of using the mother tongue as a medium of instruction in all subjects.

The teachers interviewed suggested having only one subject teaching the mother tongue instead of using the mother tongue in all subjects.

- *“Nu syak lang a ket maysa lang kumma nga subject.”* (If it’s up to me, it should only be one subject.) (T2)
- *“MTB-MLE nga maysa nga subject. Ken amamin nga subject as is. Nu Math, English.”* (MTB-MLE as one subject. Math should be in English.) (T1)
- *“Ok lang...basta additional subject lang. At least tattno ammo da met dyay Ilocano. Ammo da met dagidyay Ilocano terms nga nababagay kanya da dyay grade level da.”* (It’s ok as long as it’s only an additional subject. So that at least the students will know Ilocano.

The students will know Ilocano terms fit for their grade level) (T3)

3.3 A Language Consultant's Perception on MTB-MLE

In addition to the FGD with teachers, an interview with the Language Consultant for Language Rights and Policies in the Province of La Union was conducted.

In recognition of the decline in quality and use of Iloko, especially among certain youth in the last decade, the provincial government of La Union (PGLU) strongly supports DepEd's MTB-MLE advocacy by formulating legislation supporting the Iloko Code of La Union.

Among the local government's initiatives in promoting the use of the Ilocano language include:

- Formulation of the Iloko Code of La Union which aims to "support the individuality, identity, multilingualism, and multiculturalism of the Province, amid economic, academic, and social advancements" (C1)
- Translating the provincial website into Ilocano
- Annual Ilocano competition (rapping, song writing, storytelling using big books) conducted during the month of February
- Giving out of Ilocano dictionaries at the start of SY 2012 – 2013 to day care centers located in La Union

After finding out that the language consultant interviewed was part of the team who developed the MTB-MLE learning materials in DepEd Region 1, the researcher took the opportunity to clarify some issues raised by the teachers during the FGD conducted earlier. Contrary to what the teachers noted regarding the lack of trainings on MTB-MLE implementation, the consultant held that there are a lot of trainings being done. The consultant then recommended having a monitoring to track the progress of teachers in implementing MTB-MLE.

IV. Conclusions and Recommendations

In the case of the school where this study was conducted, the teachers interviewed have both positive and negative perceptions of MTB-MLE.

The teachers perceived MTB-MLE as an effective teaching tool since majority of the students are Ilocano and thus, it encourages more active participation from students as they understand the lessons better and as they can naturally speak their mother tongue in class.

The teachers' initiative and willingness to learn the Ilocano language on their own, and translating teaching guides into the Ilocano language shows that the teachers are keen on finding ways to improve MTB-MLE implementation in the classroom.

However, there are major issues raised in this study which needs to be addressed in order to fully implement and make the most of the MTB-MLE program.

The major barrier perceived by the teachers towards MTB-MLE implementation is the lack of learning materials. The interview with the language consultant shows disconnect between the perceptions of the teachers and the language consultant on the issues surrounding the implementation of MTB-MLE. While the language consultant holds that DepEd has covered the MTB-MLE learning materials and trainings, the teachers claimed that there is still lack of these.

The researcher recommends that DepEd provide interventions to support the continuity and improvement of the MTB-MLE program implementation. It is recommended that DepEd should provide all available MTB-MLE learning materials (both printed copy and digital copy) to teachers at the start of the school year. The researcher also recommends that DepEd give incentives (i.e. additional vacation leave, monetary allowance, etc.) for teachers to help in developing MTB-MLE learning materials such as activity books and storybooks written in Ilocano.

To address questions of teachers on what happens after Grade 3, DepEd must make teachers understand the transition from Grade 3 to Grade 4. Further, DepEd must explain to the teachers DepEd's plan to expand "the use of the mother tongue from the first three grades to the rest of the education cycle", and that "the use of the mother tongue as primary language of instruction will be fully implemented across the basic education curriculum by 2021" (Cruz, 2010).

As there were instances where parents were hesitant in the implementation of MTB-MLE, the researcher recommends that awareness about MTB-MLE should be advanced and extended to the parents of elementary school children and to the community as a whole. School administrators, principals, teachers, as well as the local government, are recommended to initiate organization of symposium/dialogue/awareness campaigns with elementary school parents and to the rest of the municipality/province/community so that they understand the philosophy behind the implementation of MTB-MLE. This would serve as a venue for parents to know more about the rationale behind the MTB-MLE program, and for parents to raise their concerns, if any, to the concerned DepEd officials and other MTB-MLE implementers.

In addition, the researcher recommends that the provincial government continue their advocacy of using Ilocano language within the province. To help address the lack of learning materials, the provincial government should make Ilocano storybooks/big books available for public use by coming out with a digital copy to be uploaded in the provincial website, or by printing copies to be distributed to elementary schools in the province.

The initial stage of the full implementation of the MTB-MLE in the Philippines may face various difficulties, including oppositions from those who are sceptical on its perceived benefits. However, instead of hindering the implementation of MTB-MLE, these difficulties should be taken into consideration as part of the on-going learning process to further improve the program.

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The Teaching of Grammar through Storytelling among L1 Malay Learners

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Abstract

English language teachers have always been trying to find new and interesting methods of teaching English grammar in the ESL classroom. Storytelling, although an aged-old method, can captivate students' attention, interest and imagination. This method is also known as an analogy. Generally, students find learning grammar a fearful experience because of the various grammar rules which they have to memorize and apply in communicating fluently in English. The objectives of this research are to investigate the feasibility of the use of storytelling in a grammar ESL class and determine the factors that contribute to the effectiveness of the ESL grammar lesson. Two groups of 25 students each (N=50) are conveniently selected using the convenient sampling method to facilitate the study. The participants are L1 Malay students who have enrolled in the ELC 120 English diploma course. This is an experimental research where the groups are divided into a control and experimental group. The experimental group will be treated with storytelling while the control group will use the incidental method recommended in the syllabus. A pre and post test will be administered and a comparison of both treatments should help determine the effectiveness of storytelling. A set of questionnaire will also be distributed to all the participants to gather information on their perception of learning grammar through storytelling and to determine the factors that contribute to the effectiveness of teaching grammar. It is hoped that this valuable information will aid English language teachers in the teaching of grammar.

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Introduction

Grammar has always been a difficult area to master in second language learning. It becomes even more challenging when the grammar rules of the students' first language are very different from the grammar rules of the target language. Most researchers agree that the reasons why students find it difficult to acquire the grammatical components of a language, was due to the fact that they were influenced by their first language or mother tongue. Second language learners are frequently in search of shortcuts or ways to memorize grammar rules. As stories tend to attract almost everyone's attention, the idea of introducing grammatical terms and their rules in a story form could facilitate the process of grasping these rules among second language learners.

Native speakers of English naturally pick up the grammatical components and therefore the teaching of grammatical rules to native learners is not emphasised. In a second language learning classroom however, the scenario is different whereby students need to grasp the grammatical rules for them to be confident in the language. Soo and Nor Haniza (2014) found in their study that storytelling or analogy can be a successful tool for the acquisition of English verb tenses especially among second language low proficiency learners.

Problem Statement

Students find learning grammar a fearful experience because of the various grammar rules which they have to memorize and apply in communicating fluently in English. Storytelling may be able to lure or captivate students' attention. This study will therefore look at two research questions:

1. Is it feasible to use storytelling in a grammar ESL class?
2. What are the factors that contribute to the effectiveness of the grammar lesson?

Objectives

The objectives of this research are:

1. to investigate the feasibility of the use of storytelling in a grammar ESL class and
2. to determine the factors that contribute to the effectiveness of the ESL grammar lesson.

Literature Review

Everyone loves stories. A well-told story not only holds students' attention but also provides a platform for fun learning. Harrasi (2012) claimed that stories can inject enthusiasm among learners and thereby, instil the element of amusement among learners to learn a language in a more meaningful way. In a study conducted by Reid (1995) it was found that there were differences in teaching and learning styles and the students' cultural background can influence their favoured learning styles. Further, it was noted that visual learners enjoy learning through the use of visuals such as mind maps, charts, tables and graphs more. For such learning styles language instructors need to focus more on employing the usage of teaching tools that consist of pictures

and to make learning more interesting, animated pictures would be a good choice. There are more visual learners as compared to auditory and kinesthetic learners. For language learning to be meaningful, Larsen-Freeman (2001) emphasized that the challenge lies in understanding meaning and use. Generally, students are able to state the rules of a language but very often unable to use and apply these rules in authentic situations. If this scenario keeps repeating, language learning will not be successful. Therefore, there is a dire need for language teachers to prepare their lessons in such a way that learning becomes meaningful. It cannot be denied that meaningful learning leads to language acquisition. The present study thus, seeks to determine if storytelling can be used as a tool to assist in the grammar learning process and to enable effective application of grammar rules to be grasped by learners, especially L1 Malay learners.

Masterman and Ernesto (2006) in a study involving 12 French students found that exposure to explicit grammar knowledge showed improvement in some but not all aspects of language. To these French students, learning English by understanding grammar rules is a way of confirming their language forms in production. However, Ellis (2006) explained that the teaching of grammar can be carried out via any instructional methods as long as that particular method attracts learners' attention to specific grammatical forms either to understand or, process or produce what they have internalized metalinguistically. In addressing the issues in grammar teaching, he provided a number of insights which include (1) meanings and not just forms should be emphasised when teaching grammar (2) grammatical structures that are problematic to learners should be given attention and (3) learners who are taught grammar should already have acquired some ability to use the language. In line with that, Soo and Wong (2012) examined the acquisition of the grammar component of English pronouns by L2 speakers of English and found that among the reasons why students found it difficult to acquire a language was due to the fact that they were very often influenced by their mother tongue. Therefore, students actually rely on previously acquired knowledge from their L1 to help them produce language forms in L2. However, not all rules in L1 are similar to L2 and this is when these learners need basic grammar rules in English. Rules sound fearful but ESL learners feel secure when they have rules to fall back on when constructing sentences in the English language. Hence, in order to make the learning of grammar rules interesting, stories in which these rules are indirectly explained should be employed as a method of teaching. Storytelling can be an avenue for role-playing in which complete involvement is experienced in the learning process and as a result learning is more effective.

Uddin and Ahmed (2012) agreed that English should be taught through inductive and contextual approaches for learners to internalize grammar and acquire a language. However, they explained that in Bangladesh, English grammar is taught separately and deductively through the memorization of rules. Since grammar is learnt deductively, learning is receptive instead of productive. Storytelling however, will enable students to learn grammar rules through discovery. Learning through storytelling is self-directed and learner-centered where grammatical items are described or illustrated using analogy to enable better understanding of the grammatical items in a creative and interesting way. According to Federici, Montemagni and Pirrelli (1996), analogy is important in the acquisition of language but has been regrettably ignored. In investigating the usefulness of analogy in

language acquisition as a cognitive domain, Gentner and Namy (2006) found that comparison of two things can emphasize similarities which enhance better understanding and clearer learning. In the same vein, Gentner and Markman (1997) explained that such analogical processing involved relational similarities. According to Gentner (2003), relational focus arises when comparisons are made based on implicit correspondence between their conceptual representations. This is explained in the structure-mapping theory in connection to analogy. Correspondingly, Bartha (2013) asserted that analogy is the similarities found in two objects or systems of objects that can be used to clarify or provide better understanding of a concept or theory. On the other hand, analogical argument is a direct and clear representation of analogical reasoning that cites accepted similarities between two systems to support a conclusion or deduction. This shows that storytelling as a method of teaching grammar that can help students to understand the rules of grammar since the example or comparison used to explain the rule is common and accepted in the students' mindset.

Research Methodology

This study used an experimental research method and the sampling size was based on a non-random convenient sampling. Two groups of 10 students each (N=20) were conveniently selected to facilitate the study. The participants were L1 Malay students who have enrolled in the ELC 120 (Integrated Language Skills: Listening) English diploma course. In this experimental research, the selected groups were divided into a control and experimental group. The experimental group was treated with storytelling grammar while the control group used the incidental method recommended in the syllabus. The story created for the purpose of this research was entitled 'The English Story'. An extract of the story about the various parts of speech which was recorded into a video can be seen below:

Once upon a time, there lived a man in England called Mr. English. Mr. English fell in love with a beautiful woman and decided to marry her.

During their honeymoon, Mrs. English became pregnant. Mr. English was overjoyed. All their relatives were overjoyed. They were all excited to help name the firstborn of the English family.

Finally, Mr. English thought very deeply and decided to name his son, **Noun**. He felt that this was a suitable name because in English, the names of people, animals, places and things are called Nouns.

A pre-test and a post-test were administered before and after the lessons. Comparison of both treatments helped determine the use of storytelling as an effective tool and identified the factors that contributed to its effectiveness. A sample of the pre-test and post-test is as follows:

Identify the parts of speech of the underlined words. Circle your answers.

1. Ali went to the post office by bicycle.

- A. adjective
- B. verb
- C. conjunction
- D. noun

A survey was also administered with a questionnaire of 20 questions to get feedback of the students' classroom experience of learning grammar using the storytelling method. A sample of the survey items are as follows:

B. Perception of Storytelling

For questions 1-5, tick at the appropriate box.

1. Did you enjoy the story?

☐

Yes

☐

No

2. Is the story able to help you understand the parts of speech?

☐

Yes

☐

No

3. Are you able to remember the concept of the various parts of speech?

(For example, verbs represent actions)

☐

Yes

☐

No

Findings

The data collected from the pre- and post-tests were tabulated and compared to see if the use of storytelling was effective in enhancing students' understanding of grammar rules. The general analysis of the scores is shown in Table 1.

Table 1. Pre-Test and Post-Test Results

	PRE TEST	POST TEST	DIFFERENCE
Experimental group	6.57	8.14	+1.57
Control group	-	7.28	-

Table 1 shows the difference of +1.57 in scores for the experimental and control groups. The positive mean score indicates that the use of storytelling was effective in this study. Although the use of storytelling was only experimented at a preliminary round, it provided a better perspective on the prospects of storytelling as a tool for classroom teaching of grammar.

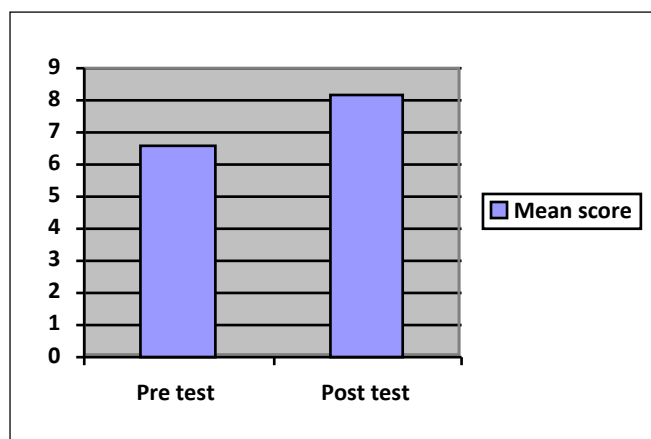


Figure 1. Mean Scores of the Pre-Test and Post-Test of the Experimental Group

Figure 1 shows the comparison of mean scores of the pre- and post-test of the experimental group. The mean scores show that the post-test results were higher than the pre-test results.

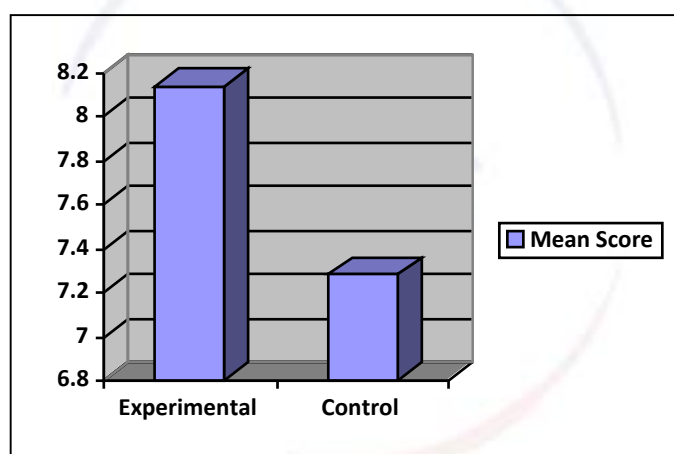


Figure 2. Mean Scores of Post Tests between Experimental and Control Groups

It was found that the experimental group performed better (+1.57) after treatment of a grammar lesson which employed the storytelling technique to explain the parts of speech (Figure 1). The difference between the post-test results of the experimental group and control group show a significant difference of 0.86 as seen in Figure 2.

From the set of questionnaire that was administered, it was found that students agreed that the lesson was more interesting. During the lesson, while the students listened and watched a video of the story, there was laughter in the classroom. Therefore, it is evident that they had enjoyed the contents of the story. Apart from that, the story was able to help students to understand the parts of speech and most of them seemed to be able to remember the concept of the parts of speech after they had been told the story. Once they have grasped the concept of the various parts of speech through the story, the students were better able to construct grammatically correct sentences. However, the data revealed that the students did not think that listening or watching the story once was enough for them to fully grasp the parts of speech. It was discovered that

most of the students had a clearer understanding of the different parts of speech, were able to differentiate between adjective and adverb and also could understand the usage of articles in English sentences. Nonetheless, only half of the students thought they could determine the parts of speech of every word that make up a sentence. The students too reported that the characters in the story had helped them to understand the various parts of speech by understanding the name and its function, as well as the simple explanation and relevant examples given in the story.

Conclusions

From the findings above, it can be concluded that using stories to teach the rules of grammar can be of advantage to both students and instructors. Students tend to grasp the grammar rules better and the instructor is contented with the students' progress and achievement. Furthermore the lesson becomes more interesting creating a favourable environment for learning. For future research, separate stories for different grammar components can be created for the classroom grammar learning. It is hoped that both students and instructors will benefit from this study and make learning grammar more effective and interesting.

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Developing Research Skills of the Third Year Teacher Students Using RTI MODEL

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Abstract

This research aimed to 1) develop the research skills of the third year students, and 2) develop teaching method by using RTI MODEL for suitable instruction. The samples were 44 third year students who took social study major from the faculty of education by cluster random sampling. The research instruments were (1) 4 cycles of lesson plans using RTI MODEL with 3 tiers intervention, (2) the students' research skills assessment form, (3) the students' research skills checklist that using while using 4 cycles of lesson plans, and learning reflection form. The research results revealed that: 1) The students' research skills were higher before learning, they had better research skills from high to low such selecting data, questioning for information retrieving/conclusion, collecting data, presenting the data, reflection and evaluating the data, and the students identified that they got better research skills because they had chances to do repeated, receiving the recommendation and guidance, moreover, identifying the questions for information retrieving help them seen the clearly steps for doing the assignments, studying by themselves, assessment by self, peer-assessment and teacher assessment made them receive the feedback improve their assignments. Implementing the research skills to learn the contents from the general subject helped them understand and remember better than learning by doing the report with non-using research skills. 2) The teaching method was integrating the 8 research skills by using RTI MODEL and multi-tiers intervention. The highlighting about giving the guidance from low to high, different assessment, product, and feedback to improve the assignments.

Keywords: research skills, RTI MODEL, multi-tiers intervention, classroom action research

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Introduction

The changes in society, economy, political rules, and environment of Thailand is happening at a fast pace because globalization is intertwining with every aspects of Thai's fabric of livings. Inevitably, Thailand is automatically compelled to participate and compete in numerous international challenges. In order to keep up with such a rapid transformation, the concept of lifelong learning was introduced in the 11th National Plan for the Development of Economy and Society. Lifelong learning scheme aims at encouraging every Thai people to have compassion for acquiring knowledge and to render contribution of building high- quality learning - oriented society which sustains the good learning-oriented environment for Thai people throughout their lives (Office of the National Economics and Social Development Board, 2011). In the current situation, it is known that students in a same class have diverse learning capabilities. Such National Education Act B.E. 2542 (1999) and Amendments (Second National Education Act B.E. 2545 (2002)) Section 22 Education shall be based on the principle that all learners are capable of learning and self-development, and are regarded as being most important. The teaching-learning process shall aim at enabling the learners to develop themselves at their own pace and to the best of their potentiality. Moreover, the teachers should have the knowledge and abilities to do the research such Section 30 Educational institutions shall develop effective learning processes. In so doing, they shall also encourage instructors to carry out research for developing suitable learning for learners at different levels of education. Including Section 52 the Ministry shall promote development of a system for teachers, faculty staff, and educational personnel, including production and further refinement of this category of personnel, so that teaching will be further enhanced and become a highly respected profession. The Ministry shall, in this regard, take a supervisory and co-coordinating role so that the institutions responsible for production and development of teachers, faculty staff, and educational personnel shall be ready and capable of preparing new staff and continually developing in-service personnel (Office of the National Education Commission, 2003). Therefore, all teachers need to find out about the various ways to help all the students learn.

Recently, the teacher education system in Thailand will be reformed radically based on the Thai Qualification Framework for Higher Education (TQF:HED) was launched in 2008. According to the National Education Act 2542 (B.E.) (1999) and Amendments (Second National Education Act B.E. 2545 (2002), TQF:HED is a mechanism for higher education quality assurance and is intended to develop of the quality students in the higher education system. The implementation of the TQF poses substantial challenges to teaching and learning. These include endemic difficulties in integrating theory and practice, and the shifts of focus of activity and efforts from documentation to the quality of teaching and learning itself. Other challenges relate to recent and significant changes nature of Thai higher education which have had considerable impact on the design of teaching strategies, learning activities and assessment as supported by optimal teaching standards. Learning outcomes are statements of the attributes and capabilities that a student should have achieved on successful completion of the learning session or topics. They provide a reference point for assessing students' progress and designing assessment strategies and methods. Learning outcomes are helpful benchmarks for the standards educators will apply when measuring students' achievement using various assessment instruments and process (Pimpa & Moore, 2012). In England higher education, the students'

learning improved when the learning environment was modified to allow students to construct personally relevant knowledge and to engage in the materials at different levels and different points of view (Dearing, 1997).

Drawing from evidences, the quality of graduates can be ensured by means of the implementation of sound teaching strategies tailored for students of diverse backgrounds. In addition, assessment tasks offer important to enhance students' learning experiences. Taking approaches which recognize this evidences, and focusing on encouraging learning and measuring progress in relation to learning outcomes, supports students to achieve key competencies (Pimpa & Moore, 2012). Learning outcomes mentioned above comprised of 6 domains for bachelor degree in education such 1) ethics and moral, 2) knowledge, 3) cognitive skills, 4) interpersonal skills and responsibility, 5) numerical analysis skills, communication, and information technology, and 6) learning management skills. (Udon Thani Rajabhat University, 2012). At the same time, its main issue is to change the standard term of the teacher education from 4 years bachelor degree level to 5 years course. So, this will be the problem regarding how to apply teaching standards and strategies for teacher education, to meet graduate outcomes outlined by the TQF, to current needs such research skills and students contexts.

According to research skills is one of the professional standard for teachers in the following areas: language and technology for teachers, curriculum development, learning management, psychology for teachers, educational measurement and evaluation, classroom management, educational research, educational innovation and information technology, and teacher ship (Secretariat Office of Teachers' Council of Thailand, 2003). And Bluma (n.d.) stated that in the answering to the needs of the teaching profession, development of critical thinking, the ability to reflect and research skills need to develop these skills during the learning process at the university. So, the students can use them in every course. Faculty of Education at Udonthani Rajabhat University, especially the bachelor degree of social study emphasized applying research skills as a key component for learning process (Udon Thani Rajabhat University, 2012). Moreover, National Research Council of Thailand (2010) stated about the research that is very important, for example, integrating research-based instruction, and developing research skills for informal education and non-formal education. Studying about research skills founded that there are many educators who divide the research skills in various components, such as, Lovat, Davies and Plotnikoff (1995) dived research in to the components in literature skills, and Wilson and O'Reagan (2006) divided research skills in six categories: recognition of a need for knowledge or understanding, use of appropriate methodology to find or generate needed data, critical evaluation of data and data generation processes, organization of data, synthesis, analysis and application of new knowledge, and communication of knowledge and understanding.

Nowadays, there is newly innovation that all teachers should know which so called Responsiveness to Intervention (RTI) that use multi-tiered intervention correlated with the students' abilities. Responsiveness to Intervention successfully applied in many cases and for all professional education programs because the intervention integrated the knowledge and skills set into the curriculum and clinical experience. In conclusion, RTI is the practice of providing high quality instruction and intervention match to students' need, progress monitoring frequently to make decision about

changes instruction or goal, and approach to meet all students (Maureen, 2011). Moreover, RTI is an approach for redesigning and establishing teaching and learning environments that are effective, efficient, relevant and durable for all students, families, and educators. And also, RTI is a general education initiative that has 3 important parts: 1) using 3 tier model of school supports, 2) using problem solving method for decision making, and 3) using data to inform instruction (National Association of State Directors of Education, 2006). Many educators identified the elements of RTI, for example, 1) universal screening, 2) instruction or intervention, 3) progress monitoring, and 4) decision making (Copenhaver, 2006; Stoehr, Banks & Allen, 2011).

The good activities for teacher development program from the extensive studies that involved the leadership development for teachers lead to conclude that general activities should comprise of 1) development of activities using school as a foundation to correct the issue which obstructs the students' learning ability, 2) development of activities encouraging the compromised cooperation among every educational members in order to build the strong social affiliation within a school where goodwill of knowledge are attributed equally for all members. This concept indicate the level of expertise in a curriculum creation and has to comply with the concept of social platform as a learning center, 3) development of activities which should be open, 4) development of rules which collects information by inquiring about planning, implementation, and reflection of the action gained from the results of analyzing of the occurring problems, and 5) leadership development of activities which are continuous and well-ordered that supports the culture of knowledge exchange and lifelong learning (Henderson & Hawthorne, 1995; Harris, 2003).

Since human resource development in Thailand is crucially needed, according to the educational revival plan in the Second Decade of Educational Reform in 2552-2561 B.E., teachers in this new globalization era must be capable of applying strategic research for the improvement of their teaching methods that is responsive to learners whose different levels of intelligence are to be matched with multi- tiered intervention. Moreover, feedbacks between students and teachers must be consistent so that students can develop their own learning skill with their full potential and creativity in a right direction. In this research, there are two issues to be addressed: Firstly, How are the teacher students' research skill? Secondly, what are the processes required for research skills development using RTI MODEL? The implication of this research results will be used as a prototype for the development of professional learning communities joined by teachers who are actively inquisitive for the new innovative ways of teaching that help all students achieve the standard of Basic Education Core Curriculum B.E.2008.

Literature Review

Research Skills Development

From literature review, there are several ways to improve the graduate students' research skills. For example, 1) teaching research skills in general course, such, the development of students' research skills as outcomes in the teaching and learning process, so the students can use research skills in every course and the process start with the early first course at the university level (Bluma, n.d.). 2) integrating research

skills development in teacher education program. For example, the first year: literature searches and reviews focus on developmental psychology, the second year : interpretative research skills, such, (1) identifying problems in learners, and (2) organize curriculum in order to solve the problems, the third year: focus on the sociological issues and curriculum theory and need to practice teaching 3 times in the class, the fourth year need to do independent research project (Lovat, Davies & Plotnikoff, 1995). 3) teaching research skills with some teaching innovation like metacognitive ability (Niedringhaus, 2010), and 4) embedding research skills in undergraduate training program based on project (Cattani, Kalaga & Reid, 2009).

For measuring the research skills, many educators assessed the research with various methods as follows: 1) using self-report ; rating scale (Gilmore & Feldom, 2010), 2) RSD approach: students' self-assessment of research skills gained by using questionnaires; academics' measures of students' research skills, and development during course using rubric structure; interview students' research skills after completion a course; and interview academic using research skills (Willison, Peirce & Ricci, 2009).

RTI MODEL

According to RTI consisted of three core elements of the response to intervention approach such, an emphasis on students outcomes, systematic and data-based decision making, and team work for educational course design both general and special education (Pavri, 2010). There are many researches about RTI founded that RTI is use for prevent students from difficulties and problem in academic and behavior domain. Especially, RTI research carried out from kindergarten to secondary education. Such, the research by Marija, Lidija and Simona (2000) the first level (tier-1) involves the prevention of complication regarding mathematical perception in every students by screening out students who are at risk failing to grasp mathematical concepts. In this level mathematical teaching activities is set for every students in a normal manner. The second level involves helping students who are at risk by setting up supplementary classes for them during the extra period. The two-tier intervention significantly reduce the number of students having difficulty in mathematics. In Thailand, Jansrisukot (2010) has developed a mathematics intervention system for students at risk in mathematics difficulties particularly applicable for 1st grade students in the elementary school. The research results revealed that 1) mathematics intervention system comprised of 3 elements: (1) identification (2) two-tier mathematics intervention and progress monitoring and (3) learning assessment. 2) The mechanism for mathematics intervention system's instruments included (1) screening test for students at risk in mathematics difficulties (2) lesson plans that used in the system which included mathematics lesson plans for inclusive classroom and remedial mathematics lesson plans (3) a set of test for monitoring a progress in mathematics (4) mathematics achievement test (5) mathematics self-confidence scale.

Methods

The research design was classroom research and the samples were 44 third year students from the faculty of education, who take an inclusive education course in the second semester of the academic year 2012 by cluster random sampling. The research conducting was separated into 3 phases: *Phase 1*) the study of basic information,

Phase 2) the development of research skills consisted of 4 steps: 1) plan, 2) act, 3) observe, and 4) reflect, and *Phase 3*) the assessment and reflection on research skills development. The data analysis consisted of analyzing quantitative data by percentage, mean, standard deviation, and t-test for dependent samples using, analyzing qualitative data, it was summaries by content analysis using and descriptive conclusion.

Instruments

The research instruments consisted of 1) lesson plan consisted of 1 orientation plan, and 4 cycles of lesson plans using RTI MODEL with 3 tiers intervention, 2) research skills assessment form, 3) the students' research skills checklist that using while implementing 4 cycles of lesson plans, 4) and learning reflection form. The quality of these instruments were drawn from using content validity by 3 experts and content validity was determined by obtaining the item-objective congruence (IOC) value for each item of each instrument. These research instruments were used with non-samples teacher students to find out about the problems in order to improve them before data collection.

Results

The research conducting was separated into 3 phases: *Phase 1*) the study of basic information, *Phase 2*) the development of research skills consisted of 4 steps: 1) plan, 2) act, 3) observe, and 4) reflect, and using RTI Model with 3 tiers intervention such, tier-1 low guidance, tier-2 moderate guidance, and tier-3 high guidance. *Phase 3*) the assessment and reflection on research skills development. The results were as follows:

Section 1: teacher students' research skills

I conducted a t-test for dependent samples on pre, and post- test scores on research skills self-assessment. A comparison of means between pre, and post- test scores on research skills self-assessment as shown on table 1, figure 1, and table 2.

Table 1 Pre and post-test research skills (Total score 220 scores)

Research Skills	Pre	Post	Post-Pre
1. questioning for information retrieving	149	178	29
2. determination of resources	150	176	26
3. data selection	144	175	31
4. data collection	148	175	27
5. data presentation	153	176	23
6. conclusion	143	172	29
7. data assessment	140	150	10
8. learning reflection	152	173	21

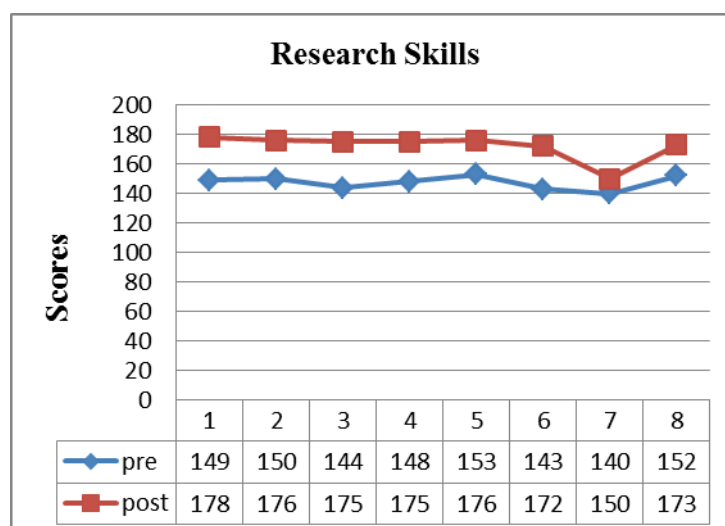


Figure 1: Pre and post-test research skills

From table 1, and figure 1 showed that when we focused on the scores of the students' research skills in each item, founded that the research skills which shown the results of more and less progress were as follows: 1) data selection, 2) questioning for inquiring and conclusion (same score), 3) data collection, 4) determination of resources, 5) data presentation, 6) learning reflection, and 7) data assessment

Table 2

Comparisons of the third year students' research skills by test

Test	Numbers	Mean	SD	Percentage	t
Pre	44	26.80	3.42	67	6.029**
Post	44	31.25	3.57	78.13	

**p < .01

From table 2 showed that the 44 third year students' pre-test and post-test scores on research skills were 67% and 78.13% respectively. The mean score on post-test was significantly higher than that of the pre-test at .01

Section 2: Teaching method for developing research skills

From the qualitative aspect, I conducted a qualitative analysis by using documentary study, action research cycle, research skills self-assessment, and the learning reflection on the third year students' research skills were shown as the followings:

1. Teaching methods for developing research skills

From documentary study and an performing 4 action research cycle on research skills development founded that the steps of teaching research skills for general subjects comprised of 1 orientation plan that using for giving the information about 4 action research cycle and RTI Model with 3 tiers intervention, and 4 lesson plan consisted of 3 main steps: 1) launching which consisted of (1) plan was the step for designing in order to use research skills for learning content from the course and implementing content learned in authentic situation (regular schools and inclusive schools), and (2) act was the lesson plans implementation that the teacher and students made a

commitment. 2) presentation consisted of observe which was the step that the students have to present their work, and teacher act as a facilitator in order to give the students 3 tiers intervention from low to high guidance which comprised of (1) Tier-1 low guidance: teacher and students made a plan for inquiring together in-class activities, (2) Tier-2 moderate guidance: the teacher gave small groups advice outside-class activities while they were doing the task and up to the their needs, and (3) Tier-3 high guidance: the teacher gave the advice for individual students outside-class activities after doing the task and up to individual needs, and 4) reflect was the step that students discuss about their own work and the peers' work in order to gather the information to find out the strong and weakness of the work. And 3) Conclusion was the step for students to construct the knowledge learned from doing the task, and reflected the information for planning to solve the next task.

2. Research Skills Self-Assessment

The teacher students' research skills which shown the results of more to less progress were as follows: 1) data selection, 2) questioning for inquiring and conclusion (same score), 3) data collection, 4) determination of resources, 5) data presentation, 6) learning reflection, and 7) data assessment.

3. Learning Reflection on The Third Year Students' Research Skills

The factors which helped students to be successful in developing research skills better than before learning were as the follows: 1) attaining the feedback and guiding from peers and teacher made them concern about reviewing their works, 2) studying by self to know more contents from texts, journals, and websites, 3) Implementing knowledge from inquiring in schools, 4) inquiring from questioning is good technique, 4) comments and motivation from teachers, 5) awareness on inquiring, 6) studying in real situation such as observe class in regular and inclusion schools, and 7) re-inquiring about 3 times helped them concerned on assessment of the mistakes. Furthermore, the strongly supported teaching method to be successful in developing students' research skills was as follows: 1) the teachers acted as a facilitator while performing the activities, 2) implementation of RTI Model with 3 tiers intervention suited for students of diverse backgrounds.

Discussion

1. The mean score of teacher students' research skills in this research before learning by using RTI Model with 3 tiers intervention was 26.80 and after learning by using RTI MODEL with 3 tiers intervention, the teachers students' research skills was 31.25, and the mean score on post-test was significantly higher than that of the pre-test, possibly because of 1) the teaching method that used in this research was developed by using 4 cycles of action research and RTI MODEL with 3 tiers intervention, that related with the teacher students' education needs. And also, the teacher students have experiences from peers and teacher feedback for their working with the assignments every time that can help them work systematically by the learning activities such, 1) attaining the feedback and guiding from peers and teacher made them concern about reviewing their works, 2) studying by self to know more contents from texts, journals, and websites, 3) Implementing knowledge from inquiring in schools, 4) inquiring from questioning is good technique, 4) comments

and motivation from teachers, 5) awareness on inquiring, 6) studying in real situation such as observe class in regular and inclusion schools, and 7) re-inquiring about 3 times helped them concerned on assessment of the mistakes. Therefore, they able to do the assignments by themselves and able to finish the assignment perfectly by themselves. It was supported by Angelo and Cross (1986) stated that classroom assessment can help the teacher progress monitoring in the classroom. In addition, it can help students learn better and the teacher teach effectively. Moreover, it was supported by the findings of Lovat, Davies and Plotnikoff (1995) that studied about integrating research skills development in teacher education by longitudinal study, the subjects of which were a cohort of students moving to the first three years of teacher education program in order to assess the research skills development for pre-service teacher program. It showed that firstly, it would seem that these students have entered teacher education lacking basic skills deem necessary for eventual research competence, and secondly, the students' self-perception, these skills have been developed to a reasonable extend by the time they are required to engaged in their independent study.

2. The teaching method for developing research skills of teacher students

The results revealed that the steps of teaching research skills for general subjects comprised of 1 orientation plan that using for giving the information about 4 action research cycle and RTI Model with 3 tiers intervention, and 4 lesson plan consisted of 3 main steps: 1) launching which consisted of (1) plan was the step for designing in order to use research skills for learning content from the course and implementing content learned in authentic situation (regular schools and inclusive schools), and (2) act was the lesson plans implementation that the teacher and students made a commitment. 2) presentation consisted of observe which was the step that the students have to present their work, and teacher act as a facilitator in order to give the students 3 tiers intervention from low to high guidance which comprised of (1) Tier-1 low guidance: teacher and students made a plan for inquiring together in-class activities, (2) Tier-2 moderate guidance: the teacher gave small groups advice outside-class activities while they were doing the task and up to the their needs, and (3) Tier-3 high guidance: the teacher gave the advice for individual students outside-class activities after doing the task and up to individual needs, and (4) reflect was the step that students discuss about their own work and the peers' work in order to gather the information to find out the strong and weakness of the work. And 3) Conclusion was the step for students to construct the knowledge learned from doing the task, and reflected the information for planning to solve the next task, possibly because the methods were used consistent with sound teaching strategies tailored for students of diverse backgrounds by guiding with 3 tiers. From the activities that used in and out of the classroom, the teacher act as a facilitator and a researcher. In addition, assessment tasks offer important to enhance students' learning experiences. Taking approaches which recognize this evidences, and focusing on encouraging learning and measuring progress in relation to learning (Pimpa & Moore, 2012). Moreover, it was supported by the findings of Stenhouse (1975), it showed that the teacher should change their roles to a researcher for developing their teaching abilities by using inquiry based or evidences based.

Conclusion

This research was a course redesign in teacher education for professional development enhancing the teacher students' research skills. The findings were concluded as the followings:

1. The mean score of teacher students' research skills were higher before learning, they had better research skills from high to low such selecting data, questioning for information retrieving/conclusion, collecting data, presenting the data, reflection and evaluating the data, and the students identified that they got better research skills because they had chances to do repeated, receiving the recommendation and guidance, moreover, identifying the questions for information retrieving help them seen the clearly steps for doing the assignments, studying by themselves, assessment by self, peer-assessment and teacher assessment made them receive the feedback improve their assignments. Implementing the research skills to learn the contents from the general subject helped them understand and remember better than learning by doing the report with non-using research skills.
2. Teacher students' research skills divided into 8 items; 1) questioning for inquiring, 2) determination of resources, 3) data selection, 4) data collection, 5) data presentation, 6) conclusion, 7) data assessment, and 8) learning reflection.
3. The teaching method was integrating the 8 research skills by using RTI MODEL and multi-tiers intervention. The highlighting about giving the guidance from low to high, different assessment, product, and feedback to improve the assignments.

Recommendation

For the successful and sustainable professional development for teacher students, the teachers should prepare the core course for all teacher students with 8 research skills as the following: 1) provide the innovation that suit for solving the problems in the real classroom in order that the students should solve the problems by using research skills, and then if the problems occurred while using research process, meeting the experts was necessary, and 2) providing the session of the learning reflection after doing and implementing the knowledge learned from inquiry with 8 research skills after the first task in order to design assignments for the next task.

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***Revitalizing Lesson Study in Japanese High Schools
through Redefining the Process***

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Abstract

The study documents a group of teachers participating in a teacher-learning process in Japan known as ‘Jugyokenkyu’, referred to internationally as ‘Lesson Study’ (LS). Teachers participated in several stages constructing knowledge as they go through a cycle working in collaboration from planning and teaching a lesson to reflecting on the lesson. Social interaction is at the core of classroom inquiry as teachers build a lesson by actively collaborating at each stage of the LS process. LS originated in Japan as a method to facilitate professional development among teachers. However, in secondary schools, and especially in high school, where this study took place, opportunities for teachers to collaborate with peers is drastically lower in the actual implementation of LS in Japan. The purpose of this research project is to revitalize LS in high schools by specifically designing the LS process with an added emphasis on collaboration during the planning stages of a lesson. Qualitative data were collected in the following ways: post and pre-lesson planning stage meetings, classes including the demonstration classes and the actual research lesson were video-taped; interviews with the participants were conducted, and data were also gathered through the use of questionnaires and field notes. In this study, data from one teacher out of three who went through the LS process are detailed. Three themes emerged that depict professional growth resulting from *Professional Knowledge Gain*; A deeper *Focus on the Learner* and outcomes of the *Demonstration Lesson*.

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Introduction

There has been a shift in teacher development recognizing the need for teachers to actively take ownership in their teacher learning and to do so collectively. Johnson refers to the change in teacher development as taking a “sociocultural turn” (2006). Citing the work of Lave and Wenger (1991), who depict teachers as working together in a context of shared experiences in a *community of practice*, Johnson writes, “The knowledge of the individual is constructed through the knowledge of the communities of practice within which the individual participates” (p.237). The sociocultural turn is premised on the view that cognitive development takes place in a socially mediated environment and can be seen in the work of Vygotsky (1978). He found that conceptual learning development in the individual occurs through social interaction within reciprocal inter- (external) and intra- (internal) psychological levels. Teacher learning, therefore, should be framed as a dynamic social activity that allows teachers to share their personal knowledge and experiences of teaching with each other for purposes of advancing their professional knowledge (Falk, 1994). Within an active and socially constructed teacher development framework, teachers are no longer passive recipients in their professional development. The failings of teacher training built on transmission of knowledge models can be seen in the comments of Freeman (1991) who had observed more than two decades ago that “models of teacher education...depend on received knowledge to influence behavior and do not acknowledge-much less encourage teacher learners to construct their own versions of teaching” (p.19). Fortunately, since Freeman’s claim, teacher development models such as action research (AR) have emerged as a means for teachers to be active in their own professional development.

Research, as summarized by Nunan (1993), is a systematic inquiry that engages the researcher in a process of data collection, analysis, and interpretation. He further adds, “...the distinction between AR and other forms of research is that in AR the research process is initiated and carried out by the practitioner” (p.42). Thus, AR in teacher development is applicable as a superordinate term to depict teachers doing classroom based research in a systematic way, and it is most effective when it is done collaboratively (Burns, 1999). Ideally, AR is conducted in a cyclical process as teachers work together through various stages to solve a teaching problem or puzzle, plan an intervention, implement the plan, observe, reflect and revise (Kemmis & McTaggart 1988, Wallace, 1998). However, perhaps because of the autonomous nature of teaching, AR is often not carried out collectively and has mostly been done individually (Burns, 1999).

Recognizing the importance of collaboration in teacher learning is precisely why a unique and well-established form of an AR teacher development system in Japan, called *Jugyokenkyu*, which translates to lesson study (Yoshida, 1999), has been gaining international recognition (Laskowski, 2011, Lewis, Perry, Hurd, & O’Connell, 2006). Lesson study (LS) is distinctly different from other forms of AR because teachers participate, collaboratively (at least in principle in Japan) to build a complete lesson (Laskowski, 2009). In Lesson Study, teachers go through a clearly defined research cycle consisting of several guided stages from planning, teaching, and post lesson reflection discussions. The lesson becomes the focal point, and the overall aim of working on it together is to provide opportunities for teachers to share their personal and professional knowledge of teaching in order to further teacher

development. On the one hand, LS had gained prominence as a contemporary teacher development model internationally largely due to the way it is carried out in elementary schools in Japan as a collective or collaborative approach to teacher development. However in Japan, it has become static in secondary schools especially during the planning stages of the lesson where it is rarely conducted in a collaborative way.

This study attempts to revitalize collaboration in LS at one high school in Japan and reports on its findings. Specifically, the study looks at Japanese teachers of English (JTEs) in high school conducting a classroom based research project. The research was guided by the following question:

In what ways, if any, did going through a collaborative lesson study cycle shape the teacher learning of participating members?

In documenting the findings, we hope to empirically add to research on teacher-learning groups by reporting on the actual effects of teachers as they go through the workings of a teacher-research process. The study will first provide a background into LS and will detail the stages of the LS cycle.

Lesson Study

LS has been around for more than half a century in Japan, where it originated and is deeply rooted in the framework of teacher development. It is prevalent in almost all schools, and is officially supported at the national, regional, local and classroom levels. In fact because it is so ingrained in the educational culture of Japan as *the* form of teacher development it has hardly been written about in publications inside of Japan. That is, the norm of doing LS is so implicitly understood by teachers that no one saw the need to explicitly document the stages of a LS cycle and how they were relative to contemporary directions of teacher development which, as stated previously, have taken a sociocultural turn by placing an importance on collaboration with colleagues and teachers working in a community of practice exploring issues that arise in their particular schools. LS finally gained recognition when researchers from abroad began to take an interest in it after seeing LS at work in Japan and then documenting it in publications (Lewis, 1995, Stigler & Hiebert, 1999, Yoshida, 1999). It is from these studies that the merits of LS and a description of what a LS cycle entails began to take form.

A basic framework for a LS cycle occurs in the following main stages (Lewis, 2002):

(1) Set a goal for the lesson; (2) Design the lesson; (3) Teach the lesson (referred to as a 'research lesson'); (4) reflect on the lesson; (5) revise the lesson (if possible).

Figure 1: Basic Framework for Lesson Study

According to this LS cycle outline, the formation of a lesson is at its core. Therefore, a reasonable question would be: Why focus on the lesson? Prabhu (1990) writes that the underpinning of a lesson is the teacher's method, and it is the lesson that guides the teacher in determining the activities that are to be implemented and in what order they

are to be presented. In a sense, it is an auxiliary outline of the journey the teacher goes through during a course. The lesson is an outline of the process in which the teacher plans to follow in a particular class, and it is also a part of a sequence of plans that make up the entire course. In short, it is at the centre of what a teacher does before, during and after a lesson is taught.

Regarding the above framework of the LS cycle, it is important to note that it is classroom focused as it goes from setting goals to implementing them in practice. The point we wish to make here is that this process is collaborative in nature. During the outset of a LS cycle, which takes place over a period of several meetings, a group of teachers, for example teaching the same grade in an elementary school or the same subject in a secondary school join a research team. In addition a more knowledgeable other (MKO) from a university, for example, may sit in performing the role of a facilitator, and immediately begin collaborating by deciding on the goals of a lesson. Long-term and short-term personal professional development (PPD) goals may also be addressed. Then, participants begin to work on designing a lesson. Although only one or sometimes two teachers, in the case of lessons which are team taught, are commonly selected to actually teach the research lesson to their students, all of the participating members share in the formation of the lesson.

At a quick glance, it may seem that LS requires a lot of effort just to produce one lesson. However, it is not the final product of the lesson that is so important, rather it is the process of forming the lesson together that has the most pedagogic value in teacher learning. If we agree that social learning provides a rich context for cognitive development, then the planning stages of a LS cycle are central to the process because teachers are given the opportunities to share their knowledge and experiences with each other. Moreover, having all of the members involved in the planning of the lesson allows them to take more of a critical interest in the lesson as they become stakeholders in its formation. On the day of the research lesson, participants, other teachers from the school, and occasionally even teachers and administrators from other schools come to observe the class. All participants, collaborative teachers (CTs) and observers then attend a reflection session to provide feedback on the lesson. Finally, if the schedule allows, the lesson can be revised for implementation in a future class.

The coming together of a group of teachers at a local school working in unison, setting goals, planning, teaching and reflecting on a research lesson in practice is what impressed the visiting researchers. It is important to note that what the researchers saw were mostly LS research lessons carried out by elementary school teachers in Japan. This is noteworthy because elementary school teachers were conducting LS mainly in collaboration, which is what the researchers focused on when they introduced LS abroad. However, perhaps because of the autonomous nature of secondary school teachers who teach specialize subjects, it seems that, at this level, LS is not collaborative at all. Although this claim needs to be further investigated, according to the observations of the authors who have a combined experience of over 30 years of observing research lessons in Japan, including the school where the study took place, a typical form of the LS cycle at the secondary school level is as follows:

(MT – Main Teacher)
(OT – Other Teachers)

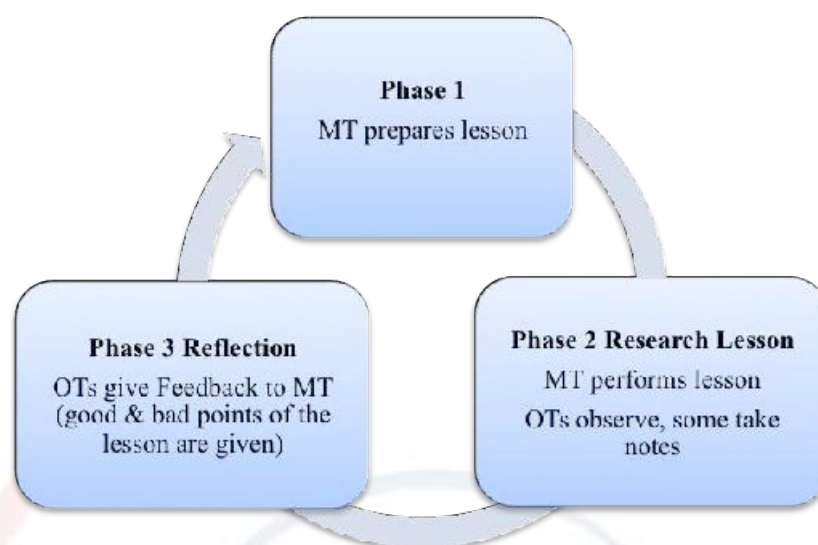


Figure 2: Original Lesson Study Cycle at Senior High School Research Site

Outline of the Original LS Cycle used by English Teachers in this School

In the above, the main teacher (MT), referred to as such to signify that there are almost no other roles given to other teachers to assist in planning the lesson, is given the responsibility to make the whole lesson on his/her own. This causes a lot of stress on teachers to perform as well as increasing their already busy work load, reducing their motivation to participate in LS. In the second stage, the MT teaches the lesson and other teachers (OTs) come and observe. In the third and final stage, OTs offer feedback, but it should be noted that there are no participating or collaborative members of a research team to offer their critical insights further sharpened because they are stakeholders, or to engage in a meaningful dialog over feedback from other visiting teachers outside of a research team. Therefore, the feedback is usually very limited.

Throughout the cycle, the MTs, thus, form the lesson on their own and then receive feedback about the lesson. There is little, if any, collaboration. Therefore, in our study, we set out to make the LS cycle more collaborative and especially to stress collaboration in the planning stages of the cycle. As suggested earlier, we felt that the planning stage is the most critical in teacher development and where teacher collaboration bears the most fruit. Forming a lesson is where a high level of creativity can occur and we wanted the participants to be part of this process. Having all of the participants involved at this stage, enables them to brainstorm and share ideas and experiences with each other. The adjusted cycle used as a framework in the study to generate more collaboration at the planning stage is presented below:

(PPD – Personal Professional Developmental goal)
(TP – Teacher Presenter)
(CTs – Collaborative Teachers)

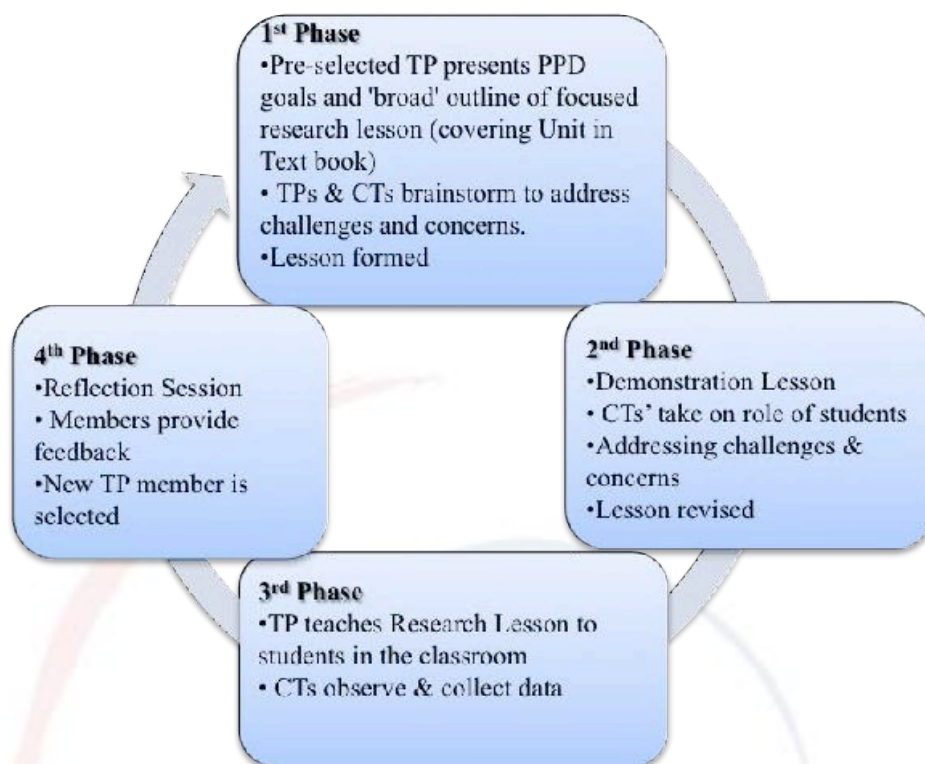


Figure 3: Revised Lesson Study cycle

Outline of the Revised Lesson Study Cycle

In the first phase of the cycle, following Lewis and Hurd (2011), the TP (to take the onus away from having sole responsibility as a MT, we changed the term to teacher presenter) was asked to offer a personal professional development goal (PPD). The stated goal would provide a personal development focus for the TP and would simultaneously help the research team who were the collaborating teachers (CTs) to make suggestions in helping to design the lesson. The roles of the TP as the one who will present the lesson to his/her class and the CTs who would offer their help were discussed at this stage. For example, the TP was expected to tell the group what lesson he/she wanted to focus on and to bring a general outline of the lesson to the next meeting. It was emphasized that the outline should be broad as to allow room for the CTs to offer suggestions. As ideas were exchanged, discussed and eventually decided upon to form the lesson, we came to realize that a planning stage needed to be increased by adding a demonstration lesson stage. The additional allowance for more planning was decided by the participants as a means to provide one more opportunity for feedback and polishing of the lesson before the research lesson. During the research lesson, the TP presented the lesson, the CTs observed and at times helped monitor some of the group activities. Finally, the reflection session took place and feedback was given.

Method and Participants

The collaborative LS project was conducted at a high school in Kyushu, in the southwest region of Japan during one whole academic school year. The project involved eight teachers. The range of teacher experiences was broad. The most senior teacher had over 30 years of experience and the youngest had only two years of teaching experience. It should be noted that two teachers, the most senior teacher and the Head of the English department, not only actively participated, but were quite influential in getting the other teachers to volunteer their time to participate. The co-authors, one a full time member of the teaching staff, the other a professor at a local university, assuming the role of MKO, fully participated in all stages.

During the study, which involved three LS cycles, three participants were selected as Teacher Presenters:

Teacher Presenters	Years of teaching experience	Cycle timeframe
TA	2	May ~ June
TB	7	November ~ December
TC	12	January ~ February

Figure 4: Teacher Presenters

Data collection and analysis

The study was designed to explore the impact of teachers going through a collaborative LS cycle at their school and to interpret the data within that context. Hatch (2002) writes, “Qualitative research seeks to understand the world from the perspectives of those living in it” (p.7). Therefore, a qualitative approach was used to provide the researchers with a “theoretical lens” (Creswell, 2007, p. 11) to trace participating teachers as they developed and implemented their research lesson. The following data collection and analysis methods used in this study are consistent with a qualitative approach:

1. Video recordings of each session
(Recordings were used for two purposes, for researchers to analyze and in the case that all team members are not present for a meeting or a lesson in real time, the recordings were made available)
2. Feedback sheets from CTs
3. Interview with TP
4. Field notes from researchers

Data on TC, the last TP to go through the cycle will be the focus of this paper. As mentioned, the key revision of the LS cycle framework was to allow more time for collaboration in the planning stages compared to the previous way of doing LS at the school which left little to no room for collaboration in the planning of the lesson (see Figure 2). The revitalized collaboratively designed LS cycle shown in Figure 2 was used as a framework to outline the stages of the study, depict the roles of the participants and organize the meeting sessions. The model this case study followed consists of four stages (adapted from Lewis & Hurd, 2011) that flow together to

complete one cycle of the lesson study. Data depicting what occurred in each stage of the cycle will be used as a framework to report and interpret the outcomes.

The procedure for collecting data as the participating members went through the LS cycle was conducted in the following manner:

Stage One: Goal-setting and collaborative planning agenda	Stage Two: Planning the lesson	Stage Three: Demonstration lesson	Stage Four: Research Lesson	Stage Five Post Lesson feedback/TP reflection
1. TP identifies his/her goals for the lesson. Unit from textbook is decided. 2. TP brings a broad outline of the lesson plan so that room is left for CTs to provide support. 3. Collaborating teachers (CTs) are told that there are feedback sheets to fill out at the end of each session.	1. TP presents outline of lesson. 2. CTs exchange ideas and make suggestions. 3. Lesson plan is re-drafted.	1. TP teaches Demonstration lesson 2. CTs perform role as students 3. Feedback session and further revisions are suggested	1. TP teaches the lesson in the classroom 2. CTs observe and collect data on such things as student thinking / learning, teacher student engagement, behavior, etc.	1. CTs meet to discuss and analyze the data collected during the observation of the Research Lesson 2. Members share ideas, reflect on the lesson 3. Members try to determine what improvements may be made 4. At the end of session TP interviewed to reflect on process.

Figure 5: Descriptions of LS cycle stages

Phase One: Goal-setting and collaborative planning agenda

At this stage, TC first identified his PPD goal, which was ‘to have students more involved in communicative activities in class.’ He explained,

It’s hard to get my students involved. As TA and TB said before, I too want to make my class more active and hopefully enjoyable for the students. I hope to use more communicative activities. If I can do well, students will not get bored in class. So, I want to have more

time for students not to listen to my explanation, but to spend more time on activities by themselves.

TC then presented a broad outline of the lesson plan as suggested so that he would not feel pressure of coming up with an entire lesson on his own. In addition, we wanted more collaboration in the planning stage, so a broad outline would leave room for CTs who were now aware of the lesson topic and TC's PPD goals.

After TC goes over the details of his/her lesson outline, the MKO frames the discussion by suggesting ways that CTs could look at this plan and make suggestions that are linked to TC's PPD goals. The discussion started to focus on the main activity, which was to focus on students' comprehension of assigned reading from the textbook. In this study, an analysis of what occurred during the LS cycle will focus on data concerned with the main activity. The details of the first-phase discussion are presented below:

Main Activity	Focus on Learner	CT Comments	Outcomes
Reading activity From textbook: Students should read the text for homework and answer comprehension questions.	In class, ask the students to provide answers for comprehension questions. Have students answer out loud to determine if students could answer correctly in English.	Thinking about PPD goals, the activity is not Communicative. Why not have students work in small groups? A suggestion was made to try a jigsaw type activity assigning parts of the reading to individual group members, who then make comprehension questions to ask others about assigned part of reading.	Pedagogical knowledge gain for all members based on a discussion of what a jigsaw activity is and its benefits. CTs discussion results in making reading activity more interactive. TC worried about time about doing interactive group activity, but will think about suggestions and present them at the demonstration lesson

Figure 6: (Phase One) Outline of main activity discussion

As the chart above shows, the focus soon shifted to making the activity more interactive so that TC's PPD goal communicative goal could be met. Originally, TC just had the students answer questions in a teacher-centered format, standing at the front of the class and asking or calling on students to answer. Putting students in groups to interact and answer the questions among themselves emerged in discussions with CTs. The MKO introduced a version of a jigsaw activity, where students are given responsibility for a part of the passage and have to make comprehension questions for their assigned part could be appropriate in this case. Further discussions

of various versions of a jigsaw activity and the idea of getting students to make questions from the reading and ask them to the students continued until the meeting ended. TC then mentioned that although he was worried that the activity would be time consuming, he would like to consider the suggestions and show the CTs his idea in the demonstration lesson.

Phase Two: Demonstration Lesson (Ss=students, S1, 2, 3=student 1, 2,3,)

Main Activity	Focus on Learner	CT Comments	Outcomes
CTs as students (Ss) prepare two Q's each, and are put into two groups of three by TC. The student who prepares question should know where answer is in text.	Step 1: S1 asks Q about reading to S2. Step 2: S2 write down question and search for answer. Step 3: S1 Confirms the answer in the text	All Ss including S3 in group can search for answer together. Takes too much time asking two questions; Each student can prepare two questions, but they ask one. To avoid replication of questions, text should be divided and students are given responsibility to make question from their part. Ss should be given assigned text for homework. Groups should be selected before class and a captain should be appointed to facilitate the group work. Conversation strategies are suggested to increase group work interactions in English.	Communicative activity becomes more efficient. Groups, assign text responsibility and a leader for each group are pre-planned to further create efficiency and control. Further pedagogical gain in conducting group work. TC finally will apply jigsaw version in activity to give Ss responsibility for each part of text, and: Concrete discourse strategies to increase group interaction: <i>Can you read the question again? Please slow down; What does () mean? Where did you find the answer?</i>

Figure 7: (Phase Two) the Demonstration Lesson and discussion

The data from the Demonstration Lesson indicate that this phase was very important to the planning process of the lesson. In the initial planning phase, the TC had reported that he would re-draft the reading activity into group work after learning about the jigsaw activity. Although when he demonstrated the lesson and students were put into groups, the structure of the group activity was flawed. One student asked another student to answer a question in the reading while the other student had no real role. This was time consuming. In addition, there was no preparation for when students might have had the same questions. These things were not thought through earlier. However, the value of inserting a Demonstration Lesson into the lesson study cycle was that it provided an opportunity for both the TP and the CTs to go over the lesson together, reflect on the experience and give comments (additional feedback) that the teacher could use effectively.

In the discussions that took place after the Demonstration Lesson, the CTs found a way to make the activity more efficient. Past experiences, and TC's comment notwithstanding, the authors found that in previous discussions with teachers in Japan that time is an ongoing problem in a 45~50 minute class to insert a communicative type activity into a traditionally structured class of repetition drills, listening to CDs of the text recordings, doing translations, and preparing for tests. The CTs also showed a gain in pedagogical knowledge as they modified the reading activity within the framework of a jigsaw activity as introduced in the previous planning phase. Finally, an important focus emerged on trying to get the students to use more English in groups. The CTs with facilitating advice from the MKO came up with discourse phrases for students to use when they were working in groups. One of the CTs provided a thoughtful idea of having the phrases be left up on a screen for students to glance at when they were interacting.

Phase Three: Research Lesson

Main Activity	Focus on Learner	Observations
Reading activity was structured according to CTs comments and outcomes of Demo Lesson. Groups were divided into 8 groups of 4 students.	TC instructed Ss to go into their assigned groups. He advised them to use as much English as possible. "You don't have to be silent."	Active participation in the activity. Students cheered for each other when they got the correct answer
TP went over discourse phrases to increase English use. The phrases were put on screen as a graphic and left up as reference for students.	The assigned captains began by selecting the 1 st students to read their comprehension questions.	There was still a lot of Japanese used, however English use seem to increase speaking to each other to find the correct answers. One reason was that conversation strategy discourse phrases on the screen seemed to catch the students' attention. Out of 8 groups, 6 groups were able to successfully find all of the answers. Two groups had difficulty as it seemed group interaction was at a low rate.

Figure 8: (Phase Three) the Research Lesson

Observations of the Research Lesson indicate that TC was able to implement the suggestions made by CTs after the Demonstration Lesson. This outcome substantiates the importance of including the latter in the lesson study cycle, especially because TC did not fully integrate the suggestions made in the initial planning meeting. The suggestions that were carried out in the research lesson led to a more interactive reading activity, and although the issue of using Japanese could not be avoided, the students did use more English with the aid of using the phrases left on the screen to help with group work interactions.

Phase Four: Post Lesson Feedback Session

Immediately after the Research Lesson, the CTs and TC met to reflect on the lesson. TC began, in the tradition of LS reflection sessions in Japan, by first offering his summary of his synopsis of the lesson:

TC: The group discussion activity went well, but I think I can improve on it. I think one of the problems is that students are not used to group discussion activities, so it was not as smooth as I expected, but if I do them [group activities] more, then the results will be even better. Anyway, I'd like to hear your advice and I can revise the plan.

TC's comments were followed by the CTs in an around the table fashion. Here are some excerpts of the reflection discussion that focused on the reading activity.

Participants	Comments
CT1	I was surprised, and glad to see the students were active. I am also happy to see that many teachers gave you advice in the demonstration lesson and you made the revisions that the other teachers suggested. During the activity, I found that the students were looking up, speaking and volunteering answers. I think it was very good, but gradually you spoke Japanese, so you could continue to try to use more English.
CT2	(Referring to the group activity). I'm very impressed with the organization of your plan, but there is one thing I'd like you to reconsider for the next lesson...I took part [observing] in one group, but no one could the answer the questions. They couldn't do it. I suggest you carefully designate a [higher level student] chairperson for each group.
CT3	It would improve on the success of getting students to complete the activity. But, you know, you can't make 'the perfect the enemy of the good'. Anyway, getting 80% success rate is better than 10%. So, it shouldn't be a reason not to continue with this kind of activity.
CT4	What the TP did today is what we should do from now on (referring to how the LS cycle was conducted with collaboration in the planning stages)

CT5	I was impressed that you put in all of our suggestions from the demonstration class. We worried that we gave you too much advice, but you were able to do it. Also, I personally thought that the group activity was better than expected. I went to three groups and I thought, although they were struggling, they could all eventually do it.
CT6	Giving useful expressions for the group work was very good to include. I didn't prepare this during my turn (referring to his Cycle as TP) I could see the class from a new angle.
MKO	Some students are always going to be better than others ...However, if you can get a good distribution of high level learners as the leaders for each group, they can help the lower level students. I like the way you started the class, very positive and engaging, interactive and smiling... Your PPD is that you want to involve the students. They didn't seem bored so, I think you accomplished your goal.
TC's closing remarks	Usually when I do a research lesson, I am nervous, but this time, because I could do a rehearsal class [demonstration lesson] in advance with you, I could get a lot of advice from you and that was very helpful.

Figure 9: (Phase 4) Feedback Session

In the final phase of the LS cycle and after collaborating in the previous phases, comments from the members revealed what they learned from the experience. From the post reflection discussion three themes emerge: Pedagogical (knowledge) gain, the positive effect of the Demonstration Lesson in the pre-lesson planning stage, and putting a focus on learners. These themes will be detailed in the Discussion section.

Discussion

The basis of the research question posed at the outset of the study was to inquire about the effects a collaborative LS cycle would have on teachers. The following three outcomes were a direct result of including collaboration in the pre-planning and planning stages of this LS project:

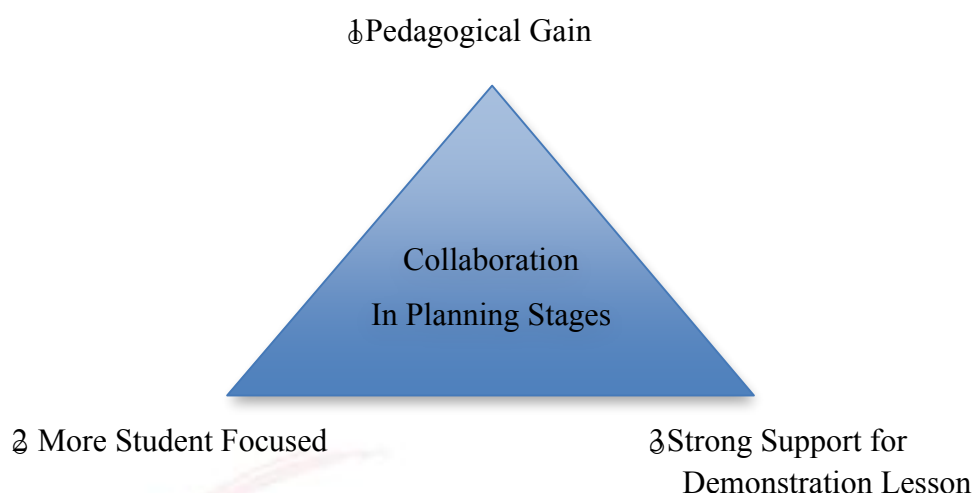


Figure 10: Outcomes of a Collaborative LS cycle

Pedagogical Gain

A major aim of teacher development is to improve teacher knowledge, which has been defined as comprising two areas of teacher cognition: knowing about the subject one is teaching, and knowing how to teach it (Koehler & Mishra, 2009, Shulman, 1986). In the latter, professional theories of teaching can advance teacher knowledge and this was the case in this study. Comments from the CTs in the reflection session suggest pedagogical gain (see Fig. 7). The participating teachers' pedagogical knowledge increased as they learned about the merits of a jigsaw-based, cooperative learning activity (e.g. accountability, increased interaction, positive interdependence—see Johnson & Johnson, 1994) during discussions and implementation of the main group activity. They also discovered a strategy to increase the use of English during the group work by presenting students with phrases to help them during group discussions. It was also noteworthy that the introduction of the jigsaw activity and the acceptance of the TP to include it in his Demonstration Lesson came at the first phase of the study, however, during the Demonstration lesson it was not used.

Demonstration Lesson

Adding the demonstration lesson in the planning phase proved to be fruitful. It allowed all participating teachers to think about the lesson more deeply as they could experience it more fully (CT1, CT4, CT5, see Fig. 7). As discussed, TC did not include the jigsaw activity as agreed in the first phase. It was still a new concept he had not completely grasped. However, after teaching the lesson to the CTs and receiving their feedback, he began to understand the advantages and included it in his research lesson. The idea to use strategic phrases for students to use to increase interaction in their groups also emerged in the demonstration lesson phase. The Demonstration Lesson also increased a sense of collegiality. Teachers by participating in the planning stages in collaboration created a supportive environment for the TC as his closing remarks indicate in the post lesson session.

More Student Focused

John Wooden, a legendary College basketball coach and professor of English literature wrote, “The purpose of teacher research is for the benefit of the students (in Nater & Gallimore, 2006, p. 43).” One of the outcomes of going through a collaborative Lesson Study cycle is that it enables teachers to get a classroom centered focus on their instruction by developing “eyes to see students” (Lewis, 2002, p.12). In other words, these ‘eyes’ are keenly developed not in isolation, but socially constructed in collaboration with other teachers who share their diverse views (Cochran-Smith & Lytle, 2009). Several of the comments given by the CTs were directly based on observations of students during the main activity. The comments (see Fig. 7) ranged from developing strategies to improve on a means to evaluate students during group work activity (CT2); noticing that TC started to use more Japanese as the activity went on (CT1), as well as recognizing improvement such as implementing suggestions made by the CTs (CT1); increased interaction in groups (CT5) and success of including English phrases for students to use while doing the group activity (CT6).

Conclusion

In conclusion, it can be said that conducting the LS cycle in collaboration, especially in the planning stages, can positively affect the professional development of not only the TP but also the CTs involved in the process. Through the TP defining a PPD goal and CTs working towards helping him realize it in the research lesson, the participants working as a team were able to experience exploratory, classroom-based teacher development by covering the major steps of AR (and therefore LS), namely; plan, act, observe, reflect, revise (Kemmis & McTaggart, 1988, Nunan, 1993). The research question, which focused on the impact of increasing the amount of collaboration in the planning stages of the LS cycle proved to be an important part of this case study producing the outcomes presented here. Although this is only an example of one case, the authors believe that the collaborative approach to LS, when conducted as outlined in this paper, will affect the dynamics of the department conducting the study. Broadening the focus of LS to include CTs in the early planning stages and on through the phases of the study allows the participants to see their teaching styles, methods, and practices in a new light and also, perhaps more importantly, to see the way their students learn more clearly as well. We hope that more professional educators, especially at the secondary school level will recognize the importance of continued teacher development projects in their schools and incorporate the LS model as outlined in this paper as a framework to help guide them through the steps and to make each of those steps as collaborative as possible given their unique situation. In doing so, assuming the role of teacher researcher through presenting their unique findings they will add to the material available and contribute to a higher quality of education to students everywhere.

As stated in the title, it is our intent to revitalize LS in the secondary schools within Japan. An important factor in this revitalization will be the cooperation of administrators and teachers to first recognize the importance of teacher development programs such as this one and then to implement them in their institutions. We feel strongly that the inclusion of collaboration as a central focus of their LS cycle

throughout the phases will produce similar outcomes and have continued positive effects on all of the participants.



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***The Use of Concept Maps to Illustrate
Understanding in a Standard Reading Exercise***

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Abstract

The benefits of a standard reading exercise (SRE), in which students regularly answer the same set of questions by applying them to a variety of different texts, were first explored by Scott et al. (1984). The Foundational Literacies Advanced Stream curriculum design project at Kanda University decided to experiment with such an exercise, as it is felt that introducing students to a range of different texts can be a useful method of learner empowerment. In particular, the second section of the SRE is of interest. This section allows students the freedom to create a 'concept map' that demonstrates their understanding of the organisation of ideas, the author's purpose in writing, and the tone of the text. An example framework is given, but learners have total freedom (e.g. digital or paper-based, use of written language or pictures) to write or draw whatever they wish to demonstrate their understanding of the text. This paper looks at the semiotic work conducted by students in creating these maps in relation to the 'affordances' idea: what does the use of non-linear text afford the student that linear text does not, and vice-versa? The paper hopes to be of benefit to anyone teaching reading classes, particularly those who have an interest in Multiliteracies pedagogy.

Keywords: multiliteracies, standard exercise, semiotics, multimodality

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1. Introduction

At Kanda University, students in the advanced stream of a Foundational Literacies class regularly complete a standard reading exercise (SRE) with a variety of different texts. A previous paper (Owens, 2014) looked at the effectiveness of the exercise. This paper will summarise the idea of the SRE, before focusing on one particular section of the exercise. Section 2 asks students to represent their understanding of a text using concept maps, and students came up with various ways of answering this section, including some use of imagery and ‘mind-mapping’. The paper seeks to examine the ‘semiotic work’ conducted by learners in the process of completing this exercise, and to consider what the utilisation of non-linear text affords the author that linear text does not (and vice-versa). It also looks at what form of concept map or image proved most effective in representing their understandings.

2. Background / Literature Review

At Kanda University, a new curriculum is underway that employs a ‘Multiliteracies’-led pedagogy, as advocated by the ‘New London’ group (Cazden et al., 1996). A previous paper by the author (Owens, 2013) explains this in detail and justifies its practice. In summary, and relevant to this paper, ‘Multiliteracies’ suggests a move away from the old-fashioned concept of literacy as involving merely the reading and writing of linear text that defines the “traditional language-based approaches” (Cazden et al., 1996: 60) towards a “broader view” that considers the “multiplicity of communications channels” and “diversity in the world today”. Hence ‘literacies’ becomes plural, and ‘multi’ refers to both “social diversity” and “multimodality”. In practice, this involves the greater inclusion of multimodal resources and non-linear text in the classroom and a greater consideration of the process of meaning-making. Educators should aim to enable students to consider all representations of meaning (i.e. not only linguistic, but also, for example, visual, auditory, and gestural). Learners are encouraged to make use of their own experiential knowledge to create their own meanings. A course employing such pedagogy, then, should focus on “reconciling” the unrestricted “tools of authorship” with an “increasing diversity and complexity of meaning-making resources” (Nelson, 2008: 66).

The old, segregated skills (‘Basic Reading’ and ‘Basic Writing’) classes are replaced by a new ‘Foundational Literacies’ course. This course is genre-based, again for reasons that are explained in more detail in Owens (2013), but can be summarised thus: facilitating “genre awareness” (Johns, 2008: 238) in students empowers them to the extent that it enables them to function effectively in the world outside the classroom; as educators we can “ground ... courses in the texts that students will have to write in their target contexts” (Hyland, 2007: 148). Some of the genres that the learners encounter in the course include Narrative, Email, Essay and Information Report.

A separate ‘standard reading exercise’ (SRE), effectively functioning as weekly homework for students in the advanced stream, complements this genre-based course. It comprises the same list of questions that students answer with a variety of different texts from a range of genres, as inspired by Scott, Carioni, Zanatta, Bayer & Quintanilha (1984), asking students to identify such aspects as key vocabulary, the authorial purpose, intended audience, language choices, and their own level of interest

in the text. The SRE can be seen in Appendix 1. Another paper by the author (Owens, 2014) examines the effectiveness of the exercise, in the way, for example, that it compliments the course, contributes to 'genre-awareness' on the part of the students, and how it encourages them to read and think about texts differently.

This paper however chooses to focus instead on the use of 'concept maps' in Part 2 of the exercise. In this section students are asked to "create a 'concept map' showing 1) the organization of ideas within the text... 2) what you think the author's purpose is; and 3) the tone of the text." The students are shown "an example framework" (Appendix 2) but it is emphasised that they have complete "freedom to draw in any way that helps you to understand." Students are reassured by their teachers that they can draw pictures, use 'mind maps' or make use of any form they wish to represent their understanding of the text. They also have the freedom to use their iPads (which all students in the advanced stream have) to create digital maps (there are many apps that are suited for this purpose, most of them free) or to use a simple pen and paper.

The inclusion of this question is relevant to the 'Multiliteracies' pedagogy, and relates to the work done by Kress & Van Leeuwen (2001) among others, on the usefulness of non-linear text and the "affordances" idea. They claim that "language" is not necessarily the "most effective mode in all circumstances" (p29). Linear text arguably restricts both the author and the reader in terms of their interpretation of a text. In English, the written sentence evolves from spoken language, which, divorced from image and other modes, encourages a dependency on conceptualising in terms of time, sequence and causation.

...ideas encoded in imagery may be said to offer a different, more spatial and simultaneously apprehended kind of meaning than the same ideas encoded in oral language, which presents ideas in a sequentially and temporally organized way (Nelson, 2006: 58).

Many recent studies wish to challenge the "assumption that language is paradigmatic for meaning" (Mitchell, 1994: 12). The use of image, drawing...etc can afford the learner something that written language cannot. This seems to be especially relevant where second language learners are concerned. Nelson (2008) points out that "students using a language other than their primary one would have a more authentic need to explore and tap into the communicative potential of nonlinguistic resources" (p69). Using non-linear text, for example an illustration or a chart, can allow the author, especially if they are a non-native language user, to 'plug the gaps' in their linguistic ability. It creates a more 'even playing field', where people are able to express their ability to make meaning without being restricted by their ability with regard to traditional literacy 'skills'.

This paper, then, seeks to focus on two main research questions: 1) What does the use of non-linear text afford the author in representing understanding that linear text does not (and vice-versa)? 2) What mode of non-linear text (e.g. illustration, 'mind map'...etc) proves most effective in demonstrating this understanding?

3. Methodology

The process involved is more fully explained in Owens (2014). Three students from an advanced stream class (from hereon referred to as Students A, B and C), all of whom were female and in their first year of study at the university, were chosen at random. Each was interviewed for approximately an hour after the academic year had ended. The interviews focused on the students' answers in their SRE responses to just five of the twenty texts that they encountered that year: an email from a mother to her son's fiancé, a 'spam' email asking for bank details, a recipe, a poem ("Thanksgiving Day Prayer" by William S. Burroughs) and a research article from the BBC website entitled "Kinder Children are More Popular." It would have been arduous and counter-productive to have looked at the responses to all twenty texts, and it was felt this sample of five provided a sufficient variety to reflect the broad range of texts that the SRE was applied to. More importantly, these five generated the most interesting responses, especially with regard to the concept maps in Part 2.

The interviews took the form of 'grand tour' questions. The three students were asked to provide general, informal comment on their answers and the SRE in general. Several inter-related themes emerged from the comment the students offered. Most of these themes, centring principally on the effectiveness of the exercise and suggested improvements that could be made to it, were tackled in a previous paper (Owens, 2014). This paper focuses on the concept maps, and any student commentary that relates to the two research questions listed above. In doing so, it examines any interesting or enlightening remarks they made regarding their use of concept maps and the reasons they offered in doing so.

4. Results

As stated earlier, students were shown a model framework (Appendix 2) but given the option to use different forms of concept map. The word 'map' here is possibly misleading, as it perhaps encourages students not to draw or be more creative in their responses. While the model itself is not strictly speaking linear text, it does not afford much in the way of visual creativity. It does not make use of illustrations or images. The interviewed students predominantly selected pen and paper to create their concept maps, and only one student (C) deviated from the model in her answers (see Appendix 3).

This was a 'lazy' choice' rather than a deliberate strategy. Student A "just imitated" the model and then "got used to it". Similarly, student B "didn't think to change" the habit she had got into. However, given the chance to comment on this without being 'nudged' in any way, students A and B saw instances where deviating from the model would have offered benefits in hindsight. In summary, all three students believe that both using the model and using imagery/different maps had limitations depending on the context.

Interestingly, without any pressure or 'leading questions' from the interviewer, all three students, independently and without discussing the point with one another, identified types of text the model was useful and not useful for. Student A made a distinction between what she termed "logical" or "information" texts (exemplified by research papers and essays) and "emotional" or "deep" texts (such as the poem). She

considered the model useful for “style to do logically” such as a research paper because the model frameworks can make such texts “more simple and easy to understand”. However, she believed the model was “not useful” with “deep” texts such as the poem. In this case, “drawing pictures, picking up important key words, using imagination would have been more helpful” because the standard model is “too logical... too simple to imagine and think deeply”. Interestingly, she put the email in the “deep” category, possibly because of its emotional content. For her, “drawing” would have been useful for representing her understanding of the email because “drawing makes us easier to imagine... I can feel or remember more emotionally...”. In addition to drawing pictures, she also demonstrated another form of representation that she believed would have been useful for explaining her understanding: “One word and then expanding...one word or key word”; she then drew a web of interlinked words and ideas. This drawing more closely resembles a traditional ‘mind map’, without the restrictions presented in the model.

This distinction the student makes between the different type of text, and her word choice in doing so, is interesting in light of the following observation:

When the diverse elements of a multimodal text dovetail in such ways that certain meanings are particularly foregrounded, if one likes, ‘intermodally’ amplified, we get it, often on emotional and visceral, as well as intellectual, levels. (Nelson, 2008: 65)

Student A seemed able to notice texts in which the “emotional” level is more “amplified”, and others where the “intellectual” (or as she terms it, “logical”) level is “foregrounded”, and she seemed to suggest that more creative, less constrained ‘concept maps’ than the model that make more use of visuals are more useful for representing her understanding of the former.

Student B made a very similar distinction, although she used different words to do so. Roughly corresponding to A’s “logical” and “emotional” texts, she labels the two groups “formal” and “casual” respectively. She places the recipe and poem in the “casual” group, and the research paper (and interestingly the email) in “formal”. Her thinking on this point uncannily echoes A’s comments. She thinks that the model framework is “maybe ... helpful” for the “formal texts” but not “casual”. B says it helps with the former because it helps make all the details and long explanations “clear”, thus she “...can write summary easily. I know the form”. For her, the standard model framework is useful for any text that has clear, identifiable “paragraphs” and/or is describing a “process”.

However, she found that with the poem, “It doesn’t have {many} paragraphs, so I need to find many main ideas from one paragraph”. Like A, she suggests a diagram “like spider” would be more useful to “explain my ideas... sometimes help to expand my imagination or my thinking” especially when she wants to link to “the writer’s feeling”. Like A, she identified that a ‘freer’ model is more useful when ‘emotion’ is more amplified than logic or a descriptive process, although she did not mention the use of imagery or illustration. The ‘spider’s web’ map she suggested retrospectively is, in her opinion, useful with “casual” texts as it acts like a kind of filter in helping her identify the key points: It “...links to main idea and deletes not helpful words, find clear information or my opinion.” Essentially, she explained that “casual” texts have

“many different ideas” that “don’t relate to main ideas but I can expand and make it familiar” so the web would have worked better. That is, it is hard for her to locate the formal structure in informal texts, so using the ‘web of ideas’ is easier with what she calls “casual” texts. This would seem to relate to the point made earlier that linear texts, as with oral language, are constrained by the fact they best represent concepts “in a sequentially and temporally organized way” (Nelson, 2006: 58). When sequence and time are not foregrounded, less linear, structured forms of expression seem more suitable to effective representation.

Student C’s answers are especially interesting in that she actually departed from the model in her representations. She used drawings to make sense of the poem, a web of ideas for the recipe (see Appendix C) and a slightly differently ordered version of the model for the research paper. She might be considered better qualified to talk about the effectiveness of imagery and non-linear text, then, as she actually made use of the forms the other two students retrospectively wished they had used.

Arguably her most interesting comment in the context of this research is her complaint that “sometimes I feel it’s difficult to write model”, especially with the “recipe... I think if I wrote like this style, it’s only words”. Whether she consciously meant to make such a profound statement or not, the phrase “only words” seems to suggest language is limited to some degree when representing ideas. She went on to explain that even when she reads recipes online, she dislikes the use of prose: “I always think this is not good for me... so I think simple is easy to understand when I cook, so I just wrote words and what is the connection... it’s like picture but this is just text but I feel it’s like picture”. Intriguingly, she imagines the cooking process (and thus the recipe ‘text’) as a visual scene in order to make sense of it. When representing her understanding of certain texts, she believes pictures are easier to understand because “we can image easily”.

Similarly, student C believes “picture is better” with the poem too. The poem in question (“Thanksgiving Day Prayer” by William S. Burroughs) is an interesting example because it appears to be a letter, rather than a poem, and is heavily ironic. Of the three interviewees, only C picked up on this irony, so it is interesting that she used an illustration to represent this (Appendix C). Understanding this text would prove especially difficult for non-native users of English, given its ambiguity and the fact that the genre is disguised to some degree. It is a poem that may appear to be in the form of a letter (with an addressee) or a prayer (as suggested in the title). That it is a poem may counter the expectations of the reader, as “we instinctively feel that a text that recognizably bears even some of the hallmarks of a genre should conform to basic expectations set up by that genre” (Nelson, 2006: 67).

However, C has found a way to express herself when these expectations are contradicted. She concedes that using the model or more ‘traditional’ forms of linear text can be useful: “I think write down many sentence like this is good for me”. Nevertheless, in cases such as this, where a poem (which she initially thought was a letter) runs counter to her assumptions of the genre, she needed to use a different form of representation to express her understanding of the irony and the expectation-defying nature of the text: “...because often when we write letter it’s, it’s not including like bad things so it’s rare if I see the genre, I think it’s not including bad thing but actually it’s including bad thing”. Using only linear text or a concept map

based on the model framework seemed to be insufficient to allow student C to be able to do this.

C also makes a very valuable point when asked what her main reason for using illustrations rather than the model was. The SRE was time-consuming and arduous, and drawing a picture was a good way for her to “save time” when answering Part 2. This efficiency of expression is another simple, but very significant benefit that non-linear text offers the author.

As with the other interviewees, nonetheless, C feels using only images or pictures has its limitations in this exercise:

Sometimes it is easy to write the pictures, but it's difficult to understand the contents in detail. If I write down the standard style I have to write down many sentences so I can understand more and more.

In other words, relying on linear text and writing sentences ‘forces’ her to focus on details and therefore come to a more complete understanding of a text.

5. Conclusion

The student interviews seem to confirm what many researchers and educators currently believe: that the use of non-linear text (such as imagery) affords the author advantages that linear text cannot. It can save the author time and provide a more efficient form of expression, it can enable students to show they understand a text on a deep level (that they ‘get it’ somehow) that logical expression might not be conducive for, it allows the author to explain concepts or understandings without being restrained by time or sequence, and it fills in gaps in a language-learner’s lexicon:

Multimodal communication offers a potential levelling effect, an alternative route whereby new understandings can be reached that are ultimately supportive of authorial expression in the L2 (Nelson, 2006: 70).

Nevertheless, the student interviews also suggest that, just as linear text without the use of imagery or other modes can be restrained in the meanings it allows the author/reader to construct, there are limits to how useful image without the use of language can be. In fact, as is evidenced by Student C’s combination of both illustration and written text (Appendix C), often the most effective (in terms of the depth of understanding it was able to communicate) ‘concept map’ made use of both language and imagery. This combination of “the visual/pictorial and oral/linguistic” is often able to create “...new forms of meaning, in the (loosely) *gestalt* sense of a whole that is irreducible to and represents more than the sum of its parts” (Nelson, 2006:56).

Arguably the most interesting outcome of the interviews was the fact that all the participants independently came to some very similar conclusions: that there were distinct types of texts, and that different types of concept maps were useful with different types of text. The former conclusion is one that suggests the exercise and interview process have been useful in satisfying one of the stated aims of the course,

as the observation would seem to indicate that students have become 'genre-aware' to some extent. They are able to, independently, notice different types of discourse and the salient features of each one.

The second conclusion comes some way towards answering one of the stated research questions. Rather than there being any one 'superior' form of representation of understanding, the most effective form of concept map is context-dependent. Generally speaking, according to the students themselves, restricted, 'linear' maps are more useful with "logical"/ "information" / "formal" texts. More creative maps, those that, for example, make use of illustration and less spatially confined 'webs', seem better suited to representing understanding of "deep" / "emotional" / "casual" texts.

The results of these three interviews are to some extent limited in what they can conclude, but they do function well as a pilot study that can lead to interesting future research, and changes to the form the standard exercise takes. Students taking the same course in the 2014-2015 academic year do the same exercise with some minor alterations. Rather than showing the students one 'linear' model framework for the concept map in Part 2 of the exercise, they were shown a greater variety of examples, including some of the more creative attempts from Student C, in order to encourage current freshman students to make freer use of the concept maps. The results are that students' 'maps' are much more varied and creative, with some students opting with 'linear' approaches, others making greater use of illustration and imagery, some combining the two, and others opting for different forms depending on the type of text. Most students decided to use digital maps rather than pen and paper, too.

This new selection of maps offers a richer source from which to further investigate the affordances idea. Ideas for future research include analysing these maps in light of work done in the field of semiotics and visual design, such as Van Leeuwen (2005). This might include, for example, paying greater attention to the way in which the students decide to frame or segregate different sections of their maps, and if certain patterns can be observed in the work that sheds light on the methods students use in their creation of different meanings from the same resources.

The research conducted in this paper and any future work is potentially of interest to anyone interested in the idea of experimenting with the use of non-linear text as a tool to allow students to express their understandings and create new meanings out of texts. As such, it hopes to contribute to a growing field of research in semiotics and Multiliteracies-pedagogy.

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Appendix 1**Standard Reading Exercise Used in the Foundational Literacies Advanced Stream Course****Part 1 – Predicting**

1. Skim through the text. Do you notice any key words or phrases? Write them down.
2. What do you think is the main idea (topic) in this text?
3. What do you think the genre of the text will be?
4. What do you think the tone of this text is generally:

Academic

Formal

Argumentative

Informal

Literary

Mixed

Other:

NOW, READ CLOSELY THROUGH THE TEXT

Then answer the following questions.

5. Were your predictions in Questions 2 to 4 correct?

1 2 3 4 5

(1 = No - I got everything wrong; 5 = Yes - completely correct!)

Part 2 – Reading for content

Read the text in more detail, and create a “concept map” showing 1) the organization of ideas within the text (e.g. give each paragraph a sub-heading); 2) what you think the author’s purpose is; and 3) the tone of the text. Your teacher will show you an example framework for this, but you have freedom to draw this map in any way that helps you to understand. Try to include reasons or examples in your notes.

Part 3 – Text in context

1a. What kind of text MIGHT this be? *Choose only one.

- ☐ Business letter
- ☐ Diary
- ☐ Email
- ☐ Newspaper feature article
- ☐ Science magazine feature article
- ☐ Personal letter
- ☐ Work of fiction (e.g. novel, short-story, etc.)
- ☐ Academic textbook
- ☐ Research paper
- ☐ Other:

1b. Why do you think it could be one of these texts?

2. Who do you think the intended audience of the text is? What clues are there in the text that show this?

3. All language use (e.g., vocabulary, tone, sentence length) reflects a choice. Why does the writer choose to write in this style?

Part 4 – Reflection

1. How interesting was the text?

1 2 3 4 5

(1 = very boring; 5 = very interesting)

2. As a very rough approximate, how much of the text do you think that you understood? (e.g. 10%, 50%, 90%)

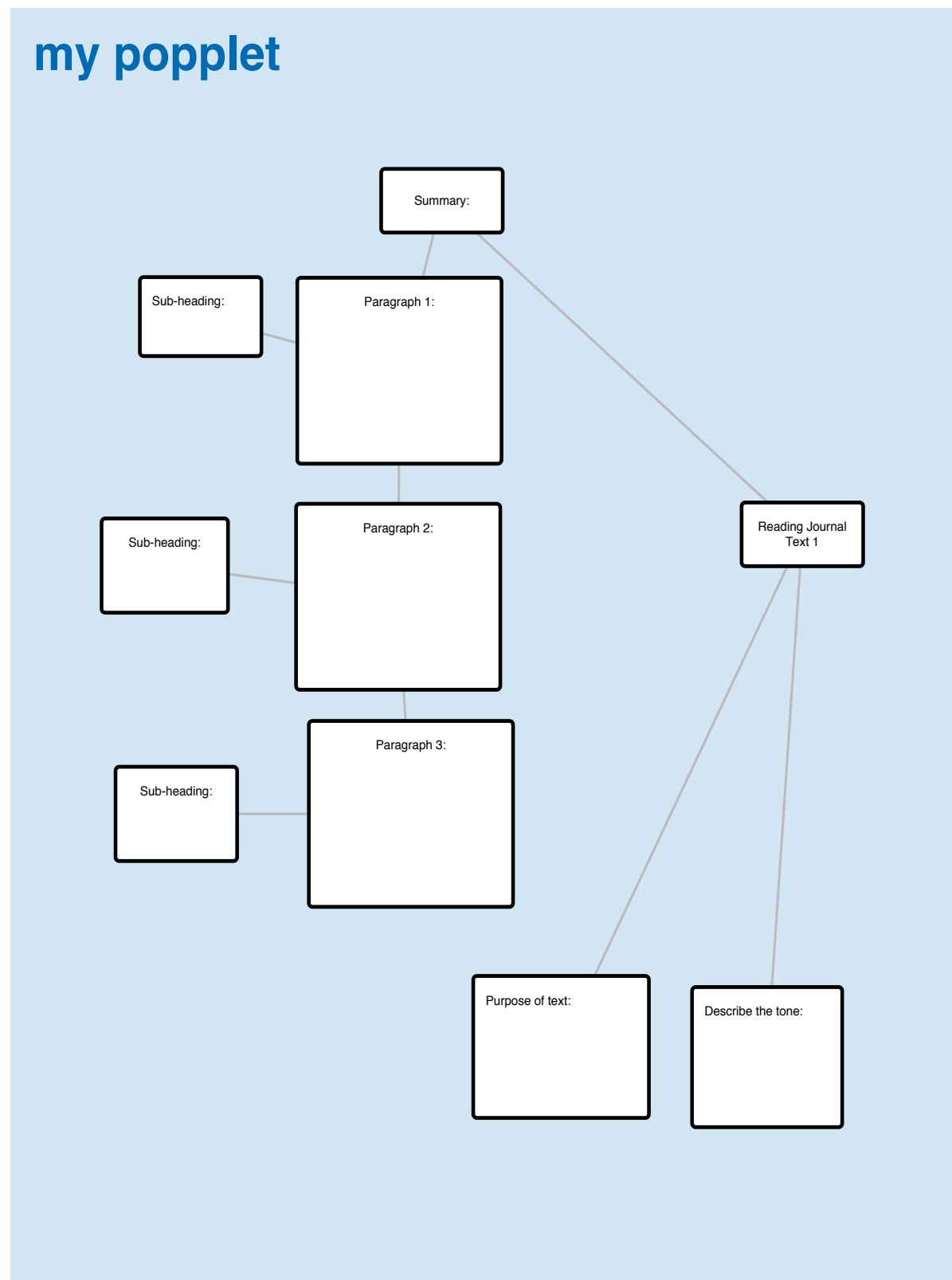
3. If you found the text difficult to understand, what was the main reason? *Choose one:

- ☐ It wasn't difficult
- ☐ Lack of previous knowledge of the topic

- “ A grammar problem
- “ Too many new words
- “ Inefficient reading strategies
- “ Difficulty in separating main points from details
- “ Difficulty in identifying the introduction or conclusion
- “ Other:

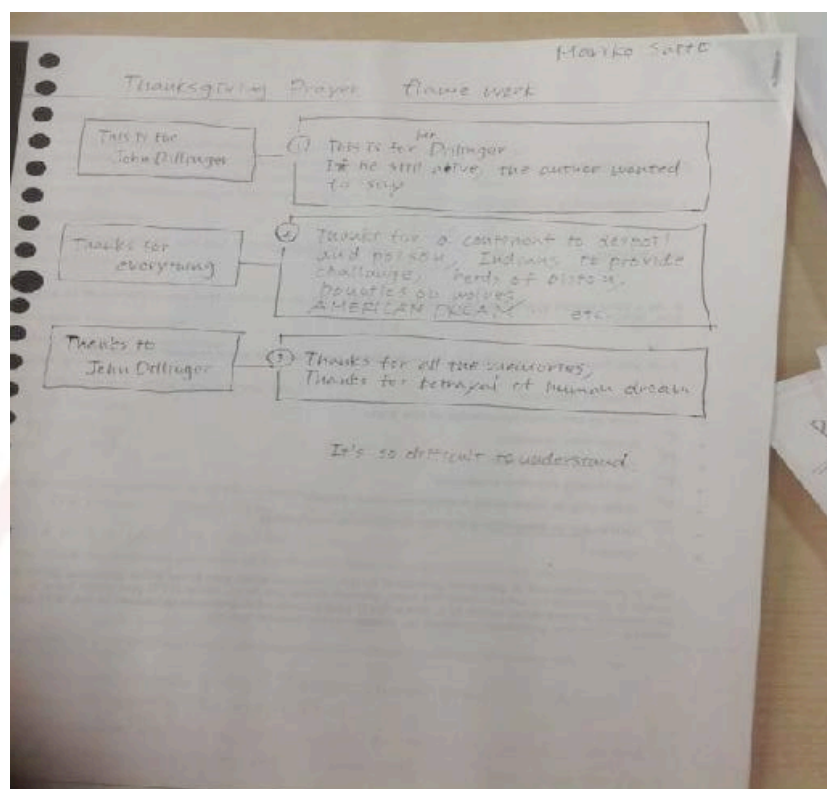
4a. If you answered “A grammar problem” in Q4, AND you think you know what grammar point is that made it difficult to understand the text, please elaborate here. *Note (1) If you didn't have a grammatical problem, write n/a. Note (2) If you answered “A grammar problem” in Q4, BUT you're unsure what the grammar problem is, please write “unsure” below.*

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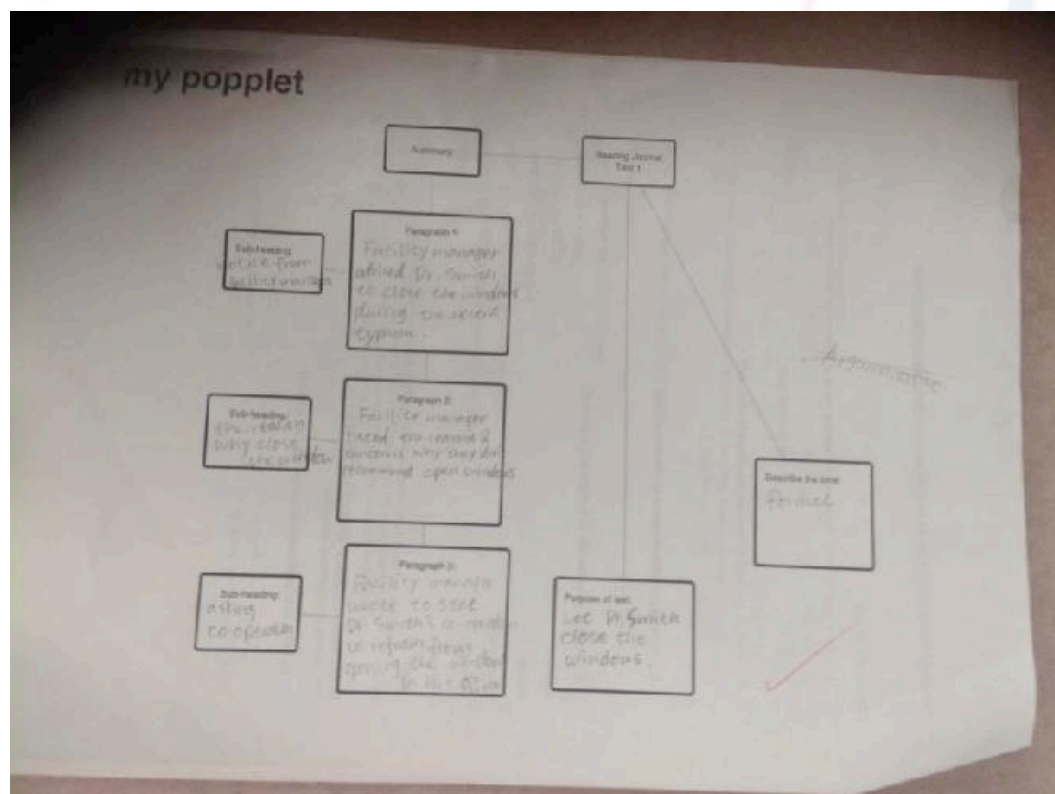
Appendix 2: Model framework for the concept maps

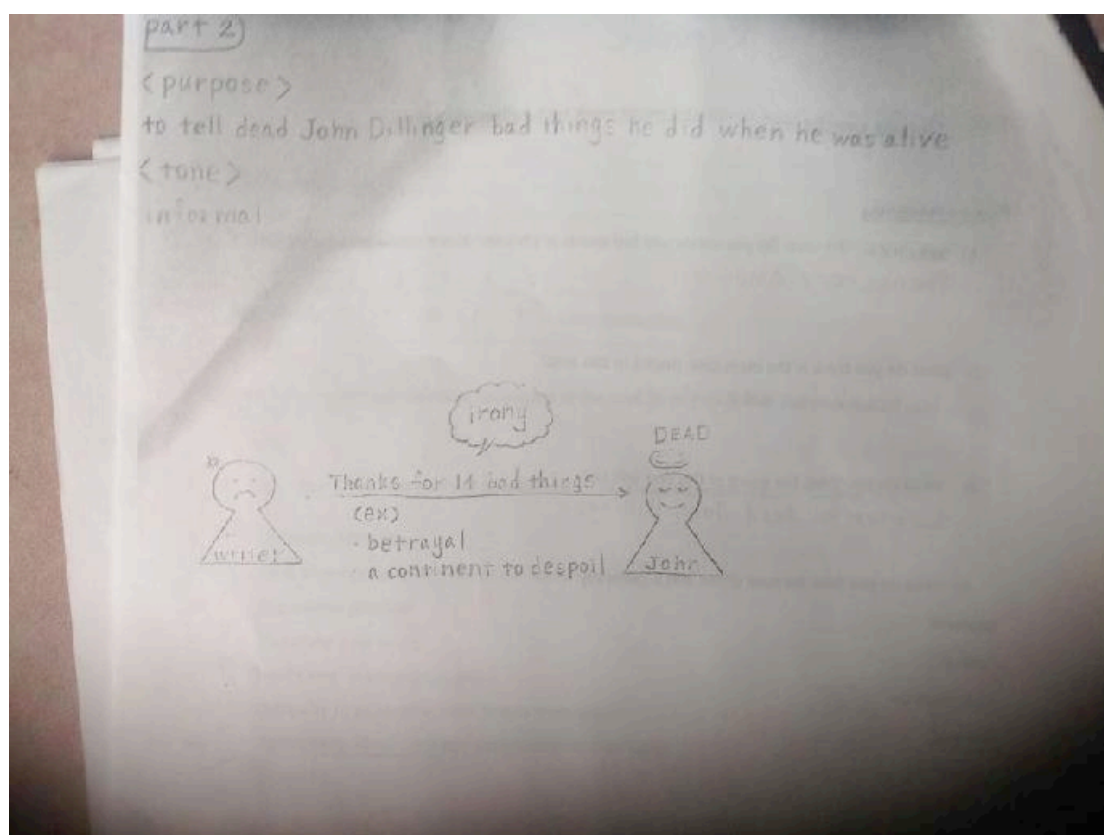
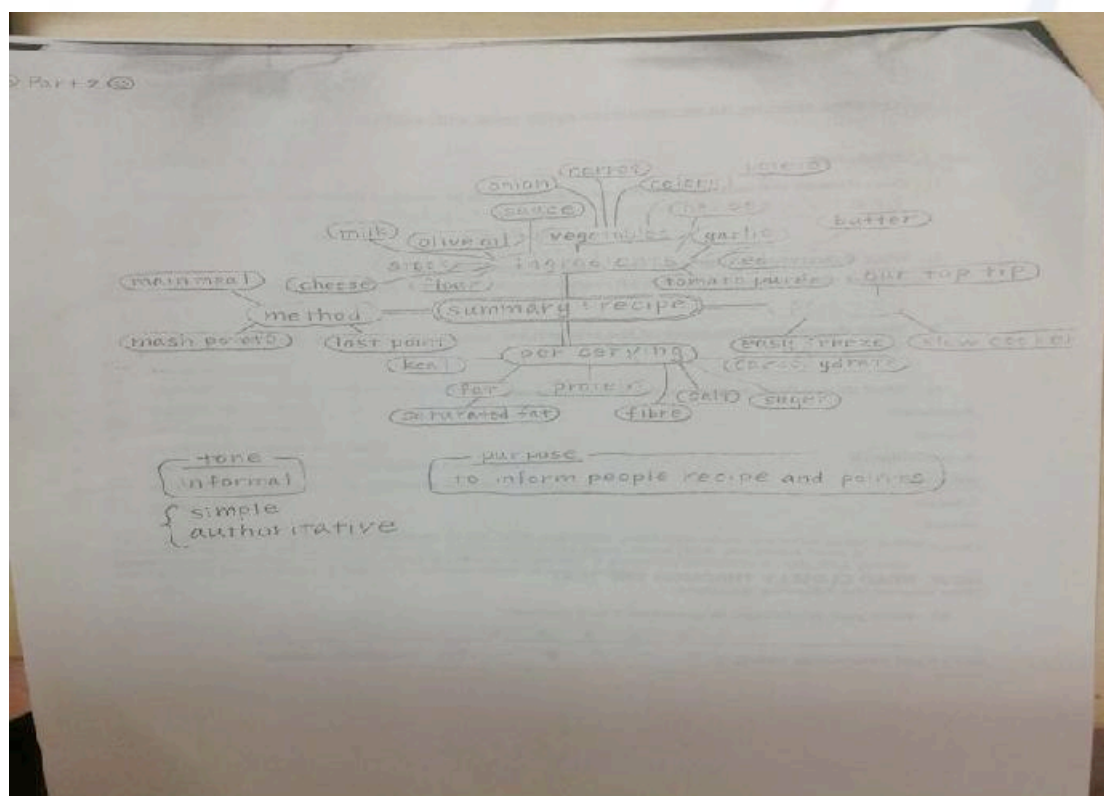
Appendix 3: Students' concept maps

Example: Student A



Example: Student B



Example: Student C (poem)**Example: Student C (recipe)**



***Online Comic in Mandarin Chinese's Vocabulary Learning:
A Case Study of Budi Utama Multilingual School in Yogyakarta, Indonesia***

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Official Conference Proceedings

Abstract

This study was aimed to investigate 1) the improvement of CFL elementary-school students' skill in learning Mandarin Chinese (hereafter referred to as Mandarin) vocabulary through creating comic without online resources, creating online comics individually and collaboratively, 2) the CFL elementary-school students' attitude towards the application of comics in learning Mandarin vocabulary, and 3) the CFL elementary-school students' attitude towards the application of collaborative activities in learning Mandarin vocabulary. The research design was based on a quasi-experiment using both qualitative and quantitative approaches. Three classes participated in this study: one class was the control group using text-based instruction without online resources; the other two classes were the experimental groups 1 and 2. In the experimental group 1, students worked individually on online comic whereas in the experimental group 2, students worked collaboratively on online comic. All participants were Grade 5 students of Budi Utama Multilingual School in Yogyakarta, Indonesia. The collected and analyzed data included performances on Mandarin vocabulary, in-class observation, questionnaires, and interview. In Mandarin vocabulary performances, the experimental group 2 outperformed the other two groups and the experimental group 1 performed better than the control group. In the students' attitude, the experimental group 2 behaved more positively than the two other groups, and the control group behaved more positively than the experimental group 1.

Keywords: online comic, Mandarin, collaborative learning, computer supported collaborative learning (CSCL), technology enhanced language learning (TELL)

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Introduction

At the present, Mandarin is an increasingly popular language to learn around the world and it has the largest number of people who speak it as their first language. Saville-troike (2006) noted that the four most commonly used languages in the world are Chinese, English, Spanish, and Hindi.

In Indonesia, there were more than 620 Mandarin schools between 1965 and 1966. Due to the political problems, most of those schools were forced to close in 1967 (Wen, 1997, p.1). After reformation began in 1998 under President Abdurrahman Wahid, a new policy was implemented that would improve the status of Chinese-Indonesians by allowing them to acquire Chinese names and learn/speak Mandarin.

In early 2000, a number of private multilingual schools were established in Indonesia. Budi Utama is one of these multilingual schools where three languages (Indonesian, English, and Mandarin) are used daily as the languages of instruction. Established in 2007, this is the only multi-language school in Yogyakarta, Indonesia. Mandarin is taught in Budi Utama Multilingual School from kindergarten to secondary school. Presently, grade 7 is the highest level in that school. The school uses a Chinese Language textbook (小学华文) from Singapore for teaching primary school students. The students from Grade 5 who participate in this research have high competence in both pronunciation and speaking. According to the interview with one of the local teachers, some of the students have already achieved level 3 on the Youth Chinese Test (YCT). The school supports the students to take this Chinese proficiency test which is an internationally standardized test launched by Hanban in Mainland China. YCT is directed at examining non-native primary and secondary school students' capability in applying Chinese language in their studies, personal lives, and work. This would mean that the students already have acquired more than 300 words and characters in their vocabulary (Hanban, 2010). Yet, they still have some difficulties in dictation and writing Chinese characters, particularly because these students have been accustomed to writing in pinyin. These students may attempt to apply techniques used when they were brought up learning the Indonesian language, which is written using the Latin alphabet. Therefore, students find it difficult to write Chinese characters (Cook, 2003; Larsen-Freeman & Long, 1991; Jiang, 2008). The use of technology to enhance language learning, especially in writing Chinese characters (Zhao, 2003) can potentially improve their ability.

Based on the preliminary survey, Grade 5 students at that school stated that they have a PC computer at home, a laptop, tablet, and/or smart phone. The school also provides a computer class of two periods a week (total 80 minutes). However, the technology has not been integrated in supporting their Mandarin language learning. Therefore, many students rely on Google translate to help them complete their homework assignments.

According to New Media Consortium (NMC) Horizon Report (2012), the workplace is increasingly collaborative, which subsequently leads to changes in the way student projects are structured. Moreover, the abundance of resources and relationships made easily accessible via internet is increasingly challenging us to constantly refocus on our roles as educators. Therefore, the education paradigms are shifting to include online learning and collaborative models. As a result of these conditions above, there

consequently will be a new emphasis on more challenge-based and active learning in classrooms.

In regards to comics as a learning activity, a research work done by Clark (2000) shows that comics have positive effects on students. Comics engage our attention and serves as entertainment; moreover, it presents information in a non-threatening manner. Doring (2002) adds that comics can also be used as stimuli to encourage thinking and discussion skills. Other research by Rule and Auge (2005) shows that students who learn using comics achieve higher test scores and can provide examples of why they enjoy learning in this manner. By using comics, the students engage themselves in self-motivated practice.

Mandarin Teaching in Indonesia

According to the Ministry of National Education of Indonesia, Curriculum of 2013 has been applied throughout the levels of education in Indonesia. Mandarin has the similar status as those of local languages and/or foreign languages; therefore, it is integrated into the local content of the subjects of Culture and Art Crafts (Group B) provided in Table 2-1 (KPK, 2013, p.3). Schools are allowed to teach Mandarin for Grade 5 students up to 5 periods in a week. Each period lasts for roughly 35 minutes. The integrative thematic learning is implemented in this 2013 curriculum.

Table 1. *Curriculum 2013 for Elementary School (KPK, 2013,p.3)*

Subjects	Time Duration of Learning in a Week					
	I	II	III	IV	V	VI
Group A						
Religion and Moral Education	4	4	4	4	4	4
<i>Pancasila</i> and Citizenship Education	5	5	6	4	4	4
Indonesian Language	8	9	10	7	7	7
Mathematics	5	6	6	6	6	6
Natural Sciences	-	-	-	3	3	3
Social Sciences	-	-	-	3	3	3
Group B						
Culture and Arts Crafts	4	4	4	5	5	5
Sports Science	4	4	4	4	4	4
Total	30	32	34	36	36	36

However, the school forms the learning unit, meaning it has the right to develop its own curriculum based on the needs of the students. It precisely means that the school may reduce or add the period's number and/or the time duration of subjects belonging to Group B in Table 1.

Budi Utama School develops its curriculum and gives 7 periods of Mandarin for 5th grade students. Each period consists of 40 minutes. There are 3 Mandarin teachers, two of them being native Mandarin -speaking teachers and only one of them being a local Mandarin teacher. The component of material and/or language skills is listed in Table 2.

Table 2. *Mandarin Teaching Composition for 5 Grade Students*

Language Skills/ Contents	Periods Week	per Teache r
Mandarin Speaking	3	Native
Chinese Culture	2	Native
Mandarin Reading and Writing	2	Local

People in Yogyakarta are either bilingual or multilingual (Margana, 2009). Somehow, Mandarin is a foreign language to most Indonesians, as it plays no major role in the community and it is primarily learnt only in the classroom. The students are getting language exposure only during the school period. During the class break, the students soon switch into Javanese or Indonesian language in oral communication with other students. Therefore, there is a lack of writing activity using Chinese characters.

Despite this, Budi Utama is flexibly allowed to modify the periods of teaching the subject in Group B in Table1; however, the language skills listed in Table 2 does not reflect the needs of the students. Students encounter more language differences in writing skills rather than other language skills (Sutami, 2008). Furthermore, since students in Budi Utama are used to using *Hanyu Pinyin*, the experiment would consist of both Chinese characters and *Hanyu Pinyin*. This is also stated by Saville-troike (2006) about the learner characteristic and circumstances.

Collaborative Learning

Collaborative learning has been found to benefit students in various disciplines as it contributes to student learning. Liao (2014) states that the contribution can be divided into two aspects: academic and social. In regards to the academic aspect, studies find that collaborative learning benefits students in academic achievement, as well as positive attitudes toward the subject matter, commitment to learning, critical thinking, and problem solving skills (Liao, 2006; Wong & Abbruzzese, 2011; Huynh, Jacho-Chaves, & Self, 2010; McDuff, 2012; Xie, 2011). In terms of the social aspect, researchers find that collaborative learning sharpens and strengthens students' overall communication skills, such as team working skills, emotional skills, and conflict resolution skills (Jarvenoja & Jarvela, 2009; Prichard, Stratford, & Bizo, 2006; Yates, 2006).

Other advantages are also shown by Liao's (2014) research towards high school collaborative learning students in public speaking. The students managed to increase speech efficacy and decrease their speech anxiety.

Another set of researchers find that collaborative learning that includes groups working together and peer assistance have been widely used in reading programs to create the necessary intensity and strong support for learning (Lan, Sung, & Chang, 2007). Collaborative learning (or peer-assisted learning) can improve their reading outcomes (Ranker, 2007; Cary, 2004; Liu, 2004). Collaborative learning does not only promote the development of positive attitudes towards other group members and learning material, but also builds social relationships and group cohesion (Kreijns 2004).

Research done by Tielman (2012) mentions there are 5 main collaborative learning characteristics. They are 1) positive interdependence, 2) individual accountability, 3) promotive interaction, 4) interpersonal and small-group skills, and 5) group processing.

CSCL is synchronous cooperation/collaboration through shared workspaces (Baker & Lund, 1996). However, most of the empirical studies using innovative CSCL-specific tools (beyond windows sharing as part of video conferencing periods, etc.) were usually based on selective experiments that were often conducted in a laboratory (Fischer & Mandl, 2001).

Online Comics

Persha and Nawvi (2004) states that vision is the primary sensory system for most people. Vision plays an important role in all areas of development, especially the cognitive area, where intellectual function is the product of this early sensory input through the eyes. Furthermore, the simplified visual representation and the recurrent plot typical of comics help to elicit children's interest in them (Jylhä-Laide, 1994). Students have assessed comics positively as they make the course more entertaining and make learning easier. They can reduce repetition and allow teachers to run classes without the need of textbooks. They also make remembering words easy and promote creative skills and motivate students to learn. In addition, Liu (2004) states that because comics are highly visual texts, they have been shown to be especially effective for increasing reading comprehension for second and/or additional language learners. Figure 1 presents an example of an online comic.

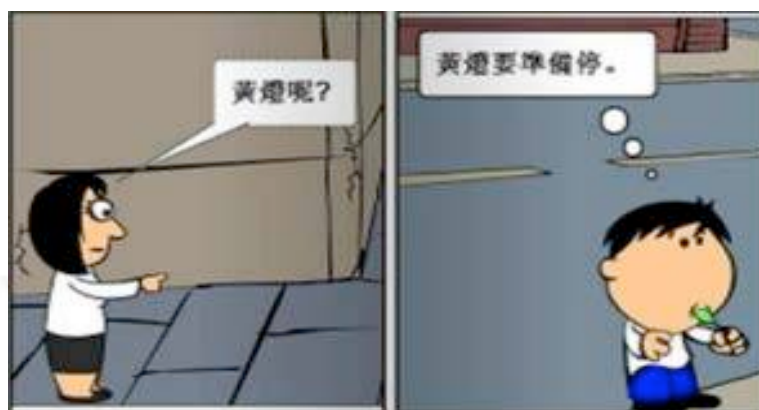


Figure 1. Example of Online Comics

Previous comics' research conducted by France (2010) based on the different foreign language learning style provides learners with a prototype. An experiment toward high school students shows that the approach attracts the students to learn foreign languages. However, online comics have some limiting aspects such as limited collection that users cannot easily identify the best characters, the different poses, or different moods to represent their ideas.

Based on the explanation above and the literature reviews the potential of online comics in collaborative learning in improving vocabulary learning will be confirmed by answering and the following questions:

1. What are the different improvements of CFL elementary-school students' Mandarin vocabulary among the three comics creation approaches (paper-based learning, individually online comics, and collaborative learning online comics)?
2. What are the different attitudes among CFL elementary-school students towards application of three comic creation approaches (paper-based learning, individually online comics, and collaborative learning online comics) in learning Mandarin vocabulary?
3. What are the different attitudes of CFL elementary-school students towards the online comics application between individual and collaborative creation in learning Mandarin vocabulary?

Online Comic in Mandarin Vocabulary Learning

Participants

Students of Grade 5 from Budi Utama Multilingual School were the participants of the research. There were three classes participating in this study: students in the control group were taught under a text-based instruction and created comics individually without online resources; those in the experimental group 1 created online comics individually; and those in the experimental group 2 created online comics collaboratively.

Table 3. *Students' Profile*

Items	Criterion	Control Group (N=16)	Individual Comics (N=14)	Collaborative Learning (N=16)
Gender	M	5	7	6
	F	11	7	10
Age	(in average)	10.07 yrs.	9,79 yrs.	10,1 yrs.
Have computer, tablet, or smart phone	Yes	16	12	16
	No	0	2	0
Experience in using computer, tablet or smart phone in learning Mandarin	Yes	1	6	7
	No	15	8	9

Research Design

The research design was based on the quasi-experiment design. Qualitative and quantitative approaches have been used to collect and analyze data.

Instruments

Vocabulary Performance Test

A vocabulary performance test consists of both a pretest and posttest. This parallel test between pre and posttest was developed based on the Student Book and Student Activity Book. It was also combined with the Standard test YCT and TOCFL beginner level.

Comic Lesson Plan

The lesson plan was arranged based on the school curriculum for grade 5 students (日惹崇德三語國民學校 課程活動安排表) and Mandarin writing activity for lesson 1 (學習寫字:完成活動本 1 頁到 2 頁寫字練習一課時).

Table 4. *Comic Lesson Plan*

Task Topic	Grammar Point	Pre-Activity	Students' Main Task
去野餐	回答這些疑問詞；什麼時候去？，去哪裡野餐？，怎麼去？，跟誰去？，帶了什麼東西？，看什麼？，幾點回家？	Control group: teacher distributes paper, and asks the students to create comics; they can create a story by answering the questions that have been prepared by the teacher; teacher uses PPT to expose some pictures that would stimulate students in creating the story.  Example: 1) The teacher asks the students about the weather of that day,"今天天氣怎麼樣?or 今天天氣好不好? This question tends to stimulate students in creating a story. 2) 去哪裡野餐?    Experiment Group 1: the students need to move to the computer lab; students operate the computer in the laboratory and go to www.toondoo.com to create comics individually using online resources; teacher also uses PPT to expose some pictures that would stimulate students in creating the story Experiment Group 2: the students work in small groups; the teacher gives an animal name to the groups such as 青蛙，貓，蛇子，狗，兔子和老虎; the student also needs to move to the computer laboratory, 1 set computer for 1 group; the teacher also uses PPT to expose some pictures that would stimulate students in creating the story	Student manually create comics 1) Students may answer,"今天天氣很好" or,"今天天氣好" 2) Students can answer "去山下野餐", "去海邊野餐"or "去公園野餐" The students create comics individually on www.toondoo.com Students answer the questions by choosing character, background, and accessories provided in www.toondoo.com The students work in groups to create the story. In the group, students will communicate each other before deciding the story. Students also negotiate prior to making group

decision.

Toondoo Online Comics

Toondoo (www.toondoo.com) is a free comic website which will be used as a media source in the learning of Mandarin during the course of this research. The website says, “Toondoo is a cool, comic-creating tool from Jambay, a fun site for kids. Jambay is devoted to creating a unique array of free and customizable online games of educational value for children of all abilities.”

In-Class Observation List

The observation list was revised from the previous research proposed by Lan, Sung, and Chang (2007). The list consists of three learning-related behaviors and learning-unrelated behaviors.

Questionnaire about Students’ Attitude towards Applying Comic in Learning Mandarin.

The questionnaire is based on Lund (2001) Measuring Usability with the USE. Initially, the questionnaire was adapted from a document that consists of three dimensions: usefulness, satisfaction, and easiness.

Interview List

There are 6 questions about the application of online comic and collaborative learning.

PC Computers

There were 18 sets of computers in the computer lab which were connected to the internet. On the keyboard, the Simplified Chinese Language feature has been added to the language choice.

Procedure

To obtain both qualitative and quantitative data, the mixed method has been applied in this research. Figure2 shows the cycles about this mixed method in collecting data.



Figure 2. Mixed Research Model

Data Collection

The quantitative data was collected from scores of students' pre and posttest vocabulary performance.

The qualitative data will consist of 1) students comic creation of two teaching units, 2) a video recording to document in-class activity, 3) an in-class observation in an observation checklist, 4) questionnaire, and 5) interview.

Data Analysis

The quantitative data were students' scores from pretest and posttest on Mandarin vocabulary performance. A two-way analysis of covariance was conducted, while the covariate is the students' summative score in the previous semester. The score of comics creation will be analyzed using a one-way anova. Qualitative data consists of an in-class observation about students' behaviors. Data were collected from the video recording, and then rated by two raters, which is noted on the in-class observation list; later, the data was analyzed by using Chi-Square analysis. Descriptive statistics were conducted to analyze the qualitative data.

Result

Pretest and Posttest of Vocabulary Performance

Table 4 lists the descriptive statistics results of both pre and posttest. Regarding the scores of pretest and posttest, the homogeneity test was significant ($F(4.790)=.001$, $p<.05$).

Table 5. *The Mean and Standard Deviation (SD) of Pretest and Posttest's Score*

Test	Control Group (N=16)		Individual (N=14)		Comics		Collaborative Learning (N=16)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Pretest	60.68	17.12	60.00	12.61			60.25	13.65
Posttest	63.43	19.57	62.21	15.64			68.18	11.37

Table 5 presents a summary of the two-way analysis of covariance on students' scores in pre and posttest of vocabulary performance, with the score of previous semester as the covariates. The table shows that the interaction effect between test and group is not significant. This means that there are no differences varied according to levels. The group factor is not significant ($F(0.88)=0.41$, $p>.05$). This means that no difference exists between the scores between pretest and posttest in the three groups. The test factor is significant ($F(9.67)=0.007$, $p<.05$), meaning that the grouping of control group, individual comics, and collaborative learning gives significantly different scores between pre and posttest. Test within group (1) or control group is not significant ($F(0.85)=0.359$, $p>.05$); neither is the test within group (2) or individual comics group ($F(0.48)=0.489$, $p>.05$). This means that both groups still made some improvements due to the training, yet does not vary. While the test within group (3) or the collaborative learning group is significant ($F(7.10)=.009$, $p<.05$), meaning that the experiment significantly benefited students' vocabulary performance in the collaborative learning group.

Table 6. *Two-Way Analysis of Covariance of Vocabulary Performance*

Source of Variation	Type III sum of squares	df	Mean square	F	Sig.
Within Cells	6037.84	85	71.03		
Test by Group	135.98	2	67.99	.91	.409
Group	131.97	2	65.99	.88	.419
Group within Test (1)	2.69	2	1.35	.02	.981
Group within Test (2)	304.42	2	152.21	2.14	.124
Test	458.11	1	458.11	9.67	.007**
Test within Group(1)	60.50	1	60.50	.85	.359
Test within Group(2)	34.32	1	34.32	.48	.489
Test within Group(3)	504.03	1	504.03	7.10	.009**
Error	710.79	15	47.39		

Note * $p < .05$ ** $p < .01$ *** $p < .001$

Comic Creation

This section provides the comics creation done by control group, individual comics, and collaborative learning. First, each comics creation will be scored based on a writing rubric (Jacobs et als, 1981); then, after being scored by two teachers, the final comics score stood as the dependent variable in a one-way analysis of variance.

Comic creations done by the control group, the individual group, and the collaborative learning group are then being commented by the teachers and also scored based writing rubric . Figures 3 to 5 show some examples of students' comic creation.

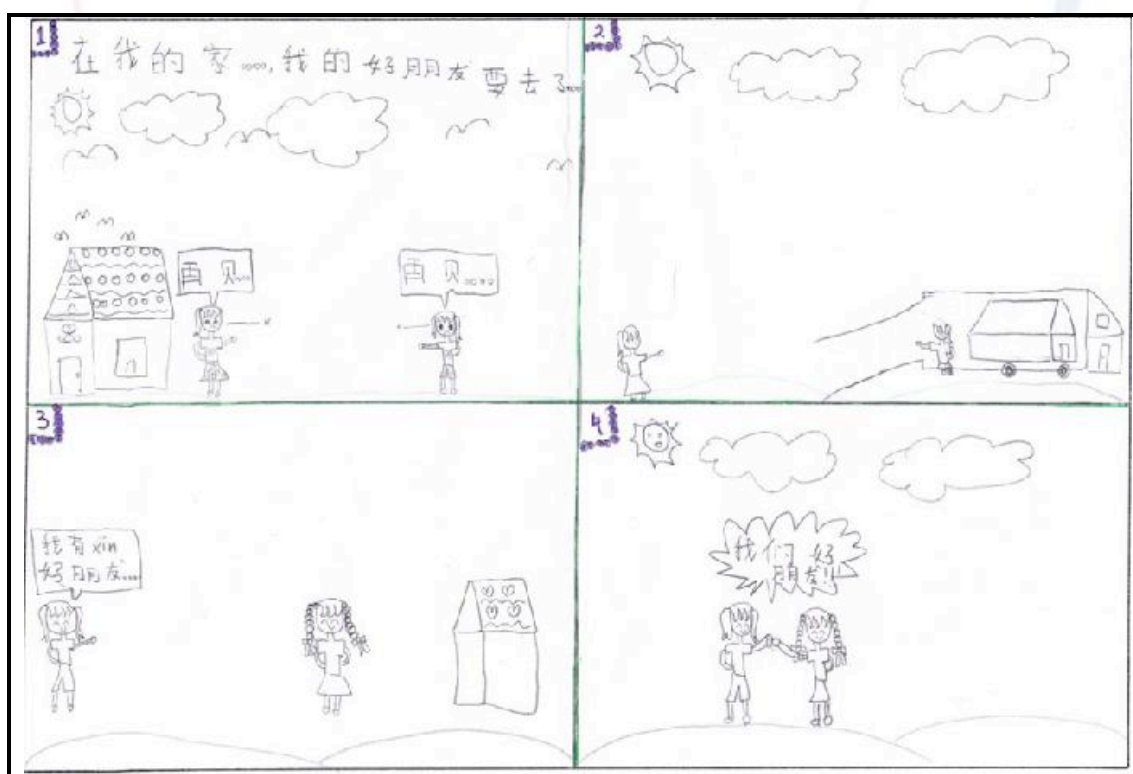


Figure 3. Example of Control Group's Comic Creation



Figure 4. Example of Individual Comics' Creation



Figure 5. Example of Collaborative Learning's Comic Creation

Table 7 presents a summary of the one-way analysis of variance on students' scores of comics creation. This analysis is then followed by the post hoc analysis in Table 8.

Table 7. *One-way Analysis of Variance of Comic Creation*

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	428.826	2	214.413	33.523	.000***
Within Groups	275.027	43	6.396		
Total	703.853	45			

Note * $p < .05$ ** $p < .01$ *** $p < .001$

Table 8. *Post Hoc Analysis*

(I) Students_Group		(J) Students_Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	Control Group	Individual Comics	-0.64286	0.92553	0.768	-2.8895	1.6038
		Collaborative learning	-6.68750*	0.89415	.000**	-8.858	4.517
	Individual Comics	Control Group	0.64286	0.92553	0.768	-1.6038	2.8895
		Collaborative learning	-6.04464*	0.92553	.000**	-8.2913	3.7983
	Collaborative learning	Control Group	6.68750*	0.89415	.000**	4.517	8.858
		Individual Comics	6.04464*	0.92553	.000**	3.7983	8.2913

Note * $p < .05$ ** $p < .01$ *** $p < .001$

In-Class Observation

There are 2 categories of students' behaviors in the classroom: learning related and learning unrelated behavior (Lan, Sung, & Chang, 2007). In-class observation is based on their activities in the classroom that has been recorded and then decoded by 2 raters. The Pearson correlation was 0.000 and it is significant at the 0.01 level.

Table 9. *Chi Square Analysis Result*

Groups		Value	df	Asymp. Sig. (2-sided)
Control Group	Pearson Chi-Square	495.000	25	.000***
	Likelihood Ratio	230.067	25	.000

	Linear-by-Linear Association	72.094	1	.000
	N of Valid Cases	99		
Individual Comics	Pearson Chi-Square	500.000	25	.000***
	Likelihood Ratio	319.851	25	.000
	Linear-by-Linear Association	84.017	1	.000
	N of Valid Cases	100		
Collaborative Learning	Pearson Chi-Square	400.000	25	.000***
	Likelihood Ratio	235.901	25	.000
	Linear-by-Linear Association	76.320	1	.000
	N of Valid Cases	100		

Note * $p < .05$ ** $p < .01$ *** $p < .001$

Table 10. *The Frequency of the Learning Behavior (in %)*

Group	Learning-Related Behavior			Learning-Unrelated Behavior		
	Create Comic	Create comic with dialogue	Create comic with dialogue in Chinese writing	Playing with others	Moving around	Playing alone
Control Group	64.89	12.33	8.47	5.08	6.28	2.94
Individual Comic	38.13	23.47	10.59	12.5	8.91	6.41
Collaborative Learning	39.06	29.50	29.41	0.94	0.47	0.63

Note * $p < .05$ ** $p < .01$ *** $p < .001$

Students' Perception about Comics Learning

Students' perspective about Comics learning is presented in Table 11. Based on the mean of each group, the collaborative learning group students show the highest in every dimension. The individual comics group students show the highest mean at every dimension in comparison with the control group students. The data also notes that the satisfaction dimension was the highest mean among the three groups. The control group and individual comics group have the same preference; that is, usefulness of comics learning has the lowest mean. In regards to the collaborative learning group students, the easiness was at the lowest dimension.

Table 11. *Usability of Comic Learning*

Questionnaire Dimensions	Control Group (N=16)		Individual Comics (N=14)		Collaborative Learning (N=16)	
	M	SD	M	SD	M	SD

The whole questionnaire	3.122	0.678	3.259	0.652	3.396	0.626
Usefulness	2.990	0.692	3.208	0.649	3.426	0.606
Easiness	Ease of Using					
	Ease of Learning	3.185	0.693	3.223	0.692	3.262
Satisfaction		3.188	0.658	3.381	0.597	3.574
n						0.535

The questionnaire also provided the essay section. There are 12 students expressing their satisfaction in operating online comics; 2 students did not give any other comments. There are 8 students who also said that the internet connection was too bad, and 1 student said that the computer needed to be upgraded; 3 students said they need much more time to create online comics. In the collaborative learning group, 10 students showed their satisfaction by rating online comics as being fun and interesting, and that they love working on online comics. 7 students stated that the internet connection was very unsupported, 7 students mentioned about the limited time given; 2 students said that online comics was easy, and 1 student declared that online comics is fun, but a bit difficult.

Interview

Table 12 listed the interview report.

Table 12. *Interview Reports*

Questions	Individual Comics Group (N=14)		Collaborative Learning Group (N=16)	
	Yes	No	Yes	No
Q1. Can you create comics using Toondoo?	100	0	100	0
Q2. Do you like create comics using Toondoo?	100	0	100	0
Q3. Do you practice Toondoo at home?	71	29	75	25
Q4. Do you like the activity?	50	50	54	44
Q5. If you are interested in Toondoo, will you tell about it to your friends? How?	42	58	75	25

Note * $p < .05$ ** $p < .01$ *** $p < .001$

Conclusions, Limitation, and Recommendations

Conclusions

There is development in students' Mandarin vocabulary, the collaborative learning group shows the uppermost result, followed by the individual comics group and control group. The mean between pre and posttest for the control group is 60.68 and 63.43 respectively; individual comics group is 60.00 and 62.21 respectively; and collaborative learning group is 60.25 and 68.18 respectively. This performance was also reinforced by their comic creation performance where the collaborative learning group got the highest score based on the rubric writing score with the mean of 5.90, followed by the individual comic group with the mean of 1.14, and the control group with the mean of 1.02.

Students from three group who created comic in different approaches showed that satisfaction is the highest dimension (Mean= 3.381). Control group and individual comics students declared that the easiness dimension is better than the usefulness dimension. Students from the experimental groups stated that they are satisfied about applying online comic in learning Mandarin. The satisfaction dimension showed the highest percentage (28.26%), followed by the usefulness dimension (26.80%), and the easiness dimension (22.34%). From the essay section, students also mentioned about adding some periods of time and increasing the stability of internet connection during the experiment.

The general attitude among students about collaborative learning was strongly positive. They managed time to accomplish the task, and showed no signs of distractions such as playing around, chatting with other, etc. For most of the time, they would discuss about which character they should choose, how to deliver the story, etc. This attitude also reinforced their comics creation performance, that they can do better than the other 2 groups. Based on the further interview, there were 5 students who preferred to work individually, 7 students who preferred to work collaboratively, and 4 students who can work both individually and collaboratively.

These findings mentioned above imply that 1) working collaboratively is more beneficial for the students to accomplish a project/task, 2) time duration and internet stability are inevitable in online activity, and that 3) creating story or writing activity is hard for any children of that age.

Limitations

This research does not cover the different preference about male and female students in creating their character in comics creation, nor the different styles between male and female students in delivering dialogue. Some comic creations showed the tendency that male students prefer adding the animal character into their comic creation, while the female students prefer the female character to represent themselves in the story. Male students use more interjection (oh, yipi, wow, arghhghgh, etc.) than female students. In the future, it will be more sounding if both terms were included in the research area.

It was the first time for the students to practice typing Chinese characters. Therefore,

it is ideal for the need of more training towards typing Chinese characters. Students were still confused when they tried to switch into typing Chinese characters, in which case they asked the teacher for assistance. After typing the Chinese character, they still chose which one was deemed the most correct. A student typed xīn 新 jiā 家 pò 破* instead of xīn 新 jiā 加 pō 坡 given the same Hanyu Pinyin. If only learning strategy was incorporated into this scope of research, the finding would be more abundant. A student opened Google Translate to know whether his typing was correct or not; other students checked their textbook to confirm the Chinese character. This phenomenon implies that even the Hanyu Pinyin system is still needed in learning Mandarin, yet when typing a character, there is always another application that they can use to support their writing. Based on the school curriculum, the higher level they learn Mandarin, the more writing activity they will practice.

This research also neglected the learning style of the students. Some students may have visual style, audio style, or kinesthetic style. For higher level of education, the regrouping based on the different learning style in creating comics may give better impact not only in learning language, but also in developing skills in the animation business in the future.

Recommendations

It is highly recommended for the schools in Indonesia, especially in Yogyakarta, to apply online learning.

Collaborative learning, especially CSCL, should be applied in daily activity, as it is significantly beneficial for students to excel in a learning activity, learning behavior, and learning products.

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The 10,000 Hour Rule and What it Means for Language Teaching

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How many times have parents of bilingual children been told how lucky they are? “Children just pick it up, don’t they?” How is this picking up taking place - through osmosis? Although it must seem that there is something in the genes, in fact, there is no magic formula, it’s just down to practice – hours and hours of practice. There is no special skill needed to become an expert at a language. According to Noam Chomsky (1965) we are predisposed to learn language, in his Innateness Hypothesis he states that even children with an IQ of 50 can acquire a language. If human beings grow up under normal conditions (not conditions of extreme deprivation), then they will always develop a language (Chomsky, 1965). Although this appears to be true for the first language, it is certainly not true that all human beings acquire a second language. The problem is how second language teachers can best recreate the conditions under which all children acquire their first language. Erikson, Prietula, & Cokely (2007) studied experts across many fields, they found that whatever the field of expertise one thing was identical; all of the experts had put in about ten years of “deliberate” practice. Ten years was translated into 10,000 hours of deliberate practice. This was later popularized by Gladwell in his book *Outliers* (2008). And more recently Syed (2011) applied this idea to sport. In this paper I would like to examine what this means for learning a second language. What is meaningful practice? How many hours of meaningful practice do you need to become fluent in a second language? With this knowledge instructors and learners can gain insight into the best way to become an expert in a second language.

What Is an Expert in a Second Language?

Native like proficiency in a second language might be construed to be an expert, but this is an unrealistic goal, and very few language learners need to attain this level of language learning. Jackson and Kaplan (1999) refer to “language proficiency” as the ability to get things done in a foreign language. Other researchers have defined proficiency as “functional bilingualism” (Archibald et al, 2006 cited in Eaton, 2012). For the majority of Japanese students of English the ability to get things done in a foreign language is a good goal.

How Many Hours Do You Need to Learn a Second Language?

Malcolm Gladwell (2008) stated in his book ‘*Outliers*’ that 10,000 hours are needed to become a specialist at anything. Gladwell was actually using the 10,000 hour rule to show how some people succeed in becoming extraordinary, what he calls an outlier. Gladwell hypothesizes that the huge number of hours of practice that Bill Gates put in as a child was what made him a genius computer programmer. In his book ‘*Bounce*’ (2011) Matthew Syed says that 10,000 hours of meaningful practice are needed to become an expert athlete.

It is not realistic to say that everyone needs 10,000 hours to become an expert language learner, it is also clear that in language learning students have different goals and gaining native speaker like second language ability is not realistic for most learners.

There are many variables, such as distance from the native language, age and language aptitude. In terms of foreign language learning Jackson and Kaplan’s definition of proficiency as “The ability to get things done” (1999, p. 72) is a good

one, in this way it is possible that our students do not need 10,000 hours of practice to become experts. Jackson and Kaplan (1999) estimated that with native English language speakers in The Foreign Service Institute it could take as little as 600 hours to become proficient in languages closely cognate with English, such as French and German, but exceptionally difficult languages such as Japanese and Chinese could take 2200 hours. It should be emphasized that the students in The Foreign Service Institute are all highly motivated with prior knowledge of more than one language (Jackson & Kaplan, 1999). I would like to show that in language learning anyone who practices enough will become proficient. Archibald and a team of researchers at the University of Calgary found that “Learning a second language for 95 hours per year for six years will not lead to functional bilingualism and fluency in the second language. Expectations must be realistic.” (Archibald et al., 2007 cited in Eaton, 2011 p. 4) This is roughly equivalent to Japanese Junior and Senior High School students. Although it is probable that Japanese learners of English do not need as much as 10,000 hours, they need more than 2000 and a lot more than the 720 hours that they receive in Junior and Senior High School at present, even if we assume that the time spent in the classroom is meaningful input.

It is very difficult to estimate how much language practice a child gets in their native language, and this will vary greatly depending on their environment and upbringing. For ease of calculation, let's say that a baby spends about ten hours a day listening to a language, and trying to produce it. In a year they would spend 3650 hours practicing a language. To get to 10,000 hours of practice would take about 3 years. The majority of children by the age of three are communicating quite fluently with caregivers and friends in their first language. They have also internalized grammatical structures and are creating original language, not just repeating what their caregivers have said. What is more, they accomplished all this whilst learning a plethora of motor skills from walking to catching a ball.

When talking about learning Chinese, Ollie Linge (2012) states that we cannot say that someone has been learning a language for six years. The number of years is irrelevant, we must measure the number of hours of language study. If you are going to a language class once a week, you can expect it to take about two hundred years to get 10,000 hours of practice. It is not only hours, but also frequency of study. People remember things better the following day than one week later, so that intensive study is better than once a week. When people bemoan the fact that they are studying a foreign language, but they are not making much headway, the answer is simple math, they are getting there, just very slowly.

What is Meaningful Practice?

The second argument that Syed (2011) makes is that it is not just any practice, but ‘meaningful practice’, that makes the difference. Meaningful practice is when you are constantly pushing yourself to improve. Syed (2011) uses the example of Olympic athletes training, constantly trying to run faster or hit the ball harder. On the other hand he uses the example of driving a car as non-meaningful practice. Many people have spent 10,000 hours driving a car, but at some point they stop getting any better, this is because although they are driving, it is not meaningful practice, in that they are not trying to get any better. With young children in their first language ‘meaningful practice’ is made meaningful, by the fact that children really want to understand and

to communicate their desires. Very quickly this interaction becomes more complex with the children negotiating with their caregivers to get what they want. The interaction is meaningful and endlessly varied. Children will start a sentence not really knowing how they will finish it. In struggling to do better we improve in everything especially language. In a classroom environment the activities are carefully controlled so that students can practice structures that they have already learned, but what they really need is to be pushed to produce more than they believe possible. Jackson and Kaplan found that, 'There is no one right way to teach (or learn) languages, nor is there a single right syllabus' (1999, p. 75). Spolsky (1989) states that different ways of teaching and activities work with different groups of students and students' needs change over time. Thus the teaching methodology is probably not the deciding factor in whether or not students become fluent in a foreign language.

In 2013 Japan was ranked 22nd out of 54 countries on English proficiency, (EF EPI, 2012) this is one of the lowest rankings among industrialized countries and very poor considering the amount of money spent on language education in Japan. The biggest difference between Japan and the five top ranked countries (Sweden, Finland, Norway, Denmark and the Netherlands) is that in those countries nearly all television programs are shown in the original language, which is usually English. Much of the reading is also done in English rather than translate into their own language. In this way Scandinavians and the Dutch get far more input than purely classroom time. Not only that, but the input they are receiving is meaningful, they want to understand what they are reading and they want to enjoy their favorite television shows.

Problems with Japan's English Education

Most children in public Junior High School study English for about three hours a week, which adds up to 360 hours over 3 years. High School is a similar amount, so by the end of High school we can see that students have studied English for about 720 hours. This is woefully short of the 2200 hours necessary to get things done in a foreign language (Jackson & Kaplan, 1999, p. 72), and the equivalent amount of input of a 3-month-old baby! Even if you assume that they spend time at home studying English, it will not be near the necessary amount of hours. When looking at these numbers it is no longer surprising that there are not many people who become fluent in a foreign language by studying at school, it is a miracle that there are any at all! Some students do become proficient, but they have presumably spent many hours studying on their own at home or through extra-curricula English classes.

When we start looking at meaningful practice, we see that this is also lacking. The vast majority of Junior High School and High School teachers are still using a form of grammar translation, which provides little motivation or negotiation. Compared to a child trying to persuade their mother to let them play in the park, students have no desire or need to communicate. Most classes are made up of repetition and grammar explanations given in Japanese.

Krashen (1982) said that for students to acquire a language that the input needs to be at a level of $i+1$, which means that the input should be slightly more difficult than the students can currently understand. The curriculum in Japanese Junior and Senior High Schools advances much too quickly for the majority of students, making the input too difficult for most students, who lose interest and stop studying.

Solutions

The situation seems hopeless. The vast majority of English teachers enthusiastically try to teach students and prepare effective materials, but if at the end of it all students will have less than one tenth of the input needed to become proficient, what hope is there? Perhaps the language classroom should be regarded as an area in which students can be introduced to new concepts, explicit grammar teaching and error correction, but the bulk of their language practice must be done outside the classroom. Ellis (1991 cited in Ellis, 1994) found that students learnt language rules and were more successful using them when taught explicitly. A combination of explicit teaching and implicit learning is probably most effective. As educators we need to find ways to encourage and motivate our students to study outside the classroom, rather than focusing on classroom activities. Autonomous learning is becoming increasingly popular in universities, but it needs to be pushed more. Some teachers do not give homework due to the extra work it will create for the teacher, but without studying outside the classroom, any language learning efforts will be slow and inevitably unsuccessful. Learning a language needs to be viewed more like learning a musical instrument than studying a subject. Without practice you cannot become proficient. Teachers must encourage this practice, it is a rare case that anyone, let alone a child will study without encouragement and some sort of external motivation.

Autonomous Learning and Self-Access Centers

In the last few decades more and more emphasis has been placed on autonomous language learning. To aid autonomous learning many universities have set up self-access learning centres. Dincer, Yesil Yurt, and Goksu (2010) found that classrooms have rules that sometimes do not match with student preferences. By allowing students to study autonomously, students can find their own best learning style, although learners need some help to learn autonomously, which is where self-access learning centres are important as they give these students opportunities for autonomous learning. This autonomous learning can take many forms, but the most common are extensive reading, extensive listening and online practice.

It has long been shown by the work of various researchers that extensive reading programs can make a huge difference in the proficiency of language learners (Cutting, 2011). In a study of university students by Williams (2008) it was found that students who participated in an extensive reading program for a year gained on average 33.5 points on the TOEFL test. It is hard to know how many hours of extensive reading students did, but we can certainly see that the gains are significant. If a student is reading a graded reader for 30 minutes everyday this means they can get about 180 hours in a year. If this were done over six years of Junior High School and High School the amount of meaningful input would double. The reason I call this meaningful input is because of the nature of reading, the effort to understand the ideas of the story and put your own interpretations on it make the experience meaningful. It is probably not as good as the negotiation that takes place between a child and caregiver, but it is a definite improvement on translation.

Recently there have been more and more proponents of extensive listening. I would say that this has the same advantages as extensive reading, although there is not as much quantitative evidence for extensive listening. More time spent with meaningful

practice the better you will get. In the literature this has focused on students listening to stories, often audio recordings of graded readers, I would like to suggest that watching television could also be a valuable form of input. Listening to stories for 30 minutes each day also leads to about 1000 hours of meaningful practice during the Junior High School and High School years. A close friend of mine with two Japanese parents is very fluent at English despite having never lived in an English speaking country for more than a few weeks. She told me that as a child her father bought her and her sister some Disney videos. These were from the United States and were only in English. He said that if they wanted to watch television they would have to watch these English videos. The children loved the videos and would rather watch them in English than not at all, so spent hours and hours of extensive listening. By High School she and her sister were winning English speech contests. The University of Michigan Health System (2012) estimated that children ages 6-11 spend about 28 hours a week in front of the television. I am not an advocate of children spending hours in front of the television, but if they are doing it anyway, could we not encourage some of it in a foreign language and use it to their advantage?

Study Abroad

Studying abroad is a very effective way to get many hours of foreign language practice. Freed (1995) stated that there are numerous versions of studying abroad, with or without formal language tuition. Other important factors are whether the students spend time with fellow L1 speakers, and whether students stay with a host family, but for the purpose of this article I am just going to assume that students have access to English for the entirety of their period abroad. Studying abroad will give you a possible fifteen hours of practice a day, including class, chatting to friends and communicating with your host family. One month in a homestay program could be the equivalent of your entire time at Junior High School. This is also super powered input as it contains all the negotiation and motivation that a young child feels when trying to communicate with their caregiver. As Swain (1985) argues “production will aid acquisition only when the learner is pushed.” Swinton (1983), reported a 52.3 (12%) total point gain on the TOEFL test for students enrolled for a semester (i.e., approximately 15 weeks) in an intensive English program at San Francisco State University. Although Ellis and Tanaka (2003) found that the average TOEFL improvement in a 15-week study abroad program was only 18.55 points on the TOEFL test, they put this down to students staying in monolingual settings and inevitably not practicing English as much outside the classroom. This is still a significant improvement, and it supports my hypothesis that it is hours of practice that is the deciding factor in students’ language improvement. The students who were not practicing English outside the classroom did not improve as much on their TOEFL scores. This also emphasizes the need to put students in a multilingual setting when they study abroad. Students need to be placed individually in homestay families with maximum opportunities for meaningful English practice. Sending students abroad to study in monolingual classes and stay together in dormitories will result in very little more than studying in an intensive English course in Japan.

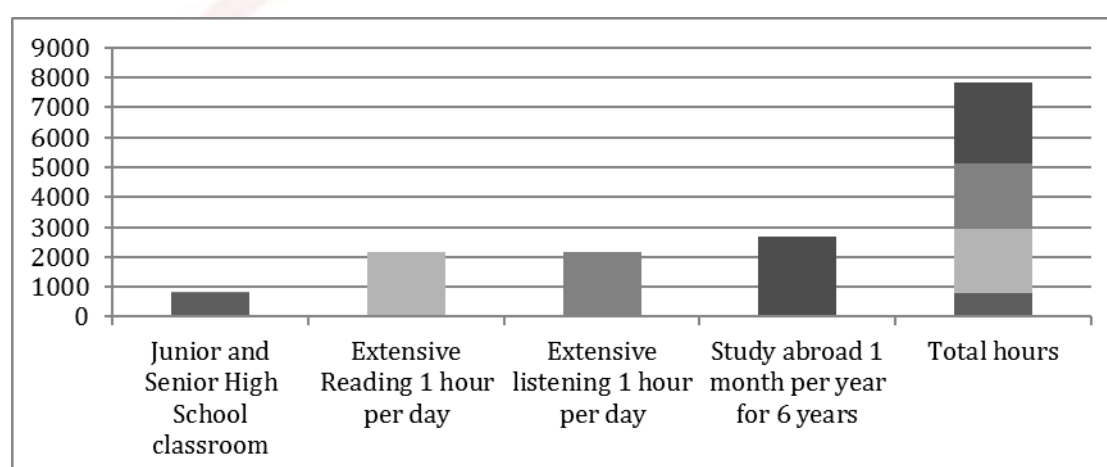
I have listed three of the most common and easily accessible ways to spend many hours practicing English. There are many other opportunities, especially on the Internet, using second life and other virtual environments, playing online English computer games and just surfing the web in English. Whatever motivates students to

practice for copious hours and in a meaningful way will help students to gain the necessary practice to become proficient at English.

How Many Hours of Practice Do You Need?

In the following chart I will show a general idea of how many hours of practice is necessary in Extensive Listening, Extensive Reading and Study Abroad to achieve 10,000 hours. By doing this I hope to demonstrate, just how much continued, long term and extensive practice is needed in order to become proficient. There are no short cuts, but including all or at least some of these activities with your students will have a significant effect.

Hours of study in Junior and Senior High school to reach over 7500-hours of study



Conclusion

I acknowledge that there are many other factors that affect language acquisition, for example age and language aptitude, but within the constraints of the Japanese education system there are many things that teachers could do to help with language acquisition. There are many excellent teachers and teaching methodologies, but what needs emphasizing is that rather than focusing on the style of teaching, we need to get the hours in. The number of hours that Japanese school children study English is not nearly enough for them to become proficient. If we want the level of English ability to improve in Japan, students need to spend far more hours in meaningful practice; in the classroom, extensive reading, and extensive listening or study abroad programs. I certainly believe that a combination of formal and informal study is the ideal. Although including all these aspects will not necessarily bring you to the level of native speakers, it must bring you much closer. Practice is the key to proficiency in everything including language learning.

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Narration as a Means of Formulating and Transferring Tacit Knowledge

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Abstract

The goal of this study is to highlight the importance of the narrative type of knowledge, its relation to tacit knowledge and to outline the specifics of tacit knowledge in the narrative form in the context of teaching. Stories are parts of our identity and culture. We assume that social knowledge (skills) are a specific type of tacit knowledge. This type of knowledge poses difficulties for knowledge management because it is difficult to communicate using propositions and rules. On the other hand, this knowledge is not completely incommunicable – it can be easily transferred using narratives. Through stories we safely live through dilemmas, experience, hurtful situations and thus understand what constitutes value and truth in our culture. A story and subsequent discussion offers re-living an experience and a new framing of the tacit image of other people's practice. Through stories we give moral, practical or aesthetic meaning to situations and are able to better understand ourselves, our culture and our knowledge. Teacher experience is ungraspable tacit knowledge gained over years of interaction with pupils and through solving a variety of problems and situations. This teacher knowledge forms the best prerequisite for developing the quality of a school. Whether consciously or unconsciously, experienced teachers transfer their knowledge and experience onto their colleagues who based on this information are able to avoid some situations, foresee them as well as deal with them directly. This knowledge is not shared only among teachers but also between the teacher and the pupil.

Keywords: tacit knowledge, narrative, story, teacher, sharing

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In a World of Narratives

On the one hand we encounter a dichotomic division of knowledge into narrative and scientific (Lyotard 1979, Bruner, 1986 and others), on the other into tacit and explicit (Polanyi, 1959, 1966, Morgan 2008, Wasonga – Murphy, 2006 and others).¹ Narrative knowledge has been called a typical kind of knowledge in a non-modern type of societies while scientific knowledge is typical for the modern age (cf. Lyotard, 1979, 1986). However, as early as 1970s, Lyotard pointed out the unbalanced relationship between them: While scientific knowledge requires narrative for its own justification, scientific knowledge disputes the existence of the narrative knowledge form. A similar division has been studied by Bruner² (1986) who concludes that narrative form of knowledge forms the organisation of human experience.

While the logical-scientific form of knowledge points out differences and verifies them, narrative form connects elements together by means of which it reveals explanation. It is apparent that narrative offers an alternative form of knowledge. This is the reason for its use in a variety of fields: Stories are told not only by journalists and (narratively oriented) researchers but also by teachers and pupils, doctors and patients, trainers and their players or athletes, salespeople and managers, etc. It allows them to convey in a simple and natural way what would otherwise be communicable with great difficulty (if at all).

Stories are a part of our identity and culture (Gudmundsdottir, 2013). Czarniawska (2004), Pinnegar – Daynes (2007, p. 28 In Clandinin, 2007) and others notice the natural use of narrative in popular culture. Pinnegar – Daynes (2007, p. 28 In Clandinin, 2007) also note that broader culture in the past twenty years has seen greatest success with narrative forms such as memoirs and creative non-fiction; also museums have started to make use of the stories of individuals as a means of establishing specific, personal relationships with the visitor and on television, reality shows have become most popular; in them, individuals confess their experience and stories. Even traditional forms of stories such as myths, sagas, epics, folk tales and short stories, which have temporarily lost their appeal to contemporary recipients, gain great popularity with the aid of new technologies. Autobiographical and biographical stories, which have a very strong ability to enrich us with knowledge and personal experience which would be otherwise impossible to transfer, have been gaining favour also with filmmakers in the past years³. This is very peculiar, given the old thesis of literary science and social history that popularity and occurrence of this type of stories always naturally increases during wars and politically non-standard periods where they represent an escape from reflection and existing social and political circumstances.

¹ Some authors reject contrastive dichotomies and seek the relationship between tacit and explicit knowledge. Despite that, they still operate with these terms – “types of knowledge”. For instance, according to Gill (2006) it is logically impossible to separate explicit knowledge from some form of tacit knowledge – tacit knowledge is the main source of all knowledge (In Morgan, 2008).

² Division into the narrative mode of knowledge and logical-scientific or pragmatic (Bruner, 1986)

³ For instance, popular biographical films Chavez (2013), Diana (2013), Mary Queen of Scots (2013), Camille Claudel 1915 (2013), Lovelace (2013), Mandela: Long Walk to Freedom (2013) and ones still in making Tesla (2014), Van Gogh (2014), Bukowski (2014), Grace of Monaco (2014), Anita (2014), Gloria (2014) Buffalo Bill (2014), Castro's Daughter (2015), Dorothea: The Life of Dorothea Lange (2015), Spinning Gold (2015), The Brontes (2016), Henry Starr (2016), Bosch (2016), The Man Who Sold the Eiffel Tower (2016), The Big Picture (2016) and many others.

Television, film, newspapers and magazines or computer games convey information through stories. Their readers or viewers operate with them in a natural way (informal learning) and decide which stories they choose to believe and which to doubt although they are being presented by science or government. It can be said that science which has today overcome its reservations against narrative research can make use of narrative just as successfully as popular culture is doing.

Narrative form of knowledge

We assume that social knowledge (skills) are a specific type of tacit knowledge. If one wishes to study social life (in the broadest sense, without regard to a specific area), he or she must necessarily deal with the narrative form of social life as a form of knowledge and a form of communication (cf. Czarniawska, 2004, p. 13). This type of knowledge poses difficulties for knowledge management because it is difficult to communicate using propositions and rules. On the other hand, this knowledge is not completely incommunicable – it can be easily transferred using narratives (Linde, 2001, p.2). Stories can be used to describe knowledge which cannot be quantified, i.e. to describe knowledge of social interaction, social practice. Gudmundsdottir (2013) explicitly says that a story is the result of the narrative form of knowledge.

Tacit knowledge is not easily visible or explicable; it is deeply rooted in a person's actions, experience, thoughts and values (Wasonga – Murphy, 2006). For this reason, Lunenburg and Ornstein (2004 In Wasonga – Murphy, 2006) explain tacit knowledge by means of an alternative model which is based on metaphors, stories, biographies, autobiographies, conversations with specialists, etc. In this respect we can partly agree with the otherwise disputed ways of externalising tacit knowledge⁴ in Nonaka and Takeuchi (1995) who suggest expressing incommunicable knowledge in figurative language and symbolism which to some extent corresponds to using narrative. Thanks to this, individuals with different experience and from different backgrounds can understand things with the help of imagination. A story or an additional question can also lead an individual to reconsider his or her understanding.

Storytelling offers the often sought after bridge between tacit and explicit knowledge. Tacit social knowledge can thus be demonstrated without being directly articulated (cf. Linde, 2001). Knowledge which cannot be described in words can be easily communicated using stories. Storytelling is a part of any practice (cf. Edwards – Thomas, 2010, p. 408). It is apparent that the best answer to some questions is another question or a story which is usually able to say more than information alone.

Here, we deal with the so-called social type of tacit knowledge whose easiest means of transfer is the narrative type of knowledge. If we understand tacit knowledge in a way that includes knowledge connected with the so-called craft knowledge (e.g. the

⁴ Nonaka – Takeuchi (1995 In Wasonga – Murphy, 2006) suggest the conversion of tacit knowledge into explicit through externalisation which is in contrast with Polanyi's idea when only explicit knowledge can be externalised by various means since it is communicable. If an individual externalises his or her explicit knowledge, the externalised knowledge is only the author's personal knowledge (Morgan, 2008). Nevertheless, externalisation as understood by Nonaka – Takeuchi (1995 In Wasonga – Murphy, 2006) lies in the process of forming collective reflection, dialogue, metaphors and analogies, sharing personal knowledge and diversity. According to them, the incommunicable can be conveyed through figurative language and symbolism.

work of a surgeon), it is probable that the narrative form of knowledge is incapable of communicating “craft tacit knowledge” in the same full extent as it does in case of the social type of knowledge.

The Concepts of Narrative and Story

Finally, it is necessary to define the words narrative and story in terms of their usage in this text. The term narrative in narrative theory sometimes refers to the actual process of narration, sometimes the words story and narrative are understood synonymically (cf. Fiore, Metcalf, McDaniel, 2007). Some theorists, however, consider story to be a signified entity where one story can contain several narratives (cf. Genette, 1980 In Fiore, Metcalf, McDaniel, 2007), while this definition is close to the concept which is most practical for work with tacit knowledge shared through narratives (and stories).

We only outline a brief conception since the topic at hand is a broad one and is subject to extensive theoretical study by narratologists. In accordance with Barthes (1977) and Czarniawska (2004), we consider narrative to be something with which we can operate⁵. A narrative is considered to be a spoken or written text which offers a number of chronologically connected event/action or events/actions types of elements (Czarniawska, 2004). In this sense, it is easy to say what is not a narrative even though it is a text – it can be e.g. a chart, typology, list, etc. (see Goody, 1986). It can therefore be said that a narrative follows us everywhere we look, while a story has the addition of a plot. Todorov (1971) offers a definition of minimal plot, “Minimal complete plot consists in the passage from one state of equilibrium to another. Ideal “narrative” begins with a stable situation which is disturbed by some power or force. There results a state of disequilibrium; by the action of a force directed in the opposite direction, the equilibrium is re-established, the second equilibrium is similar to the first, but the two are never identical.” In other words, every story is also a narrative but not every narrative (or its fragment) is also a story.

The process of sharing tacit knowledge is not limited only to stories containing a plot but uses any narrative which in itself enables the explication and transfer of the specific type of knowledge which would otherwise be incommunicable.

Fiore, Metcalf and McDaniel (2007, p. 41) define a story as a temporally and causally sequenced series of events experienced by the main character who overcomes one or more difficulties (or fights adversaries) in a specific environment (cf. Bruner, 1991). According to the results of studies of narrative forms, (Booker, 2005) there is a very low number of basic plots and dramatic situations which are the basis for every story: subduing a monster; from vagrancy to plenty; journey and return; comedy, tragedy; rebirth. Booker (2005), Fiore, Metcalf and McDaniel (2007) and others have found in their analysis of popular narratives that it is this low number of basic plots which lies behind successful stories. Also research focused on conveying tacit knowledge using narratives (e.g. Linde, 2001) claims that stories are most commonly told about either a great success or failure. People usually do not tell stories about the routine of day to day work and with themes of process organisation.

⁵ Barthes (In Polkinghorne, 1988, p. 14) sees narrative present at all times, in all places, in all societies – the history of narrative begins with the history of the human species. People without narratives do not exist and they never have.

The main character of a story serves as the protagonist, minor characters exist in the narrative in order to connect with the main character or to provide other dramatic functions (Fiore, Metcalf and McDaniel, 2007, p. 41). However, minor characters as well as major ones can be equally suitable for character reflection as a part of the process of communicating tacit knowledge (cf. Krátká, 2010).

Narrative and Its Role in The Process of Sharing Knowledge

Stories have the ability to direct and change our lives (Noddings, 1991, p. 157 in McGill, 2007); therefore they have been used throughout history in order to share basic cultural values, evaluate our experience and reinforce social ties (cf. Bruner, 2002). By telling and listening to stories we interpret and construct new realities; they are our means of interpretation, organisation and formation of meanings and coherence upon the basis of our experience (Bruner, 2002). Narrative is a representation of past events through any medium: oral, written, film, cartoon. (Linde, 2001, s. 4).

Stories offer an opportunity for insight into other people. Their power lies in their ability to convey to the individual something completely new without needing him or her to leave the comfort of his or her environment. According to Gargiulo (2007, p. 203) stories function as a type of transporters, simulators of virtual reality, able to create a complex world open to new discoveries. Stories function as a place where people may “play” with characters and situations so that they create and open new possibilities for themselves (cf. Gargiulo, 2007).

Also when teaching, we tell stories which are a primary tool for educators. Through stories we safely live through dilemmas, experience, hurtful situations and thus understand what constitutes values and truth in our culture. A story and subsequent discussion offers re-living an experience and a new framing of the tacit image of other people’s practice. Through stories we give moral, practical or aesthetic meaning to situations and are able to better understand ourselves, our culture and our knowledge.

Experiential learning operates with the idea that our learning is directed by concord between our experience and the experience of others (Gargiulo, 2007, p. 204). This concord need not be perfect for an opportunity for reflection to arise. Gargiulo even speaks about associations which are elicited by the story and thanks to which our reflection and learning becomes deeper, more permanent and elementary. On the other hand, he warns against excessive relying on the clarity of messages in the form of allegories which lead to the weakest form of learning. The main task of experiential learning is to help overcome common ways of thinking about a problem and to create space for new perspectives. Occasionally we encounter the expression that “experiential learning welcomes the unexpected” (cf. Gargiulo, 2007, p. 209).

A specific advantage of using different stories for experiential learning is the fact that when listening to the story of a different person we are not too biased by our own point of view compared to when focusing solely on our own problem or on ourselves (Gargiulo, 2007). Differences between the character and us become opportunities for new insight. Through characters with which we identify we enter new situations as

well as situations which we lived through in some form and through reflection we gain a new opportunity to learn from them.

Learning from stories presupposes active “reading” of the story, being engrossed in the story. This is the only way of entering someone else’s situation. Our understanding of stories of others is rooted in finding a relation between our experience and the experience of the character, from recognising our similarities (cf. Krátká, 2010). Eliciting a situation which gives way to learning is aided by strong emotional involvement in the story; the fact that we find the story realistic and find a parallel with a specific situation in our own lives or in our environment (cf. Rideout, 2008, p. 9; Krátká, 2010).

Stories have the ability to aid us in navigating old distant areas and access new realisations which stem from the variety of knowledge and experience of others (cf. Gargiulo, 2007, p. 209). Every story then functions as a building block which fits with other blocks and can thus help to gain better insight and understanding (Gargiulo, 2007, p. 210). For this reason, the answer to some questions is a story or another question and an answer to a story is another story.

A part of linguistic tacit knowledge involves discursive knowledge: how and when to tell a story. Knowledge of identity, who is who and what is his or her history, is a very important part of individual tacit knowledge (Linde, 1993). Also knowledge of someone’s identity as a group member is easily expressed through narratives (Linde, 1993, p. 3). Knowledge of the identity of an institution and how to be its proper member is transferred onto new members by means of a narrative since it would be almost impossible to communicate explicitly. Especially the part of becoming a member of an institution involves learning the stories of the institution, with which everybody must be familiar, as well as the appropriate time for their telling. In connection with this, there are also ways by which people share their own stories within the context of the institution. (Linde, 2001, p. 3)

However, stories do not only remind one of past events but also express the speaker’s moral attitude towards the event: the story’s protagonist acted well, badly, his or her behaviour is or is not appreciated and according to this, can be a model for the listener’s future actions. Stories are beneficial in terms of cognition and are able to elicit and “discuss” affective and social types of information (Fiore, Metcalf and McDaniel, 2007, p. 41). Generally, it can be said that sharing the same experience with a character creates opportunities for reflection of personal experience and identification with a character creates an opportunity for self-reflection (cf. Krátká, 2010). Although the learning environments produced by our discovery of relations between the stories of others and ourselves can sometimes seem chaotic, this process remains an irreplaceable and elementary form of lifelong learning.

Stories do not only describe past events but also enable for the so-called “between the lines” transfer of the speaker’s moral attitude to those events. Naturally, the fact remains that stories most effective for learning are those where such judgements are not explicit. Best narratives are those which “show, not tell.” (cf. Labov, 1972, Linde, 2001 and others). This way we can “show” which type of behaviour we expect to be useful. Gargiulo (2007, p. 209) also warns against excessive relying on the clarity of messages in the form of allegories which lead to the weakest form of learning.

Thanks to stories we communicate more than information (explicit knowledge) but also something which is truly important in experience (tacit knowledge). Stories allow the sharing of personal experience and personal understanding and in the process of their telling they further lead to the deepening of one's own understanding through the dialogue between the speaker and the listener. In social fields especially, it is common that, for instance, managers or teachers tell stories about their own career and the career of those who serve as an example of changes in a given institution. Stories are told in the first or third person and they transfer history and values in terms of individual and institutional social tacit knowledge. Linde (2001) notes that stories are told in other fields as well. Naturally, engineers or designers also tell stories, about how and why some design choices were made but such stories only rarely enter the circulation as so-called institutional stories. They live and die with their storytellers. They would not be understandable to an outside listener without the author's interpretations. (Linde, 2001, p. 6-7).

Being aware of the potential of stories as carriers of tacit knowledge, there is an effort for their capture in knowledge management. However, the spontaneity of storytelling appears to be replaceable only with difficulty, as much as it is difficult to artificially produce a narrative which would be useful for learning (cf. Linde, 2001). Notes taken during solving a problem are virtually unusable since they are very brief and technical. Furthermore, the benefit of a video recording with a story is dependent on the ability of the speaker and the one who categorises the recording using appropriate key words and classification. Non-edited transcript of an oral story is difficult to read and its layout requires the ability to work with such a text as well as the knowledge of the field, its practice, etc. These and many other issues pose a problem for capturing narratives in order to detach them from the spontaneity of storytelling. Among the basic information in narrative remembering is the fact that it is rather the informal situations which lead to storytelling (cf. Linde, 2001; Basso, 1996, etc.). There is a number of situations in which stories are spontaneously told. Some are directly designed for remembering and storytelling (e.g. regular celebrations, anniversaries, etc.), others are used for it without a primary intent (unexpected encounters, random checks, etc.).

Narratives Transferring Tacit Knowledge of Teachers

Teacher storytelling is rooted in experience instead of reason. Thanks to this, teachers' stories help us reveal events and their meaning in their lives. The study of narratives is always necessarily a study of ways how people experience the world. Stories facilitate a link between the theoretical and the human side of any process, e.g. leadership (cf. Wasonga – Murphy, 2006).

Stories (of teachers) capture not only events and their resolutions but also personal perspective which appeared to have been useful (or not) in the given situation. Learning to teach is a cultural process beginning in the childhood at school, continuing by teacher training and eventually extending over teaching at schools. We therefore approach teaching equipped with tacit knowledge about what we believe the teacher's role is and what our childhood experience was, whether good, bad or peculiar. Thence ensues the need to take interest not only in stories connected with events which students immediately experience during their teaching practice but also

any other stories which enable them to describe and share their values and reasons for specific reactions, etc. If not restricted, storytelling naturally becomes a part of teacher education; it is not merely another method of transferring the curriculum in teacher training (cf. Edwards – Thomas, 2010, p 408). Transforming tacit knowledge as experience with solving special problems into narrative knowledge is a lifelong method of sharing and informal learning.

Teaching is a conservative field and stories help new teachers to rapidly socialise with the school culture. The knowledge of teachers of their strength is often tacit and implicit. Yinger (1990 In McGill, 2007) describes this tacit knowledge as the language of practice when teachers think and act in an acceptable way. Teachers gain their experience gradually over years and this process cannot be accelerated (McGill, 2007, p. 170-171). The core of teacher knowledge (stories) is rooted in their practice, their actions which they performed in the classroom.

Narrative is considered a powerful means of understanding the complex processes which constitute the act of teaching (cf. Kelchtermans, 2009, p. 260). Teachers' storytelling about their professional life and practice is often spontaneously framed in the narrative form. They make use of anecdotes, metaphors, images, etc. Storytelling is a natural way for them to attribute meaning to events and situations (Kelchtermans, 2009). The use of narratives, such as stories and anecdotes enable us to enter the lives of teachers and their understanding of events, professional practice and pedagogy. They help us reveal events and their meaning in teachers' lives. Thanks to the specific "grammar" of a story and the personal perspective, teachers ranging from beginners to experts find anecdotes an interesting and welcome way of accessing their tacit knowledge and further reflection on their practice (McGill, 2007). Research dealing with teachers' stories has been relatively frequent in recent years. It was carried out by e.g. Beattie – Conle (1996); Bruner (2002); Carter - Doyle (1996); Clandinin (1985); Clandinin – Connelly (1995); Elbaz (1981, 1991, 2007); Jalongo – Isenberg – Gebracht (1995), Linde (2001), Kelchtermans (2009), McGill (2007) and others.

Edwards – Thomas (2010, p. 408) claim that just like case studies are not only examples of how something works but also knowledge theory or generalisations as well, so do teachers' stories include very valuable knowledge. Teacher narratives based on experience are not only messages giving information about how teachers thought about themselves but rather they construct self-understanding within interaction and simultaneously (implicitly or explicitly) they present the public with the option to affirm, question or refute the attitude being communicated (cf. Kelchtermans, 2009). The message inside stories is not a neutral standpoint but an expression of the individual's personality, moral choices and emotions involved.

Elbaz-Luwisch (2007, p. 259 In Clandinin, 2007) notes that the discourse of the teaching profession can be found in the stories of many educators despite it is often in conflict with other discourses such as professionalism. Many stories bear a strong sense of educator professionalism which can be seen in the moral extent of things. The concept of profession then exists in interaction with moral experience.

The question arises where educator identity based on moral experience comes from. A number of stories (e.g. in research by Clandinin, 1985, 2007 etc. or Elbaz 1981, 1991, 2007 and others) show that they stem from practical experience gained

sometimes as early as during childhood and which in the form of tacit knowledge co-forms the knowledge of an educator and his or her membership to the profession.

What applies to experts in companies whose knowledge management received a good deal of attention in recent years, must logically apply to education. To young university students and graduates, education is financially a fairly unattractive field and for this reason, it sees an increase in age of its members and the reduction of experience and tacit knowledge due to retirement of teachers (cf. Lejeune, 2011). The quality of a school is determined by its reputation and the reputation of the school is dependent on the experience and quality of the teaching staff and on capable management (cf. Střelec, 1998, 2004). As stated many times before, teacher experience is ungraspable tacit knowledge gained over years of interaction with pupils and through dealing with a variety of problems and situations (cf. Gerholm, 1990). This teacher knowledge forms the best premise for making a quality school with good reputation; other factors co-forming school reputation come to effect afterwards, which is why it is so important.⁶

The above-described demonstrates the importance of the experience of specific people and of experienced teachers. Whether consciously or unconsciously, these teachers transfer their knowledge and experience onto their colleagues who based on this information are able to avoid some situations, foresee them as well as deal with them directly. This knowledge is not shared only among teachers but also between teachers and pupils. Based on this information, pupils gain further knowledge and experience which they can use in their favour. Lejeune (2011) addresses the question why large companies would take part in the operation of high schools and universities. It is in order to prepare professionals already predetermined for specific positions within the company and to aid their implementation into the work process of the company. For this reason, large companies co-fund schools and universities. However, it is not only a financial involvement but also an influence over the curriculum, providing material and technological aids to be used in classrooms. This type of teaching has a good record in the development of practical skills and rooting tacit knowledge for specific working environment through real experience (cf. Lejeune, 2011).

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⁶ Střelec (1998, p. 168) notes that the main role in forming the public image of a school is played by pupils' parents where the main source of information about the school that parents have are their children. School, family and the public represent three vertices of a would be triangle in which relationships are formed. At the first sight, the public appears to be a somewhat unclear and least important factor of the three, however, it is not to be underestimated. The task of the public opinion can be illustrated on specific examples as an agent which co-influences key decisions in education on the local, regional as well as national scale (cf. Střelec, 1998). The reputation of a school and individual teachers is also considerably influenced by the relationship of parents with the school who in return take part making the public opinion about education in general.

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***Peculiarities of Bachelors of Computer Science Professional Training:
Japanese and Ukrainian Experience***

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Abstract

The article presents the most urgent problem of the professional training of human resources for the information technology industry in higher educational establishments of Japan and Ukraine. The comparative analysis of the models of bachelors of computer science training at the universities of Japan and Ukraine suggest the presence of similar (the orientation on the requirements of the labour market and society; the use of methodological approaches, pedagogical, psychological, didactical and methodical principles; the organization of specialists' training on multilevel basis; the division of cycles of disciplines on the obligatory and elective blocks; the orientation of the content on integration of fundamental and special knowledge; the creation of optimal conditions for the formation of professional competence) and different approaches (in Japan: the standardization of professional training; the variability and flexible character of educational programs; the possibility of choice of the future specializations; the high level of organization of independent students' work; the wide implementation and use of modern teaching techniques and innovative technologies; the creation of possibilities for professional development and self-realization by participating in the international exchange and internship programs; in Ukraine: the inconsistency between qualification level of bachelor and the world requirements; the training orientation on the formation of the comprehensively developed IT specialist; the shortage of proper scientifically-methodological, material-technical providing and high-tech learning environment of the universities). The especial value and primary importance of achievements of Japan for pedagogical public of higher educational establishments of Ukraine are emphasized.

Keywords: tertiary education, bachelor of computer science, curricula, quality assurance

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Introduction

The calls of globalization, reference-points of information world space, rapid development of information communication technologies, intensification of computerization process in all industries have intensified the strengthening of attention to specialists in computer science professional training who not only own thorough theoretical knowledge and practical skills but foremost able to form effective interpersonal relations, creatively and non-standard come to problems solving, achieve set aims and results in constantly changeable production and social situations.

The tendencies of professional training of specialists in the information technology industry in Ukraine testify the attempt to co-ordinate study and practical activity with European and international standards, in particular by the improvement of conceptual, legislative, socio-economic, institutional, organizationally-pedagogical and informative constituents. The normative maintenance of specialists in computer science professional training is worked out at the level of the Industry-standard of Higher Education of Ukraine on Undergraduate Program 6.050101 “Computer Science” (Industry-standard, 2011), that was worked out on the basis of international recommendations Computing Curricula 2001-2005 with taking into account of new realities of Ukrainian economy, labour market, requests and needs of graduate students, employers on the basis of such principles: contemporaneity; system and strictness; continuity and integrity; educational program integration and differentiation; block-module approach to educational program formation; practical orientation.

Notwithstanding certain theoretical groundwork and considerable practical achievements of native pedagogical experience, information technological and software providing, the insufficient amount of study hours of professionally-oriented and elective courses of speciality, insufficient scientific level of faculty members, low level of international cooperation, teachers and students academic mobility, insufficient amount of professional IT associations and unions, absence of the effective IT human resources certification and accreditation system negatively influence on the quality of information technology specialists professional training, slow down their further professional development.

Taking into consideration all aforesaid one of ways to increase the efficiency of these specialists professional training is the search of new approaches with an orientation on the experience of highly developed countries. In the analyzed context the scientific interest is in the achievements of Japan, the most educated country of the world, that has considerable achievements in modernization and permanent improvement of higher education, powerful scientific base, high-tech conditions, international authority in IT human resources training. The multifold research and objective study of the best pedagogical achievements of Japanese experience will assist the enrichment of scientific views of native scientists with new ideas concerning the set of conceptual principles, content transformation, improvement of forms, methods and techniques, scientifically-methodical providing of bachelors of computer science professional training.

The obvious urgency, insufficient amount of research on the problem and practical requirement in its solving have defined the aim of the research is to characterize the peculiarities of bachelors of computer science professional training in Japan and Ukraine and define possibilities of the positive ideas of foreign experience implementation into the native system of higher IT education.

Literature Review

Many researchers contributed to the problem of the training of engineers in the information communication technologies industry in Ukraine and abroad. The problem of the training of future professionals in the field of computing is investigated in the dissertations of A. Gudzhiiy (the teaching of programming at higher education), H. Kozlakova (the continuous training of specialists in computer systems), T. Morozova (the theoretical-methodological fundamentals of higher information technology education), Z. Seidametova (the methodical system of continuous training of specialists in information technologies), S. Semerikov (the basics of fundamentalization of computing courses teaching), et al.

The research works of V. Bykov, B. Vulfson, O. Karelina, I. Kozubovska, V. Kukharenko, N. Nychkalo, P. Stefanenko, N. Syrotenko, et al are dedicated to the aspects of lifelong education and distance education.

The problems of the professional training of specialists abroad are investigated in the research of Ukrainian scientists in comparative professional pedagogics such as N. Bidiuk, T. Desiatov, V. Kovalenko, T. Koshmanova, K. Korsak, N. Patsevko, L. Pukhovska, A. Sbruieva, N. Sobchak, B. Shunevych, et al.

The scientific pedagogical research on the problem of development of Japanese pedagogical theory and practice with the aim of creative implementation of progressive ideas at the native educational practice were conducted by Yu. Boiarchuk, A. Dzhurynskyi, V. Elmanov, V. Kudin, I. Ladanov (the modern state of the education system), O. Myhailychenko, Ya. Neimatov, O. Ozerska (the professional training of English language teachers at higher educational establishments), N. Paziura (the theory and practice of intercompany training of specialists), V. Pronnikov, N. Repetiuk (the formation of education in modern Japan), T. Sverdlova (the theoretical fundamentals of the process of education humanization), L. Tsarova (the aesthetic culture of personality in modern school education), et al.

Training of IT Human Resources in The New Paradigm Of Professional Education

Researchers V. Yelmanova (1989), K. Korsak (1997), N. Abashkina (2002) justly assert that the previous paradigm of professional education was oriented in its development on the existent (planned) supply, while the new one must be orientated on the real demand of the labour market. Such situation is determined by many factors: one-time acquisition of qualification changes by realization of the necessity to obtain education during the whole life; need to obtain qualification of wide profile for possibility increase, change of profession, search of new job (unlike past approaches where qualification had a narrow profile, provided activity on a certain workplace); integration of processes of practical and theoretical training; flexible approach to set

study duration; orientation both on needs of formal and informal sectors of economy; orientation both on hire work and enterprise; decentralization of professional education management system that needs the presence of central, local structures, private sector.

The new paradigm of professional education is called to form the ability of specialist to find job and easily get along with professional duties. It is recognized that in modern market conditions an IT specialist must possess such qualities:

- skills of diagnostics, analysis of phenomena and processes, innovative activity, self-education;
- skills of team work, communication, decision making;
- professional knowledge and skills of fundamental character that can become the basis for providing of professional mobility;
- enterprise skills (creative approach to work, initiative, foresight of risks in the acceptance of new decisions, etc.) (Information-Technology Agency, 2010; MEXT, 2010).

Taking into consideration the abovementioned, the primary purposes of professional education recognized by both on Japanese and Ukrainian state level on the modern stage are the following:

- providing for the youth general and professional knowledge that will become the sufficient basis for continuous life-long education;
- providing the already working specialists with new knowledge and skills necessary for satisfaction of current production needs.

Comparative Analysis of Bachelor of Computer Science Training in Japan and Ukraine

The analysis of model of bachelors of computer science professional training has shown that leading universities of Japan (the University of Tokyo, Kyoto University, Osaka University, Kyushu University, Tohoku University, Tokyo Institute of Technology, Keio University, Waseda University, the University of Aizu and others) are oriented on IT human resources training with high level of creative potential, competitive on the labour market, responsible professionals who combine thorough professional knowledge, innovative culture, knowledge and skills of production manager and organizer, skills of interprofessional communication. In this direction Japanese scientists M. Ikeda (2010), N. Hativa (2000), K. Soetanto (2003), et al., conduct solid scientific pedagogical research: methodological approaches, pedagogical technologies, teaching techniques of studies are worked out and constantly improved and, as a result, graduates of higher educational establishments of Japan, achieve high results in professional activity.

The research results of the system of higher education of Japan convince that the characteristic feature of bachelors of computer science training is transference of accents from educational information transfer on development of personality through students' involvement into active creative activity in the field of disciplinary practice-oriented groups, mass participating in research and creative activity.

The study of Japanese experience of bachelors of computer science training has made possible to define main differences that positively distinguish Japanese model from native one, in particular:

- absolute advantage of Japanese higher education in amounts of financing, material-technical providing (Maruyama, 2004);
- orientation of Japanese higher education system on formation of independently intellectual, initiative, creative personality of IT engineer on the basis of individual-oriented curriculum, unlike in higher school of Ukraine where an accent is made on the systematic, successive mastering of courses content in the curriculum (Kumagai, 2001);
- flexible variants of courses study, mobile trajectories of education, possibility to chose teacher (unlike in Ukraine where actually there is not practice of free independent choice of educational course by student);
- close collaboration of Japanese universities with industrial enterprises and companies, professional IT associations;
- academic mobility and possibility to obtain double and joint degrees by continuous cooperation with foreign universities in Japan are system and organized at state level and presented by great number of programs, in Ukraine it remains spontaneous and individual the phenomenon (MEXT, 2011);
- material and technical providing of Japanese universities allows actively implement interactive technologies in the training process of specialists of different specialities, including bachelors of computer science. Universities possess high-tech equipment of lecture halls, computer classes and specialized educational-scientific experience computer laboratories that can sometimes occupy whole floors, and even separate building, and mainly is accessible for students around the clock;
- prevailing in the structure of study work of Japanese student the real independent obtaining of profession;
- mutual responsibility for quality professional training of Japanese students and teachers.

Also of important value for providing of quality training of competitive specialists is accreditation of educational program by professional organization JABEE. Unfortunately, for Ukraine such accreditation of educational program by professional organization in information technology industry is an off-type phenomenon.

It should be noted that at Japanese universities the Career Support Centers actively function that create favourable conditions for search and employment of students and graduates of university. This Japanese practice needs further comprehension and mastering by higher education pedagogical community of Ukraine.

At the same time the contradictory aspects of bachelors of computer science training at Japanese universities were noted. In particular, the positive feature of Ukrainian educational program of bachelors of computer science training we consider the presence of the complex program of through practical training that includes the different types of practical training (educational, project technological, diploma internship) and is realized during the whole term of study. Japanese curricula also include on-site, field internship on the senior years of study, however their amount is not considerable as Ukrainian ones. It can be explained by the fact that in Japan the practice of on-the-job/in-house training of university graduates exists for a long time.

Although the tendency of refusal of such practice currently is observed because of high cost for enterprises.

Differences in Undergraduate Curricula

The similar factor for both educational programs of bachelors of computer science training in Japan and Ukraine is the orientation on training of a specialist of wide profile oriented on problem solving connected with analysis and synthesis of the difficult systems on the basis of the newest information communication technologies with the application of modern achievements of fundamental and engineering sciences.

The comparative analysis of Japanese and Ukrainian curricula has showed that there is a substantial difference in the content of training of Japanese and Ukrainian computer science specialists. It has been distinguished the content component of the curricula for bachelors of computer science training at Japanese universities adapts all the variety of background educational environment. It is worth to be noted that although students are concentrated in one major specialization, however at the same time they can freely elect academic disciplines from the education program of other major specializations. Thus, it has been shown that the educational programs of bachelors of computer science training at Japanese universities are based on the interdisciplinary approach. Just such approach is aimed at the formation of wide-view understanding of the field in students, creativity of thinking, ability to solve general problems that arise up on verge of different fields, see the interconnection of fundamental research, technologies and necessities of industry, the ability to estimate the efficiency of certain innovation, fulfill its practical realization. Besides, such approach assists the formation of the ability not only to decide but also formulate problems, estimate them from different views and envisage possible consequences for the society development that is extremely important at the training of human resources for the information technology industry.

The educational program of bachelor of computer science training at Ukrainian universities contains of mathematical, programming, system technical and technical courses (Industry-standard, 2011). It should be noted that the courses titles and their amount at Japanese and Ukrainian curricula differ considerably, that is explained by differences in conceptual vision of the profession, the needs of Japanese and Ukrainian societies in such specialists and in the marketabilities of IT profession in the current terms of the labour market.

The comparative analysis of the curricula structure of bachelors of computer science training has showed that both in Japan and Ukraine the curricula consist of the block of obligatory (normative) courses and the block of elective (optional) courses. But the content of these blocks differs considerably. Thus, for example, in Ukraine the block of normative courses consists of the cycle of humanitarian and socio-economic courses, the cycle of mathematical and natural-scientific courses and the cycle of professionally-oriented courses. Concerning the block of optional courses, it is worth mentioning that in Ukrainian curricula it is presented by the cycle of courses of independent choice of the higher educational establishment and the cycle of courses of free choice of students. The curricula structure of Japanese universities depends

directly on the university however the general education courses and the specialized courses are included to the block of obligatory courses.

IT Human Resource Development Using PBL

The conducted analysis of the system of training of future bachelors of computer science at Japanese universities testifies the prevailing in educational process organization the problem- and project-based learning (PBL). Japanese teachers (Fukuda, et. al., 2011; Nakayama, et. al., 2012; Ikeda, 2010) are convinced that it is necessary not only to form thorough theoretical knowledge in students but also teach them to apply independently these knowledge for the solving of real practical problems. PBL provides the successful formation of social and communicative abilities of students for work in professional teams, acquisition of skills to fulfill different social roles (leader, opponent, idea generator, performer, etc.).

It should be noted the requirements concerning PBL implementation are the following:

- presence of research problem in primary data for project development;
- theoretical, practical and cognitive meaningfulness of predictable results;
- use of scientific search methods (problem setting and planning tasks);
- hypothesis formulation;
- analysis of scientific sources;
- development of research methodology;
- experimentation;
- generalization of scientific search results;
- foundation of conclusions and practical recommendations;
- fulfillment of project by small groups of students and general defense (presentation) by the project developers of variants of practical problem solving.

It is important that Japanese reseachers (Fukuda, et. al., 2011; Nakayama, et. al., 2012; Ikeda, 2010) suggest to evaluate the conducted projects by such evaluation criteria:

- argumentation of topic choice (in one cases the project topic can be suggested by teacher, in others students choose project topic independently);
- practical meaningfulness of executed job results;
- independence and completeness of research;
- argumentation of offered problem solutions;
- level of creativity, originality of problem solving and offered solutions.

The marked technology, to our opinion, is urgent for native practice of bachelors of computer science training.

Teaching for Effective Learning in Higher Education

The complex of positive acquisitions of Japanese system of information technology specialists training is characterized by the experience of individual independent students' work organization. The current research findings have provided the possibility to distinguish the main conditions of this practice success, in particular:

- teaching students of independent educational-cognitive activity methodology (formation of skills to work effectively with the sources of educational-scientific information, planning of time budget, acquisition of reflexive knowledge necessary for self-analysis and self-control, etc.);
- organization of individual planning of students' educational work and strict control of fulfillment of individual plans from the side of pedagogical communities (academic advisors, dean's office, departments, laboratories);
- previous acquaintance of students with the structural-logical chart of a course, providing all information concerning the course, teachers, time and place of consultations, control form and evaluation criteria, etc.;
- development of educational textbooks of interdisciplinary character;
- providing students with complex textbooks aid for independent study that combine theoretical material, methodical instructions and practical tasks;
- individualization of home tasks and laboratory works, and in the conditions of group work clear distribution between the members of microgroup;
- availability of educational laboratories, computer classes for providing students (or group of students) with possibility during work day to independently conduct research, use equipment for educational needs;
- obtaining by the most capable students of status of Assistant Professor or Assistant and their involvement into research work of the laboratory and conducting of classes;
- creation on the basis of laboratory consultative centers, classes of project planning with laboratory libraries with flexible working hours.

At the same time characteristic for Japan primacy of democracy and freedom of choice determines also the specific of theoretical classes. In this country a teacher owns a right for optimal, according to his own opinion, programs and teaching techniques. It can be illustrated by the democratic character of educational material exposition, implementation into teaching practice the case-study method and search of alternative solutions (Hativa, 2000).

All technology of bachelor of computer science training is inferior to the leading objective: the thorough development of student's personality, exposure of his capabilities and talents, enriching of intellectual and creative potential.

The professional formation of students in higher educational institutions depends upon the level of their cognitive qualities development, in particular, such as: persistence, motivation, emotional firmness (Soetanto, 2003). Enormous influence on the professional formation of students in higher educational institutions is carried out by their professional orientation, meaningfulness of educational task and own activity.

In current educational techniques innovative processes carry discrete, periodic character, closely connected with the life cycle of innovation, and depend upon the rows of factors among which the main are (Ichikawa, 1995):

- readiness of students to the assistance of current educational techniques and positive motivation of educational activity in this situation;
- readiness of teachers and students to creative activity;
- optimal psychological climate of educational process and pedagogical mastery of teachers;
- taking into consideration the aspects of university management system.

For effective training of modern IT human resources both in Japan and Ukraine, next to traditional technologies, in the new educational system a large value has the creation and implementation of leading educational technologies: informative, computer, telecommunication-technological innovations, application of which requires radical changes in the methods and facilities of study, forms of educational process organization, theory and methodology of modern professional education. It makes the process of training of modern specialists in industry of information communication technologies guided, individually-differentiated, with the large part of independent educational and educational productive activity.

Innovative educational technologies assist the development of individual abilities of personality, increase of level of thinking creativity, formation of skills of active search of decisions of both educational and practical tasks and prognostication of results of made decision realization. With passing to new educational technologies radically changes the influence of study on initial possibilities of student and character of him own intellectual efforts.

Conclusion

In the conditions of new strategy of modernization of the content of higher education the problem of competitiveness of specialists in accordance with the modern requirements of the labour market acquires the special significance. The study of the peculiarities of bachelors of computer science professional training in the world context has allowed us to set, that both in Japan and Ukraine students study identical courses: architecture and structure of computer systems, programming language, organization of information systems, etc. However, the basic accent in Ukrainian higher educational establishments is made on theoretical training of IT specialists, while the practically-oriented approach prevails in Japanese ones. The professional training of bachelors of computer science in Japanese educational space is based on the individual trajectory of study, that makes possible the teaching of students in the optimal for them mode and independently regulate time of implementation of laboratory, workshop, computational-graphic and other tasks, independence in the choice of scientifically-methodical literature for classes preparation; providing the possibility of individual correction-pedagogical maintenance of independent students' work.

The results of comparativistic research convince that Japan has more considerable and prominent achievements in professional training of bachelors of computer science due to well-regulated higher education legislation and quality assurance system; clear structure of study organization on all levels; operative reacting of the system of higher education on the changes of the labour market; professional orientation of educational programs; flexibility of system connections and close cooperation with employers and professional IT associations and societies. Powerful scientifically-pedagogical potential of native higher education in combination with the progressive ideas of Japanese experience will assist the upgrading of professional training of information technology specialists in Ukraine that requires further research.

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English Education and Polysemy

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Abstract

The process of learning and teaching two languages and cultures can be a very transformative experience. The present study explores how knowledge is constructed by learners and teachers through multiple levels of meaning. In the study, we focus particular attention on the correlation between L1 and L2 in language education. How does L1 affect the L2 learning process? How can teachers help students become aware of the polysemous meanings of words in L1, and realize that there is not always a simple one-to-one correspondence between L1 and L2 words? To try to get answers to these questions, we conducted a pilot study about the effectiveness of polysemy instruction regarding L1 and L2 errors. We gave two groups of subjects an English translation task concerning *dekiru* (a Japanese verb), with one group instructed about the polysemy of *dekiru* and the other group receiving no instruction. As a result, we found that instruction about polysemy prevented L2 errors to some degree, while some *dekiru* meanings seemed difficult for the subjects to recognize or understand. After the study, a questionnaire was given to the same subjects to examine whether they had become more conscious of the polysemy of *dekiru* (L1). The results show that awareness of polysemy had increased in both of the groups, and that to some extent, the students recognized the different meanings of *dekiru* correctly. However, they seemed to have difficulty recognizing some meanings of *dekiru* even in Japanese. Additionally, the subjects showed a subtle change in their perception of the English word “can”.

Keywords: Lexical learning process in L2, polysemy, L1 interference

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1. Research Background and Goals

The present research project began when several university instructors started to analyze the results of class evaluations. It soon became clear that most students had had difficulty expressing themselves in English regarding the reasons behind their particular evaluation of a class. We began to notice many errors or the use of “unnatural” constructions, particularly in regard to the usage of the modal auxiliary “can” and its past tense form “could”. We also began to notice several error or problem patterns. We then divided the error patterns into five distinct categories. The five basic error patterns are presented below:

1. I could learn how to write English. (overlap type)
2. I could read books of my level. (opportunity type)
3. I can become talk in public. (become type)
4. I could make friends in this class. (result type)
5. I can power point. (+noun)

To briefly explain and give an example, the first category is the “overlap type”. In an attempt to give the reason for his/her overall class evaluation, one of our students responded with example 1. above. As may be evident, perhaps a more “natural” response would be “I learned how to write English”. The student’s response is representative of quite a common error in which students felt internally compelled to directly translate the past tense verb “*dekita*” into “could”, while still using the verb “learn”. We chose to name this error pattern an “overlap” type, due to the “overlapping” use of verbs. To give one more example, in regard to answer 2., perhaps a more natural response would be “I had the opportunity to read books at (the appropriate) my level”. This reveals a situation of “opportunity”, thus the category nomenclature.

After further analyzing these errors and others, it became apparent that students were translating the Japanese word “*dekiru*” and its past tense form “*dekita*” into “can/could” in a rather automatic or direct manner. To illustrate further, the Japanese verb “*dekiru*” can be used to express ability, opportunity, and result, etc. In a like manner, the verb “can” may be used to express ability, possibility, and permission, etc. However, it became evident that students were not considering the polysemy of the two verbs, and were generally ignoring context, in their translations. Namely, they were simply equating “*dekiru*” with “can” and thus felt “compelled” to use “can” when forming English sentences in their minds.

We then began to ask several questions in order to discover the reasoning behind these patterns, and also in an attempt to develop pedagogical methods to prevent such errors in the future. Some prominent questions were: Are our students aware of polysemy?, What is the role of L1 polysemy?, What is the role of awareness of L1 polysemy in increasing L2 accuracy?, What is the role of L2 polysemy?, and finally, Can accuracy be improved through instruction about polysemy? We came to the, somewhat conjectural conclusion that awareness about L1 polysemy can help students to use more accurate or “natural” English.

2. Prior Research

Although a lengthy discussion of prior research is beyond the scope of this paper, an introduction to some of the prior research that aided us in forming our opinions is helpful in understanding our current research and subsequent line of progression. Although we are aware that Kroll and Stewart's (1994) Revised Hierarchical Model has come under some criticism in recent years, we would simply like to emphasize the following. According to the model, there are strong links between concepts and one's L1, but only weak links between concepts and one's L2. Furthermore, one's L2 is connected by strong links to one's L1. To put it another way, when learning a lexical item, L2 learners usually create a direct and strong association with a perceived equivalent in their L1. Thus, the importance of one's L1 becomes evident in the process of learning an L2. We therefore theorize that more conscious knowledge about the different meanings of L1 lexical items, in context, can help in the L2 learning process. In other words, more knowledge of L1, and also L2, polysemy could theoretically not only lead to a deeper, contextualized understanding of L2 words but also to a more "natural" or nuanced use of L2 words.

Jiang (2000, 2004), Imai (1993), and Tagashira (2007) all acknowledge the importance of one's L1 in learning an L2. At the same time, these authors emphasize the importance of teaching about differences in L1 and L2 meaning and structure. This led us to infer that if students were to become more consciously aware of the polysemy of L1 and L2 words, in context, then they would adopt a more "flexible" approach to translation and would tend to avoid simple, direct translations. They could also escape from, in Imai's words, an "extremely impoverished" understanding of L2 words, and gain a potentially richer L2 vocabulary; and the ability to use lexical items appropriately.

Regarding our prior research, in brief, we gave 58 third and fourth-year students (29 third-year and 29 fourth-year students) two translation tasks based on the five error patterns presented above. The students had to translate Japanese sentences featuring *dekiru* and *dekita* into English. The two groups (A and B), had an average TOEIC score of 470 points, with a high score of 860 points and a low score of 290 points. We tried to assure an equal level of English ability on an individual basis, otherwise the students were randomly assigned to the two groups. Group A members did receive some instruction about polysemy and more natural English usage before the second task. A few results of this research should be mentioned. Firstly, it did become clear that students did not appear to be aware of *dekiru/dekita* polysemy. Secondly, they had translated mechanically or directly. Finally, they did lack knowledge about English grammar patterns. Following this research, we decided to ask students to fill out a questionnaire mainly concerning the polysemy of *dekiru*, in order to further explore the role of L1 polysemy in English education.

3. A Questionnaire and Results

After the English translation tasks, we examined whether or not our students had become more conscious of the polysemy of *dekiru* and gave a questionnaire to the same A and B subjects. It is important to note again that Group A subjects were given instruction about *dekiru* and its polysemy, but Group B members were not. The following is an explanation about each question and results.

Question 1 is “How much were you aware of the different meanings of *dekiru/dekita* before the task?”, and the results are shown as Figure 1. It is apparent from Figure 1 that most of the subjects were aware a little (Group A 10; Group B 16) or somewhat aware (Group A 6; Group B 3) of the different meanings, which amounts to about 66% of all subjects. However, the fact cannot be ignored that at least 25% of the subjects were not aware of polysemy at all (Group A 8; Group B 7).

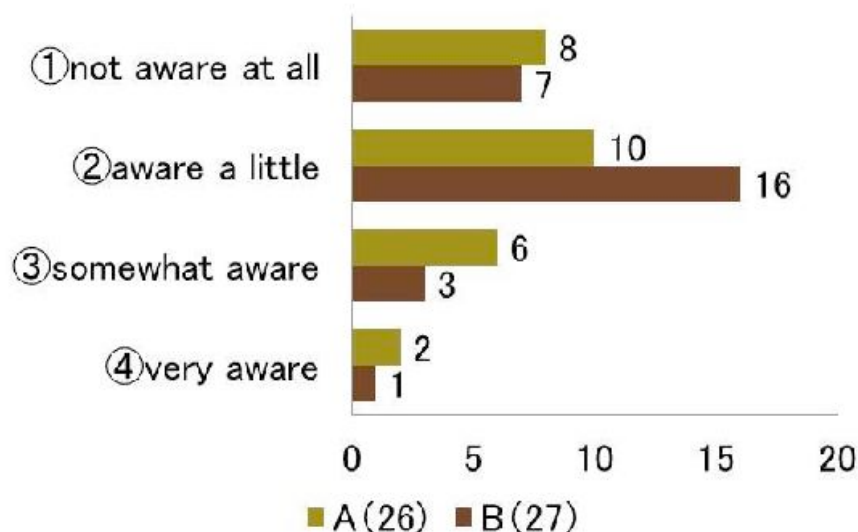


Figure 1. Subject awareness of “*dekiru/dekita*” meanings before tasks

Question 2 is “Did you pay attention to the different meanings of *dekiru/dekita* during the two translation tasks?”. The subjects were asked to answer regarding each translation task. Figure 2-1 shows the results for the first task and Figure 2-2 concerns the second task.

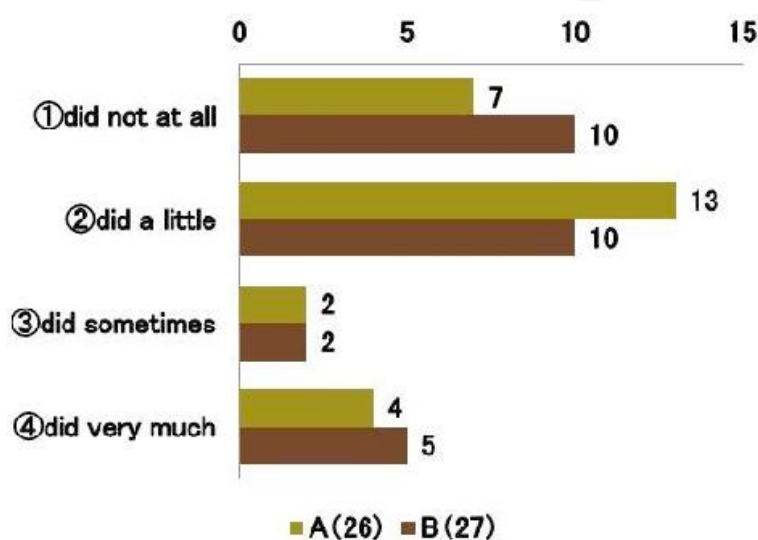


Figure 2-1. First task

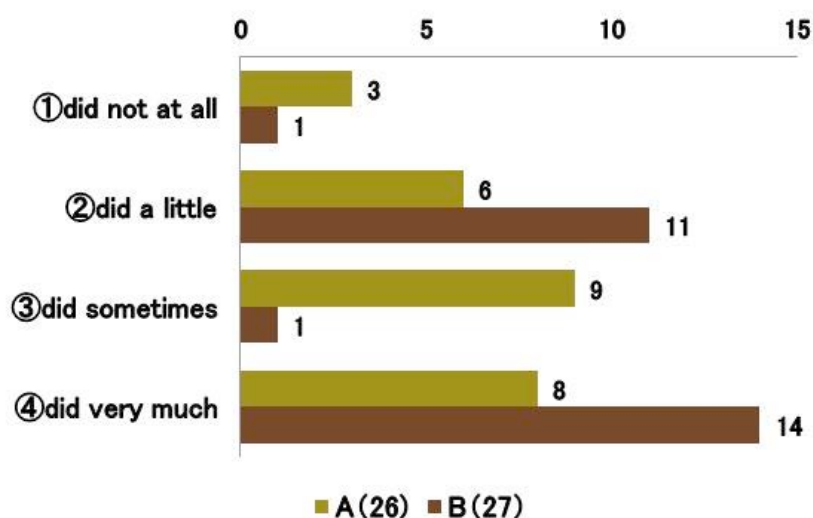


Figure 2-2. Second task

Examining Figures 2-1 and 2-2, the results show that more of the subjects paid attention to the different meanings the second time.

Moving on to Question 3, we asked about problems the subjects faced when they tried to translate “*dekiru/dekita*” sentences into English. Some of the subjects’ comments are as follows.

Group A

- Subject 1: I was uneasy about whether I understood the overall context in each sentence correctly.
- Subject 2: I was not sure whether one of the meanings of “*dekiru/dekita*” was “possibility” or “opportunity”.
- Subject 3: I only had a vague notion of the meanings of *dekiru/dekita* in Japanese.
- Subject 4: [I was uncertain about] the difference between “possibility”, “ability” and “opportunity”

Group B

- Subject 1: I was not sure whether the meaning was momentary or continuous.
- Subject 2: It was difficult to decide whether I should use the present tense (can) or the past tense (could).
- Subject 3: It was difficult to decide whether the sentences were about a past event or linked with the present [over time].

As can be seen from the comments above (subjects 1 to 4), on the whole, the subjects from Group A tended to comment on the different meanings of “*dekiru/dekita*” (L1) itself. On the other hand, as for Group B, more students expressed general concerns or doubts about Japanese-English translation or corresponding relationships, especially about tense differences. There were three additional comments similar to that made by Subject 1.

In Question 4, we asked students to choose the appropriate meaning of each underlined form of *dekiru/dekita* in sentences (1) through (5) from choices (a) to (f) below. The same answer was usable more than once.

In Question 4, we asked students to choose the appropriate meaning of each underlined form of *dekiru/dekita* in sentences (1) through (5) from choices (a) to (f) below. The same answer was usable more than once.

(1) 中国語で簡単な文を書くことができるようになった。

I have come to be able to write simple sentences in Chinese.

(2) 外国人と英語でコミュニケーションができる。

I am able to (can now) communicate with foreigners.

(3) フランスでたくさんのことを学ぶことができた。

I learned many things in France.

(4) インターンシップ中に多くの人々に会うことができた。

I had the opportunity to meet many people during my (the) internship.

(5) このキャンプで多くの友達が多かった。

I made many friends at (this) camp.

[a. 可能である b. 能力がある c. 達成する d. 作る e. 生じる f. 関係がある]

(a. possibility b. ability c. to achieve/to accomplish d. to make e. chance/opportunity f. a relationship)

The answers for these sentences are correspondingly, (a) possibility for (1), (b) ability for (2), (c) to achieve/to accomplish for (3), (e) chance/opportunity for (4), and (d) to make for (5). The rate of accuracy is shown in Figure 3.

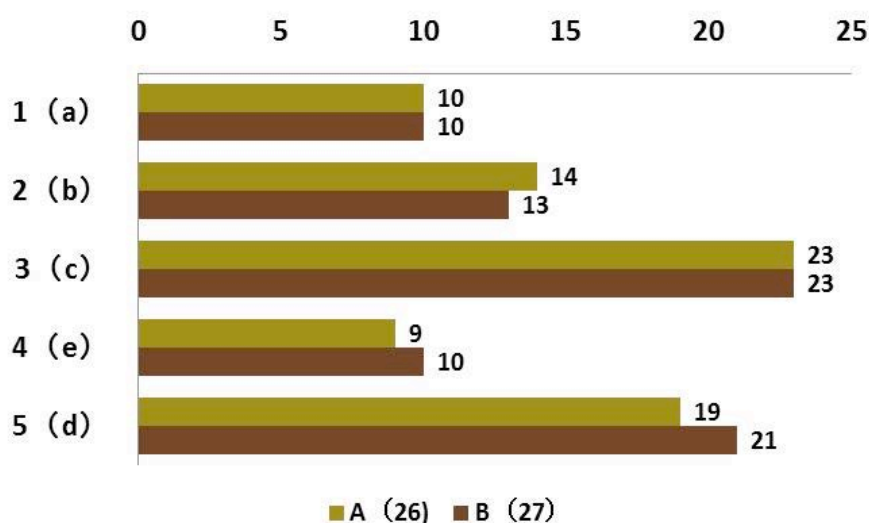


Figure 3. The rate of accuracy for “*dekiru/dekita*” questions

As for Question 5, we wanted to learn more about changes regarding L2 usage, so we asked the subjects whether the way they think and use the auxiliary verbs “can/could” changed after the two translation tasks. The results are shown in Figure 4 below.

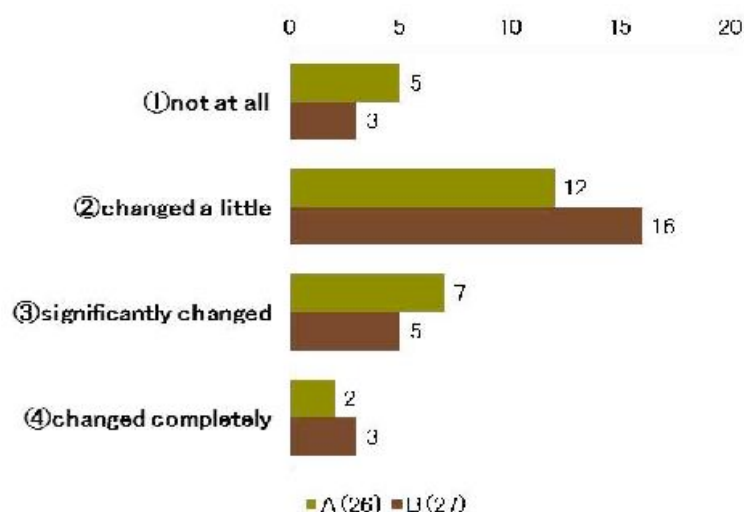


Figure 4. Changes in thinking regarding “can/could”

Except for 8 subjects who chose “not at all”, the way they think about “can/could” seems to have changed. More will be discussed later, but this appears to reflect a more heightened awareness of the existence and importance of polysemy.

For the final question, we asked the subjects who chose “changed a little”, “significantly changed” and “changed completely” to describe changes in their thinking. Most subjects gave comments similar to those below.

Group A

- Subject 1: I used to use “can” almost every time I translated “*dekiru*” into English, but have come to realize that “*dekiru*” has different meanings.
- Subject 2: I have started to think about sentence meaning carefully when making sentences. I have come to realize now that “*dekiru*” does not necessarily equal “can”.
- Subject 3: Before these translation tasks, I only thought that “*dekiru*” equaled “can”, but this questionnaire has caused me to think differently.
- Subject 4: I have stopped automatically using “can/could” to translate “*dekiru/dekita*”.

Group B

- Subject 1: I have come to think that “can” has many meanings.
- Subject 2: I realized that “*dekiru*” is not always equal to “can”, and that other verbs may be appropriate.
- Subject 3: I have come to believe that I need to think carefully about the meanings of “*dekiru/dekita*” in a sentence, and not literally translate into “can/could” since only “make”, for example, might be appropriate in some contexts.
- Subject 4: I see “*dekiru*” rather than “can” differently now (especially when I translate).

Although there were several different types of comments, many Group A subjects mentioned that they realize “*dekiru/dekita*” does not always correspond to “can/could”. Also, they seem to have learned that there are several *dekiru/dekita* meanings. On the other hand, an interesting point is that even though Group B members did not receive any instruction about *dekiru/dekita* polysemy, more than half of the subjects gave similar comments to those of Group A subjects concerning awareness of polysemy (such as subjects 2 to 4 above). At the same time, there were quite a few statements about the different meanings of “can/could”, rather than “*dekiru/dekita*” from Group B subjects (e.g. subject 1).

4. Analysis and Observations

In regard to the questionnaire results for Questions 1 to 6, we present our analysis and observations below.

Regarding Question 1, 18 out of 26 Group A students and 20 out of 27 Group B subjects self reported that they were aware of *dekiru/dekita* polysemy (answers ⊖ to ⊕) before the translation tasks. Moreover, there is almost no difference in awareness between the two groups.

However, after the two translation tasks, the number of ⊖ answers (“did not at all”) decreased in both groups for Question 2 (Group A: 7 to 3; Group B: 10 to 1). At the same time, the number of ⊕ answers (“did very much”) in both groups increased as well (Group A: 4 to 8; Group B: 5 to 14). This clearly shows more focus on the meanings of *dekiru/dekita* in both groups.

It is clear that most of the subjects focused more on *dekiru/dekita* meanings, however, according to the results of Question 3, when it comes to translating into English, the subjects seem to have had some problems. Group A subjects were given some instruction about the polysemous nature of *dekiru/dekita*, and tended to comment on the different meanings of *dekiru/dekita*. On the other hand, Group B subjects knew that there were some grammatical points to consider, but did not know which points they should be careful about. It can be conjectured that these differences may have caused Group B’s increased concern about the meanings of *dekiru/dekita*. However, the lack of specific instruction may also have caused them to pay more attention to grammatical forms.

Concerning Question 4, in general, the results show that there is almost no difference in accuracy concerning the different meanings of *dekiru/dekita* (L1) between groups A and B. Due to the limitations of this medium, just one prominent point will be dealt with here.

Among the queries in Question 4, the highest number of subjects accurately chose meaning (3) (i.e. “to achieve/accomplish”). The accuracy rate was 88% for Group A (23 out of 26) and 85% for Group B (23 out of 27). “*Dekiru*” in answer (3) corresponds to the “overlap type” among the five error types Oda, Dante & Nishitani (2014) classified. According to Nishitani & Oda (2014), the overlap-type error rate was relatively high during the first task, which was before polysemy instruction, but the error reduction rate was the highest after instruction. One reason why the subjects were so accurate in choosing meaning (3) could be that they had learned about the

overlap-type meaning of *dekiru/dekita* through instruction about L1 polysemy. Therefore, it can be said that L1 polysemy instruction had a positive impact on learning regarding at least the overlap type of *dekiru/dekita*.

For Question 5, 21 out of 26 Group A subjects chose $\ominus$ to $\oplus$ (changed to a greater or a lesser degree), which is 81% of the total. Furthermore, 24 out of 27 Group B subjects indicated the same answers, which represents 89% of the group members. After “*dekiru/dekita*” instruction, most subjects seemed to have recognized that the target word is polysemous, at least to some degree, and that there is no simple one-to-one correspondence between “*dekiru/dekita*” and “can/ could”. However, judging from the Question 4 results, some *dekiru/dekita* meanings, such as (1) (the “become type”) and (4) (the “opportunity type”), seem to remain difficult for Japanese learners of English to fully understand. Further detailed analyses are required in future.

Finally, overall, student comments in regard to Question 6 support the observations made above.

5. Educational and Future Implications

Although consideration of a plethora of educational implications would most likely be appropriate, we would like to present a few ideas here. Firstly, as a result of our research, it would appear that giving instruction on L1 polysemy when learning L2 words is effective for raising awareness. As most educators know, raising awareness concerning meaning and context is a very important step in understanding meaning, and in being able to develop and produce accurate or so-called natural output. We are, however, left with the question as to whether L1 accuracy is improved or not as a result of heightened awareness of L1 polysemy, and potentially, as a result of more L2 instruction. Although there were some indications of improved L2 accuracy, particularly among students with higher-level English ability in Group A, we cannot yet conclude that accuracy can be improved by more awareness of polysemy and instruction about commonly used English forms. Answers can only be found after more extensive research. We do believe, however, that more awareness about polysemy and more specific grammar and/or corresponding form instruction would be valuable in increasing accuracy, and we intend to test this hypothesis in future research. We also realize that there were too few students involved in our research thus far, and intend to increase the number of subjects in the future. Furthermore, we intend to explore the role of awareness raising and instruction concerning L2 polysemy and its effects on education in the future as well. Finally, we must state here that after our research was concluded, we discovered that the verb *dekita* (past tense) can be used to express more concepts than we had previously realized. In future research, we intend to separate the present tense verb *dekiru* from the past tense *dekita*.

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***The Study of Elementary School Teacher's
Behavior of Using E-books by UTAUT Model***

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Abstract

The purpose of this research is to apply Unified Theory of Acceptance and Use of Technology (UTAUT) model to investigate the factors that influence elementary school teacher's behavior of using E-books. Based on the literature review, a questionnaire was modified and used to test the elementary school teachers in Changhua. A total of 420 questionnaires were administered and 364 of them were returned, including 328 valid and 36 invalid questionnaires. The effective response rate is 78%. The methods of data analysis include descriptive statistics, factor analysis, Pearson's correlation coefficient, one way analysis of variance (ANOVA) and simple regression analysis. The results show that:

1. There were significant difference in the Elementary school teachers' "Performance Expectancy", "Effort Expectancy", "Social Influence", and "Facilitating Conditions" depending on their different "Demographic Variables".
2. "Performance Expectancy" and "Behavioral Intention to Use" are positively correlated.
3. "Effort Expectancy" and "Behavioral Intention to Use" are positively correlated.
4. There was no significant relationship between "Social Influence" and "Behavioral Intention to Use".
5. There was significant relationship between "Facilitating Conditions" and "Use ehavior".

Keywords: E-books, UTAUT, Elementary school teacher, Behavioral Intention to Use

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Chapter One

Introduction

Research Background and Motivation

In order to cater to the age of technology, Ministry of Education is making every effort to promote the idea of combining technology with teaching; hoping to educate a new generation with creative energy and the ability of international communication. That is a new generation which is able to use “technology and English” actively. It looks like e-textbook has lots of advantages that do not exist in the hard-copy textbook, but will it be accepted and used largely by all of the teachers in elementary schools? The structure of e-textbook has the substance of digital information, so this research is to find out the willing ness and the influence factors of elementary school teachers to use e-textbook through technology acceptance model. Among numbers of theories of technology acceptance model, this research used Unified Theory of Acceptance and Use of Technology (UTAUT) which is addressed by four scholars in 2003- Viswanath Venkatesh, Michael G. Morris, Gordon B. Davis and Fred D. Davis. UTAUT model integrated and improved the old technology acceptance model and provided a more rounded model to explain user’s technology usability behavior. The explanatory ability is around 70% which is much higher than other models that are of 17% to 42% explanatory ability, and it is the reason why I used this model as the research basis. In UTAUT model, Venkatesh(2003) believed user’s technology usability willingness would be influenced by “performance expectation”, “effort expectation”, “social influence” and “enabling factor”. The research goal is to find out the willing ness and the influence factors of elementary school teachers to use e-textbook, and these four perspectives are the variables of the research.

Research Purpose

This research adopted the Unified Theory of Acceptance & Use of Technology (UTAUT) from Venkatesh scholars as theory basis, and combined with questionnaire method. The data collected is compared and analyzed one by one directed against the variable of “performance expectation”, “effort expectation”, “social influence” and “enabling factor” to discuss the usage pattern and influence factor of elementary school teachers towards e-textbook. The main research purposes are:

1. Understand the current situation of elementary schoolteachers using e-textbook.
2. Analyze the correlation among “performance expectation”, “effort expectation”, “social influence” and “enabling factor” of elementary school teachers using e-textbook.
3. Compare the difference among “performance expectation”, “effort expectation”, “social influence” and “enabling factor” of elementary school teachers using e-textbook.
4. Discuss the key factors of influencing elementary school teachers using e-textbook.

Chapter Two

Literature Review

This research is to find out the current situation of elementary school teachers using e-textbook, and then understand the key factors which influence elementary school teachers using e-textbook. Therefore, this chapter put all of the relevant theories together as the theory basis for more discussions. There are three sections in this chapter, and they are development and definition of e-textbook, relevant research of e-book teaching in elementary schools, and relevant research of technology acceptance model theories.

Development and Definition of E-Textbook

E-book was first addressed in Project Gutenberg by Michael Hart in 1971. It was a project to upload the public books written in different languages from different parts of the world to server by volunteers. Through powerful storage and transmission ability of computer and internet, everybody can retrieve the data easily and readers could study the gem of human wisdom at any time in any place. The concept was to make sure information, book and other material could be easily read by any computer, software program or for reader to read, quote and look up. This could be seen as a pioneer project of potential e-book (LEI Shu-Yun, 2004).

The reasons why e-book could be developed maturely in the past few years were mainly for three factors. One was the content structure of e-book getting more mature and diverse, no matter it was novel, comic books or classic literature; all kinds of reading resources could be found through internet. Another was the continuous update of reading interface; at the age of desk top only, reading e-book would be limited by hardware facilities. Along with the launch of notebook, PDA, smart phone nowadays, the “portability” and “mobility” of e-book increased hugely. The other key factor was the change of lifestyle; with the development of MRT, lots of commuters read while commuting to work and it brought up the development of e-book (CHEN Zheng-Wei, 2009).

In terms of content, the same as traditional hard copy books, e-book has text and pictures; the difference is that e-book integrated multimedia and put text, graphics, still image, sound, animation, digital music, video and some special effects together through computer technology. The relevant topic content can be looked up via hyperlink, and the reading tools can be the devices of e-book reader or computer (YU Pei-Chun, 2006). HO Shu-Chin (2004) found out e-book has more advantages than hard copy book from her research; the advantages are as the following: 1. Easy to carry lots of books at the same time; 2. Easy to get; 3. Higher accessibility; 4. Good retrieval capability; 5. Easy to remark; 6. With the function of hyperlink; 7. Multimedia application; 8. With novelty.

Relevant Research of Using E-Book Teaching at Elementary School

Because of the flow of teaching with technology as well as the rise of e-whiteboard and e-book in recent years, they started to be introduced to schools and related training education systems in Europe, America, Hong Kong, Japan and Kore;

providing supportive services for technological teaching and learning. They are now actively introducing e-textbook to formal education environment in Japan, and announced IT promoting policy “iJapan Strategy 2015” in 2009. Under the item of talent cultivation, it focused on applying IT technology to develop digital learning environment in order to increase learning willingness of the students’. In “Haraguchi Vision” released later in the same year, one billion Japanese yen would be invested to develop collaborative learning project “Future Classroom”. All of the school students are expected to have their own e-textbook before 2015, and the comprehensive development project will be completed in 2020. After several meetings of professional discussion, e-textbook will contain three parts: e-textbook for teaching, e-textbook for learning, and terminal learning devices. At the moment, some publishers provided developed e-textbook for teaching to real-life teaching practice, and teachers believed students’ leaning concentration in class was improved when they used e-whiteboard with e-textbook for teaching. Through the presentation of multimedia, the course content could be explained more actively. It also helped the improvement of students’ actively learning willingness; continuous building up learning content would be carried on as well as selected suitable learning device (TSAI Pei-Shan, 2010). The education system and environment in Taiwan are similar to Japan; we actively promote teaching with technology in the recent years plus the rise of e-whiteboard and e-book, there are lots of relevant literatures within the country. Therefore, we know e-textbook has been widely applied to teaching in all kinds of subject areas in Taiwan.

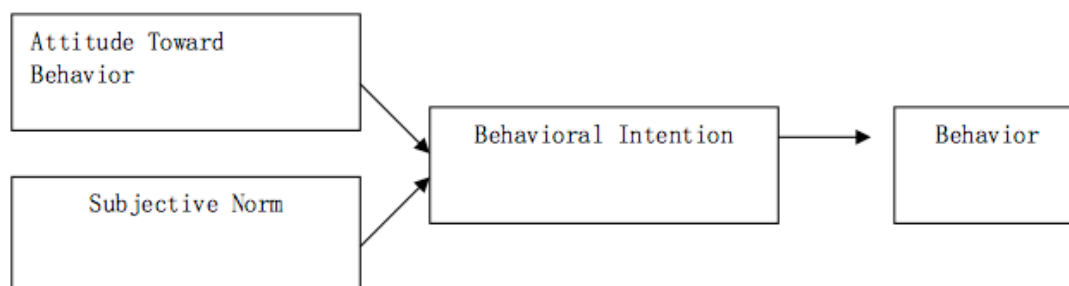
Using e-book for teaching has positive effects towards all of the learning areas for elementary school students, especially the benefits for the lower achievement students are better than the higher achievement students. Since using e-book for teaching is helpful for learning effects to most of the students, teachers at elementary schools should have high motivation to apply e-textbook on their teaching. However, some literatures addressed not all of the teachers have high motivation to use e-textbook for teaching.

Technology Acceptance Model Theory and Relevant Research

The flourishing development of information technology has a very deep influence towards human society; however, any advanced technology must be accepted and used by users before the impact arises. Thus, the research of technology acceptance relevant theories appeared.

The most famous relevant theory is Technology Acceptance Model (TAM) from Davis (1986), and the model was developed based on Theory of Reasoned Action (TRA). TRA was raised by Fishbein and Ajzen in 1975; according to Fishbein and Ajzen(1975), people’s belief towards new technology and their evaluation after using it would influence their “attitude toward behavior”. That was people has positive or negative perception for new technology user behavior, and it influenced “behavioral intention” directly. Other than “attitude”, Fishbein believed personal “subjective norm” would have the effect on “behavioral intention”. “Subjective norm” included two factors: one was that an individual would sense the expectation of not performing a specific behavior from another specific party, and the other was whether an individual should follow the expectation. According to reasoned action theory,

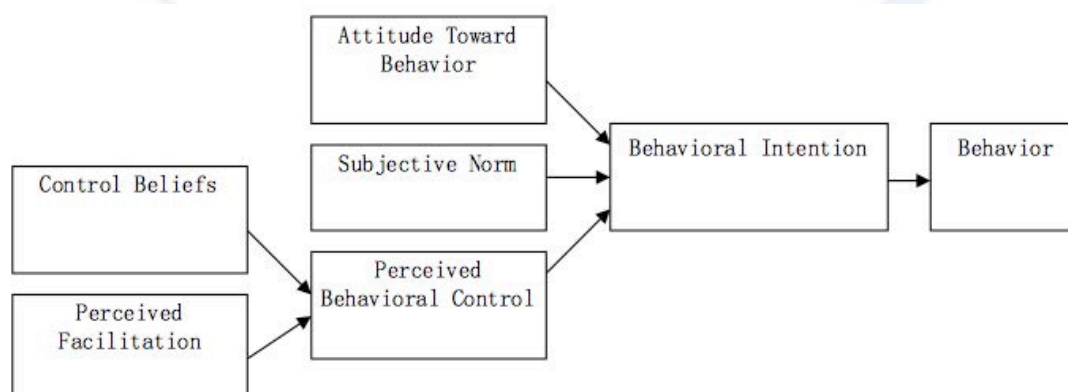
whether an individual perform a specific behavior was decided by their behavioral intention, and behavioral intention was decided by the attitude towards behavior and subjective norm. The model figure is as the following:



Source of Information: Fishbein & Ajzen (1975)

Figure 2-1 Theory of Reasoned Action (TRA)

After TRA, Ajzen extended the scale of original TRA in 1985 and put forward Theory of Planned Behavior (TPB). The aspect of Perceived Behavioral Control was added on top of the original structure of Behavioral Intention, and this aspect emphasized personal perception of how difficult a behavior is and self-control of whether to conduct the behavior or not. Ajzen(1985) believed this aspect was influenced by two variables; one was Control Beliefs, and the other was Perceived Facilitation. Control Beliefs is the personal subjective judgment of whether they can conduct the behavior; when people believe they won't be able to do something, the possibility of doing it will become lower. Perceived Facilitation is the convenience of conducting the behavior that people sense, and that is the resource availability when people conduct the behavior. Therefore, the opportunity of successfully behave is higher when people believe they have sufficient ability as well as sufficient resource and chances, and then higher possibility of doing something under self-control. Compared with TRA, TPB is much closer to the status of real behavior. The model figure is as the following:



Source of Information: Ajzen (1985)

Figure 2-2: Theory of Planned Behavior (TPB)

After TRA and TPB, Davis et al addressed Technology Acceptance Model(TAM) in 1989. The model was revised from TRA proposed by Fishbein and Ajzen (1975), and it was mainly structured according to the characters of Information System (IS). The purpose was to explain the deciding factor of how users towards the acceptance of information technology. The difference from TRA was TAM believed Behavioral Intention only decided by Attitude, and Attitude would be influenced by two beliefs- Perceived Usefulness and Perceived Ease of Use. Perceived Usefulness refers to subjective perception of users believe some technology could increase personal working performance, while Perceived Ease of Use focuses on the expectation from a user using technology free of effort. It is worth noting that TAM model emphasized the important of users' subjective perception. That is when users don't sense the usefulness of using the technology, they wouldn't use it even though the technology could increase their working performance. Thus, compare with Perceived Ease of Use, Perceived Usefulness has outstanding link with users' attitude. However, the perceived ease of use from the users would strengthen the perceived usefulness of the users. Moreover, TAM model also focused on the importance of External Variables; External Variables included user characteristics, system character, organization factors. These External Variables influenced Attitude through Perceived Usefulness and Perceived Ease of Use, and further influenced Behavioral Intention and Behavior. The model figure is as the following:

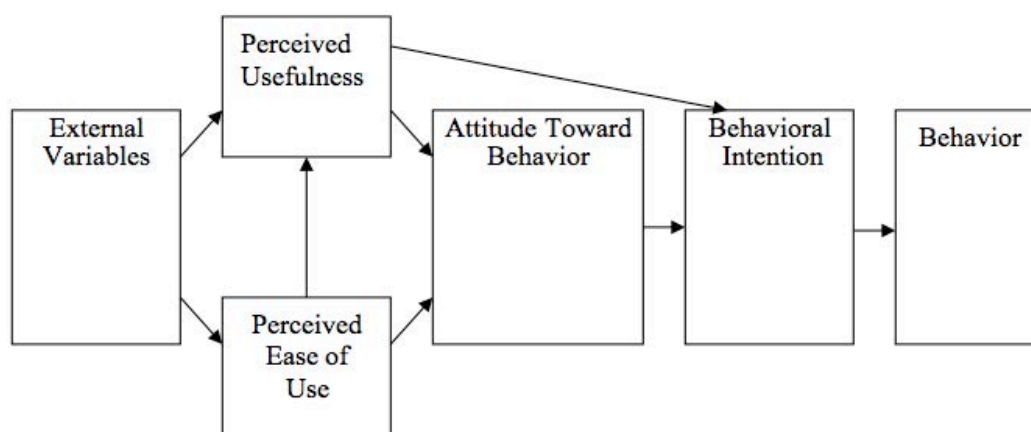


Figure 2-3: Technology Acceptance Model (TAM)

Source of Information: Davis (1989)

Because TAM Model was revised from Theory of Reasoned Action (TRA) proposed by Fishbein and Ajzen (1975), it had the same limitation as TRA. It over-emphasized the importance of subjective perception from users, and believed people would decide to use as long as they have positive attitude towards information system used. However, information system always cost money, time and professional knowledge; even though the personal subjective perception is positive, it still might be out of use because of lacking some specific factor.

TAM Model is with both theory and simplicity as well as focuses on the use of information system, and it always plays an important role in the research of Technology Acceptance Model. Scholars started to continuous modify the limitation of TAM Model; after 10-year development, Venkatesh and Davis put the research in

the past years together and addressed TAM2 Model in 2002. The model figure is as the following: (the dotted line is the adjustment effect)

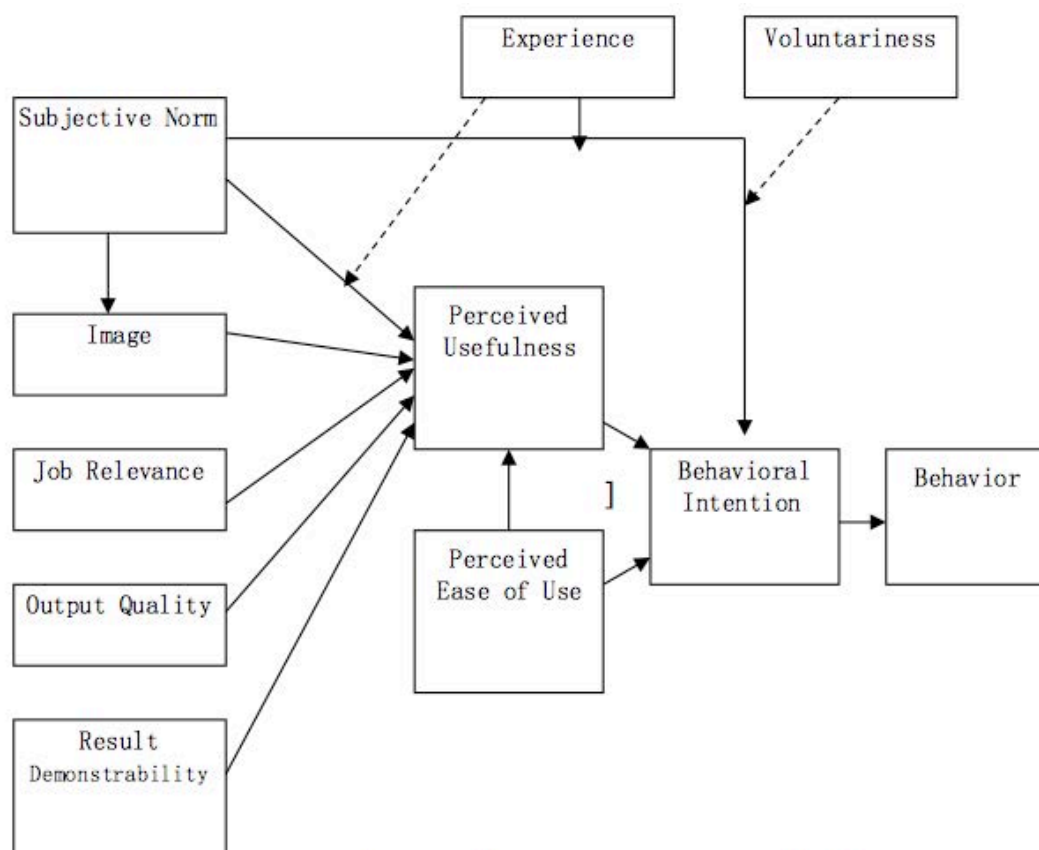
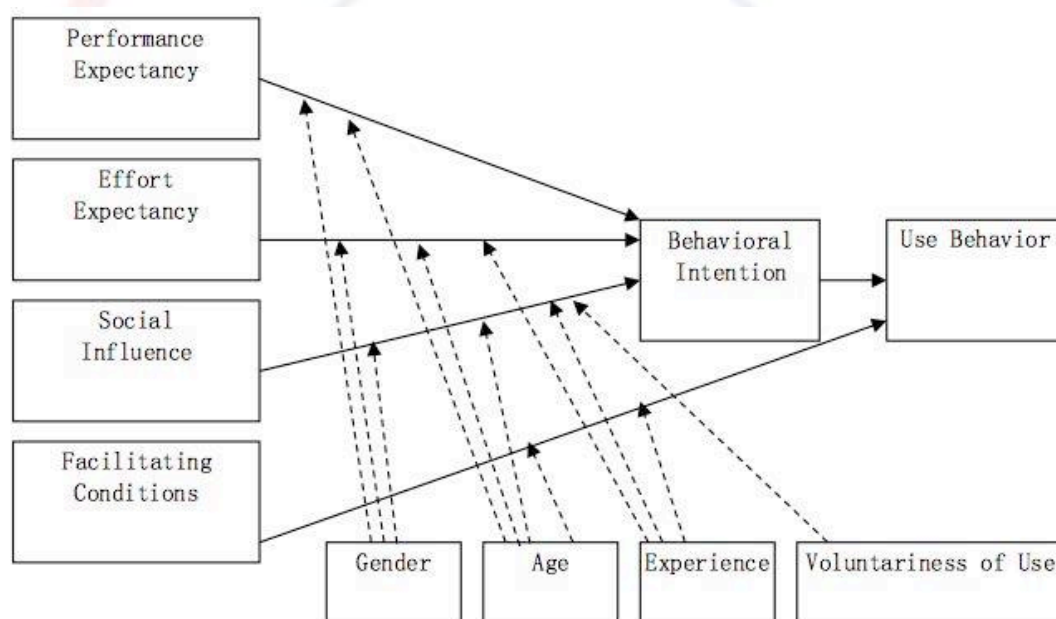


Figure 2-4: Technology Acceptance Model (TAM2)

Source of Information: Venkatesh & Davis (2000)

In TAM2 Model, there are two processes which influence Perceived Usefulness; they are Social Influence Processes and Cognitive Instrumental Processes. Social Influence Processes include Subjective Norm, Image, and two interference variables Voluntariness and Experience. Cognitive Instrumental Processes refer to “the judgment that people have towards to perceived usefulness partly is from whether the system has enough power to complete their demand cognition.” (Venkatesh & Davis, 2000; quoted from SU Po-Fang, 2004) including Job Relevance, Output Quality, Result Demonstrability, Perceived Ease of Use four factors. Among cognitive instrumental processes, Perceived Ease of Use is how easy to use certain technology (system) that people believe, Job Relevance is what extent of certain technology (system) could be applied to work that people believe, Output Quality is how well the technology (system) could complete a task, Result Demonstrability is the effectiveness of using the technology that people demonstrate, and these four will all influence Perceived Usefulness. In addition, TAM2 argued Subjective Norm would also influence Perceived Usefulness through Image; that is once the key member in a group considers an individual team member should do something (ie. using certain technology), and doing it will increase the position or image of the individual in the team; the individual would be willing to follow this Subjective Norm,

and the social support & team member cognition gained from this would increase the personal performance in the team or at work (Pfeffer, 1982; quoted from Venkatesh et al., 2000) to increase Perceived Usefulness and then reach higher Behavioral Intention. TAM2 proposed two main processes which influence Perceived Usefulness and conducted deep research, and expanded the original TAM Model more completely. In 2003, Viswanath Venkatesh, Michael G. Morris, Gordon B. Davis and Fred D. Davis proposed Unified Theory of Acceptance and Use of Technology (UTAUT); it integrated several technology acceptance model and construct an integrated theory model. UTAUT Model consolidated and improved the old technology acceptance model to provide a more completed model to explain technology using behavior from users. Its explanatory ability achieved 70%, which is far more better than other previous model that only achieved 17% to 42%; thus, UTAUT model played an important role towards the research of technology acceptance (SUN Chien-Chun, CHENG Ying, KO Ching 2007). UTAUT Model included four main aspects: Performance Expectancy, Effort Expectancy, Social Influence and Facilitating Conditions. Moreover, UTAUT Model added four adjustment variables, and they are Gender, Age, Experience and Voluntariness of Use. The model structure is as the following:



Source of Information: Venkatesh et al.(2003)

Figure 2-5: Unified Theory of Acceptance and Use of Technology (UTAUT) (TAM2)

Chapter Three

Research Method

This chapter is to explain the design of this research and the way it is conducted, and this is described in the order of research structure, research method, research object, sampling method, variable operational definition, research hypothesis, questionnaire design, questionnaire testing and data analysis.

Research Structure

This research used Unified Theory of Acceptance and Use of Technology (UTAUT) as the theory basis. Under this model structure, the research found Performance Expectancy, Effort Expectancy, Social Influence from elementary school teachers when using e-textbook might affect their Behavioral Intention while Facilitating Condition and its Behavioral Intention might influence their Use Behavior of using e-textbook. How the above variables influenced one another might be different by the gender, age, position and teaching experience of users as well as the population interference of years of using e-textbook. The research structure is as shown on figure 3-1:

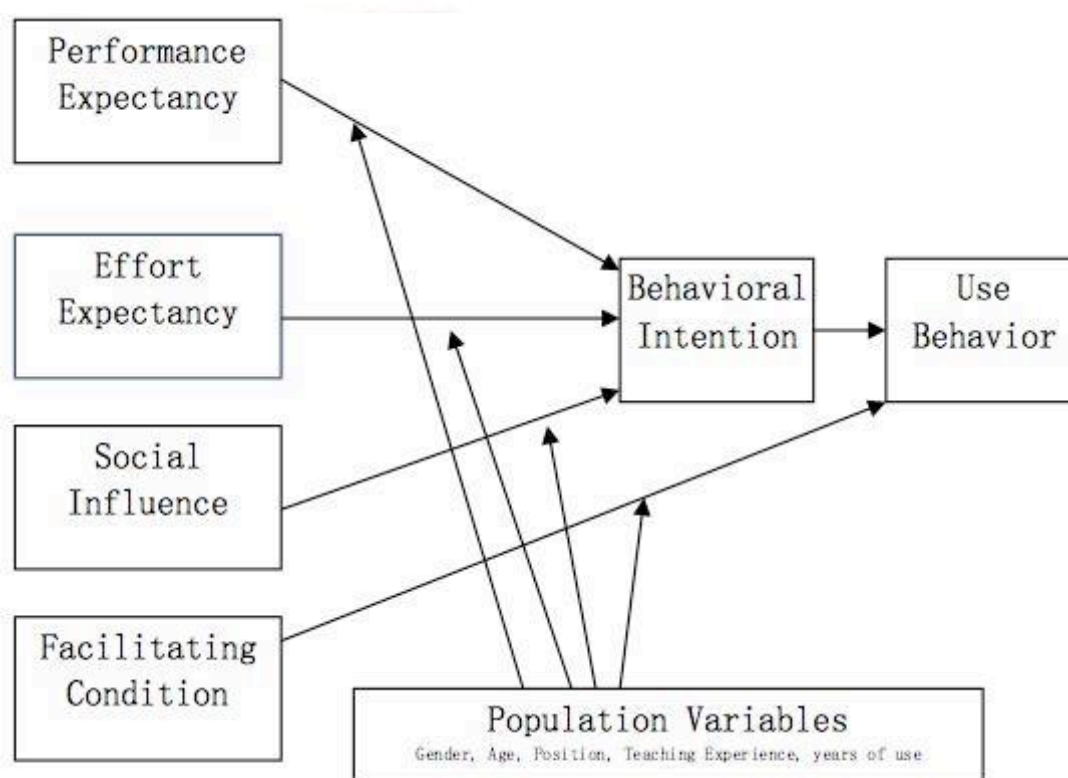


Figure 3-1: Structure of The Research
Source of Information: From This Research

Research Object and Sampling Method

The research was to find out the willingness of elementary schoolteachers in using e-textbook, and explore deeply the main factor which influenced the willingness of elementary schoolteachers using e-textbook. Limited by research time, this research couldn't conduct general investigation; in order to sample easily, this research used elementary school teachers in Chang Hua County who have real experience in using e-textbook in academic year 2012 as research object. To increase the representativeness of the samples and consider the time available of the researcher's as well as the budget limitation, the research used stratified random sampling- using school scale as stratified basis before sampling. According to the data of "Statistic of General Status of Elementary School and High School" (academic year 2012) from Department of Statistics, Ministry of Education, currently there are 175 elementary

schools in Chang Hua County. The research classified school scale according to class number with “Less than 12 classes”, “Between 13-36 classes” and “More than 37 classes”. Sampling 10% schools from each scale classification, and it turned out to be 18 schools, as shown on table 3-1.

Table 3-1: Scale of Elementary Schools in Chang Hua County

School Scale	Less than 12 (included)	Between 13-36	More than 37 (included)	Total
School Number	95	60	20	175
Sampling Number	10	6	2	18
Sampling School	Ming-Hu, Rao-Ming Tong-An, Te-Xing Fu-Xing, Nan-Ya Han-Bao, Ming-Sheng Guang-Xing, Bao-Shan	Ching-Shan, Yuan-Dong Bai-Sha, Shi-Hu Da-Cun, Hao-Hsiu	Nan-Kuo, Yuan-Lin	
% of Samples	56%	33%	11%	100%

Source of Information: Department of Statistics, Ministry of Education ; The Outcome of This Research

After stratified random sampling, the numbers of the sampling school will be the sample numbers. Conduct simple sampling for the sample number of each school needed. Table 3-2 showed the numbers of sampling class and the questionnaire copies given of this research.

Table3-2: Summary of Questionnaire Numbers

School Scale	Sampling School	Class Number	Issued Copy
Less than 12 (included)	Ming-Hu	6	6
	Rao-Ming	12	12
	Tong-An	12	12
	Te-Xing	6	6
	Fu-Xing	12	12
	Nan-Ya	12	12
	Han-Bao	11	11
	Ming-Sheng	11	11
	Kuang-Xing	6	6
	Bao-Shan	8	8
Between 13-36	Ching-Shan	21	21
	Yuan-Dong	25	25
	Bai-Sha	16	16
	Shi-Hu	25	25
	Da-Cun	31	31
	Hao-Shiu	25	25

More than 37 (included)	Nan-Kuo	80	80
	Yuan-Lin	95	95
Total		420	420

Source of Information: Department of Statistics, Ministry of Education ; The Outcome of This Research

Research Hypothesis

According to above research structure and variable operational definition, the research hypothesis is as the following:

- H1: Elementary school teachers with different Population Statistic Variable have outstanding difference in Performance Expectation, Effort Expectation, Social Influence and Facilitating Condition.
- H2: Performance Expectation and Willingness of Using E-Textbook have relevant correlation.
- H3: Effort Expectation and Willingness of Using E-Textbook have relevant correlation.
- H4: Social Influence and Willingness of Using E-Textbook have relevant correlation.
- H5: Facilitating Condition and Willingness of Using E-Textbook have relevant correlation.

Chapter Four

Conclusion and Suggestion

Research Conclusion and Findings

In terms of current situation of e-textbook used by elementary school teachers, this research found that more than 90% of elementary school teachers who have used e-textbook were the participants of information education seminars while the motivation of using e-textbook was 90% for the demand of teaching, followed by teachers' personal interest. Regarding to the area of e-book, e-book related to language and mathematics were used the most; the research found average 5-7 times per week was the most frequency in using e-textbook. Considering the e-textbook using willingness and its influence factor, the research found Population Statistic Variable has outstanding difference in Performance Expectation, Effort Expectation, Social Influence and Facilitating Condition. Performance Expectation of elementary school teachers using e-textbook would be different because of gender, position, years of using e-textbook and years of teaching experience; Effort Expectation of elementary school teachers using e-textbook would be different because of gender, position, and years of teaching experience; Social Influence of elementary school teachers using e-textbook would be different because of position, years of using e-textbook and years of teaching experience; Facilitating Condition of elementary school teachers using e-textbook would be different because of gender, age, years of using e-textbook and years of teaching experience. Talking about Performance Expectation, the research revealed that female was easier to be influenced to use e-textbook than male because it could increase working efficiency; pure administrative staff and substitute teachers were easier to use e-textbook simply because it could increase teaching effects. It was

obvious that elementary school teachers who have used e-textbook for more than three years would chose to carry on using it than those who have less than three-year experience, and those who were with senior teaching experience (more than 15 years) had better using willingness than those who were with less experience because e-textbook could increase teaching outcomes. As for Effort Expectation, the research found that female was easier to be influenced than male; this meant female was more willing to try than male if e-textbook was easy to use. Substitute teachers would be easier to decide to use it than other formal teachers while senior teachers (with more than 15-year teaching experience) would decide whether to use it because of how easy the user interface was than those who were with less experience. In the aspect of Social Influence, the research found that pure subject teachers, those who have ever used e-textbook for more than three years, and those who were senior teachers would be influenced by realizing how others thought about whether to use e-textbook. With regard to Facilitating Condition, the research revealed that female, seniors teachers (more than 50 years old) as well as the teachers who have ever used e-textbook for more than three years and those who were with less experience (less than five years) were easier to be influenced because of the resources and support that the organization could offer when using e-textbook.

This research also revealed there were outstanding positive correlation among Performance Expectation and Effort Expectation towards Behavioral Willingness; that was the behavioral willingness would increase if e-textbook could increase the working performance of elementary school teachers plus they didn't need to spend too much time in learning how to use and operate the e-textbook.

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Policy-Making Process of Higher Education and Vocational Training in the EU

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The Asian Conference on Education 2014
Official Conference Proceedings**Abstract**

This article examines policy-making process of higher education and vocational training in the EU from viewpoints of the norm and legalization. The legal system of the EU is characterized by binding hard law as the legislation and non-binding soft law as norm. In the field of the international relations, the norm is a standard of appropriate behavior for actors with a given identity. Despite that education policy-making of the EU cannot be separated from norm and legalization, except for a literature by Kleibrink such a research is few. Therefore, from this perspective, this paper is organized. First, I will analyze the norm life cycle, composed of norm emergence, norm cascade and norm internalization, for policy-making of higher education and vocational training during the era from the ECSC to the present day. I extract the fact that norm life cycle is found for evolution of the EU education policies. Second, I will evaluate legalization level for higher education and vocational training of the EU, that is, degree of legalization dimensions composed of obligation, precision and delegation. Finally, I will investigate the single institutional framework that guarantees consistency and continuity of the policy-making in the EU. I analyze whether the single institutional framework is satisfied in the EU education policy using an example of higher education programme called Socrates. I conclude that the single institutional framework supports the norm life cycle of the policy-making process of the EU education policy.

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Introduction

Analysis of education policy-making process in the EU is of fundamental importance, because history of education policy of the EU is history of the norm and legalization. This paper highlights policy-making process of higher education and vocational training in the EU from viewpoints of norm and legalization. The norm which is standard of behavior and sometimes non-binding soft law is remarkable property in the legal system of the EU. The soft law is juristically justified by the EU secondary legislation such as non-binding recommendation and opinion, and binding directive with harmonization in the Member States. Furthermore, in implementation of the directive, the Open Method of Coordination is applied without sanction even if objective of the directive has not been attained.

Although history of the education policy in the EU is that of norm and legalization, such a research is few except for a literature by Kleibrink, who investigated a National Qualification Framework from viewpoints of the norm life cycle. The original idea of the norm life cycle, where the norm evolves in three stages from norm emergence to norm internalization via norm cascade, is presented by Finnemore and Sikkink in a field of the international relations.

Organization of this paper is threefold. First, I will analyze the norm life cycle for the policy of higher education and vocational training during the era from the European Coal and Steel Community (the ECSC) to the present day. Through scrutiny of the education history of the EU, obtained is a result that the norm life cycle, composed of norm emergency, norm cascade and norm internalization, is found in making-process of the EU education policy. Second, I will evaluate degree of legalization dimensions, obligation, precision and delegation, in the EU education policy, considering the EU secondary legislation. Third, I will examine the single institutional framework which guarantees consistency and continuity of the education policies. It is concluded that the single institutional framework enables the norm life cycle of the policy-making process of the education in the EU.

Norm and Legalization

This section introduces concepts of norm and legalization as precedent research. The concept of norm has been developed in the international relations and international organization, influenced by emergence of globally mutual dependency in the 1970s and 1980s. This paper is an application of the norm to the education policy in the EU.

By Finnemore and Sikkink, who are scholars in the international relations and international organization, *norm* is defined as a standard of appropriate behavior for actors with a given identity. Furthermore, by Krasner, who is also a scholar in the international relations, *norm* is standards of behavior defined in terms of rights and obligations. Norm is an element of the regime. Regime is defined as a set of principles, norms, rules and decision-making procedures around which expectations of actors converge in the given area of international relations.

Finnemore and Sikkink understand the policy-making process as evolution of norm. In order to model policy-making process, they present a norm life cycle composed of three stages, norm emergence, norm cascade and norm internalization. The norm

emergence is the first stage in which actors, feeling reform necessary, are busily engaged in persuading new norm. The norm cascade is the second stage in which new norm is propagated and recognized in public. The norm internalization is the third stage in which new norm is institutionalized and legalized as law.

The legalization is discussed the field of international relations and international organization, concerning the soft law. Abbott, Keohane, Moravcsik, Slaughter and Snidal presented three dimensions of the legalization, i.e., obligation, precision and delegation and discussed degree of these dimensions.

Norm Life Cycle and Legalization in Higher Education Policy of the EU

In this section, I will analyze the norm life cycle and evaluates legalization level for the policy of higher education during the era from the ECSC to the present day. By scrutinizing records published in the Official Journal of the EU, combinations of items about higher education policy of the EU; year, norm, stage of norm life cycle, legalization, characteristic of legalization and legalization are obtained in Table 1.

Year	Norm	Stage of Norm Cycle	Legalization	Characteristic of Legalization	Legalization Level		
					Obligation	Precision	Delegation
1951	Start of the ECSC	Norm emergency	Treaty of Paris	Treaty	High	High	High
1955	Start of Higher Education Policy in the ECSC	Norm emergency	Europe University Plan at Messina Conference	Foreign Minister Meeting	High	Middle	High
1957	Separation of Higher Education from Vocational Training	Norm Internalization	Treaty of Rome,	Treaty	High	High	High
1960s	Non-intervention to education as the ECSC	Norm as an unwritten law	Tacit understanding		Low	Low	Low
1976	Start of education policy in the EC	Norm emergency	Action programme in education	Resolution of the Council and of the Ministers of Education Meeting within the Council	High	Middle	High

1982	Internal market as EC grand strategy	Norm cascade with norm evolution	The European Council Copenhagen	European Council, Conclusions	High	High	High
1984	Internal market as EC grand strategy	Norm cascade with norm evolution	The European Council Fontainebleau	European Council, Conclusions	High	High	High
1985	Internal market as EC grand strategy	Norm cascade with norm evolution	Delors speech in parliament	Parliament Speech	High	Middle	High
1985	Internal market as EC grand strategy	Norm cascade with norm evolution	White Paper, Completing the Internal Market	White Paper from the Commission to the European Council	Middle	Low	High
1986	Constitutional foundation	Norm Internalization	Single European Act	Treaty	High	High	High
1987	Higher Education	Norm Internalization	Erasmus	Council Decision	High	Middle	High
1988	Youth Education	Norm Internalization	Youth for Europe	Council Decision	High	Middle	High
1988	European dimension in education	Norm cascade with norm evolution	European dimension in education	Resolution of the Council and of the Ministers of Education, Meeting within the Council	High	Middle	High
1989	Language education	Norm Internalization	Lingua	Council Decision	High	Middle	High
1990	Higher education	Norm Internalization	Tempus	Council Decision	High	Middle	High
1992	Equalization of general	Norm internalization	The Treaty of	Treaty	High	High	High

	education and vocational training	on	Maastricht				
1993	European dimension of education	Norm cascade with norm evolution	Green paper	Commission of the European Communities	Middle	Low	High
1995	Higher education	Norm Internalization	Socrates	Decision of the European Parliament and of the Council	High	Middle	High
1995	Lifelong Learning	Norm Internalization	establishing 1996 as the 'European year of lifelong learning'	Decision of the European Parliament and of the Council	High	Middle	High
1995	Learning Society	Norm cascade with norm evolution	White paper on Education and Training	Commission of the European Communities	Middle	Low	High
1997	Europe of Knowledge	Norm cascade with norm evolution	Towards a Europe of Knowledge	Commission of the European Communities	Middle	Low	High
1999	Higher Education	Norm cascade	Bologna Declaration	Non-EU Organization	Low	Middle	Low
2000	Education in Knowledge Society	Norm cascade with norm evolution	Lisbon process	Lisbon European Council Presidency Conclusions	High	High	High
2004	"Education & Training 2010" The Success of the Lisbon Strategy Hinges on	Norm cascade with norm evolution	Incorporation of Bologna process into Lisbon process	Council of the European Union, Outcome of Proceedin	High	Middle	High

	Urgent Reforms			gs			
2009	Strategic Framework for European Cooperation in Education and Training (“ET 2020”)	Norm internalization	Lifelong Learning Integration of HE and VT	Council Conclusions	High	Middle	High

Table 1 : Norm Life Cycle and Legalization of Higher Education Policy

Table 1 is made by this author based on the following citations.

Citation: The Treaty of Paris 1951, Messina Conference 1955, The Treaty of Rome, 1957, OJ C 38 19-2-1976, The European Council Copenhagen 3 and 4 December 1982, The European Council Fontainebleau 25 and 26 June 1984, Jacques Delors first speech to the Parliament 1985, COM85/310 final 1985, Single European Act 1986, OJ L 166, 25-6-1987, OJ L 158, 25-6-1988, OJ C 177, 6-7-1988, OJ L 239 16-8-1989, OJ L 131, 23-5-1990, The Maastricht Treaty 1992, COM 93/457 final 29-9-1993, OJ L 87, 20-4-1995, OJ L 256/45, 26-10-1995, COM 95/590 final 29-11-1995, COM 97/563 final 12-11-1997, Joint declaration of the ministers responsible for higher education Convened in Bologna, 19-6-1999, Lisbon European Council 23-3-2000, Council of the European Union, Brussels, 3-3-2004, OJ C 119/02 28-5-2009

Through analysis of policy-making process of higher education in the EU, I draw out several aspects concerning norm life cycle.

The European University plan at the Messina Conference (1955) and the first action programme of education by Resolution of the Council and of the Ministers of Education, Meeting within the Council (1976) are addressed as the norm emergence in general education policy of the EU. The time interval between 1955 and 1976 is long, because the higher education policy in the ECSC and EC is a few by unwritten law of non-intervention to the education, except for Staff Regulations of Officials of European Communities about selection of contract staff at compulsory education, post-secondary education and secondary education (Article 5, OJ L 289 17.11.1969). This Resolution (1976) is a start of higher education policy in a sense that an Education Committee shall be set up consisting of representatives of the Member States and of the Commission, which shall meet periodically. Furthermore, the Education Committee shall take measures of educational studies and research on the topics, adapted language-teaching methods, the mother tongue and culture in school curricula, access to education at all levels and so on. The core of this Resolution is rather humanist concept considering multicultural society of the Europe than market-oriented one which is a driving force of every education policy after 1980.

The Treaty of Rome (1957), as a legal foundation of the ECSC, influenced almost policy-making of education policies. From the viewpoint of the education, the Treaty of Rome includes two important articles. Article 57 is codified for mutual recognition of diplomas, certificates and other evidence of formal qualification. Article 128 is written about general principles for implementing a common vocational training

policy. Separation of general education including higher education (article 57) from vocational training (Article 128) is remarkable in the Treaty of Rome. This separation between higher education and vocational training is a norm internalization evolved from prevailing norm before the Treaty of Rome.

The EU strategy of the education policy drastically changed in the early 1980s. The EU education reform started motivated by the European Council held in Copenhagen (1982), the European Council held in Fontainebleau (1984), White Paper (1985) and the first speech by Delors in the Parliament (1986). Series of these movements are addressed as norm cascade with norm evolution of grand strategy of the EC, internal market. As the strategy of the internal market was prioritized the highest, the education policy was consequently prioritized the highest as the driving force to realize the internal market. In the Copenhagen European Council, discussed was on the economic and social situation, and the need to fight unemployment especially among the young people, where the solution depends on development of ability of the youth. In the Fontainebleau European Council, 'A peoples Europe' was emphasized as important matter, in which a general system for ensuring the equivalence of university diplomas was codified as education policy. The White Paper entitled "Completing the Internal Market" (1985) presented measures to remove physical barriers, technical barriers and fiscal barriers among the Member States. Jacques Delors, the 8th President of the European Commission, made a speech to the European Parliament in 1986. The Presidents stressed further development of the Community can allow the internal market and monetary and technology cooperation. The high priority of the educational policy as the tool for realization of these purposes was implicitly included in his speech.

The Single European Act (SEA 1986) is addressed as the norm internalization in a sense that SEA provided constitutional foundation for unity of the Europe, though there exist no provisions of the education policy in the SEA.

Several action programmes such as Erasmus (1987), Lingua (1988), Youth for Europe (1989) and Tempus (1990) are addressed as the norm internalization. The European dimension in education (1988) is also addressed as the norm internalization.

The Treaty of Maastricht (1992) is constitutional framework evolved from the Single European Act. This Treaty is also addressed as internalization of the education policy in which higher education and vocational training are equally treated (Article 3 (p)). Separation between higher education and vocational training was codified in the Treaty of Rome. This separation written in the Treaty of Rome disappeared due to equalization of higher education and vocational training in the Treaty of Maastricht.

Green Paper (1993) is addressed as norm cascade with norm evolution, respectively. The Green Paper emphasized European dimension of education by referring Article 126 of the Maastricht Treaty, where the provision is written about development of quality education by encouraging cooperation between the Member States.

A Decision of the European Parliament and of this Council (1995) entitled 'establishing 1996 as the "European year of lifelong learning' and a Communication from the Commission (1997) entitled 'Towards a Future of Europe' are addressed as norm internalization and norm cascade with norm evolution, respectively.

Bologna process is addressed as norm cascade. Bologna process on higher education started from Bologna declaration (1998). Though Bologna process is basically non-EU organization, Bologna process was well balanced in a sense that Education Ministers of the Member States participated the meeting of this process. On the other hand, the EU started Lisbon process on “Education in Knowledge Society” (2000). Lisbon process is addressed as norm cascade with norm evolution. Finally, Lisbon process incorporated Bologna process (2004) and restarted an action programme Education and Training 2010 (ET 2010, after ET2020). The property of ET 2010 is consolidation of higher education, vocational training and lifelong learning. ET 2010 is addressed as norm internalization.

In a nutshell, the life cycle is found in the policy-making process of higher education in the EU, where the policy-making process is traced by three stages, norm emergence, norm cascade and norm internalization.

The EU Law is delineated as preparation of evaluation of legalization level of the policy-making of higher education. The primary EU legislation is the Treaty on European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU). The secondary EU legislation is composed of regulation, directive, decision recommendation and opinion (TFEU Article 288). The regulation is binding and directly applied to the Member States. The directive is binding but is harmonized in the Member States. The decision is binding to those who are interested in the decision. The recommendation and opinion are not binding.

Three dimensions of the legalization are obligation, precision and delegation. Legalization level of the obligation means binding degree about the obligation in the implementation of the policy. As legalization level, the Treaty, regulation, directive and decision are evaluated high, recommendation and opinion are middle, another is low. Legalization level of the precision means degree of non-ambiguity in the codification. As legalization level, the Treaty is evaluated high, the education programme is middle and White Paper is low. Legalization level of the delegation means degree of delegation which the States give to the EU. Therefore, legalization by the EU is evaluated high, and Bologna declaration by non-EU organization is low.

Norm Life Cycle and Legalization in Vocational Training Policy of the EU

This section analyzes the norm life cycle and evaluates legalization level for the policy of vocational training during the era from the ECSC to the present day. From records in the Official Journal of the EU, I extracted combinations of items about vocational training policy of the EU; year, norm, stage of norm life cycle, legalization, characteristic of legalization and legalization and obtained the results in Table 2.

Year	Norm	Norm Cycle	Legalization	Characteristic of Legalization	Level of Legalization		
					obligation	Precision	Delegation
1951	Start of the ECSC	Norm emergency	Treaty of Paris	Treaty	High	High	High
1957	Separation of Higher	Norm Internalization	Treaty of Rome,	Treaty	High	High	High

	Education from Vocational Training		Article				
1960s	Non-intervention to education as the ECSC	Tacit understanding		Norm as an unwritten law	Low	Low	Low
1971	General Guideline for community activity programme on area of occupation education (French and German)	Norm Emergence	guideline	Recommendation	High	Middle	High
1976	Measures to be taken to improve the preparation of young people for work and to facilitate their transition from education to working life	Norm Emergence	Action Programme	Resolution of the Council and of the Ministers of Education, Meeting within the Council	High	Middle	High
1982	Internal market as EC grand strategy	Norm cascade with norm evolution	The European Council Copenhagen	European Council, Conclusions	High	High	High
1984	EC Education policy For internal market	Norm cascade	The European Council Fontainebleau	European Council, Conclusions	High	High	High
1985	EC Education policy For internal market	Norm cascade	Delors speech in parliament	Parliament Speech	High	Middle	High
1985	EC Education	Norm cascade	White Paper, Completing	White Paper from	Middle	Low	High

	policy For internal market		the Internal Market	the Commissi on to the European Council			
1986	Constitutional foundation	Norm Internalization	Single European Act	Treaty	High	High	High
1986	Cooperation between Universities and Enterprises	Norm Internalization	COMETT Cooperation between Universities and Enterprises regarding Training in the field of Technology	Council Decision	High	Middle	High
1987	Vocational Training	Norm Internalization	Vocational Training of Young people and their Preparation for Adult and Working Life	Council Decision	High	Middle	High
1988	European dimension in education	Norm cascade with norm evolution	European dimension in education	Resolution of the Council and of the Ministers of Education, Meeting within the Council	High	Middle	High
1991	Equalization of higher education and vocational training	Norm Internalization	Treaty of Maastricht	Treaty	High	High	High
1993	European dimension of education	Norm cascade with norm evolution	Green Paper	Commissi on of the European Communit ies	Mid dle	Low	High
1994	Vocational Training	Norm Internalization	Leonardo da Vinci	Opinion on the	High	Middle	High

				Proposal for a Council Decision			
1995	Lifelong learning	Norm Internalization	White Paper establishing 1986 as the “European year of lifelong learning”	Decision of the European Parliament and of the Council	Mid dle	Low	High
1997	Europe of Knowledge	Norm cascade with norm evolution	Towards a Europe of Knowledge	Communi ation from the Commissi on	Mid dle	Low	High
1999	Vocational Training	Norm Internalization	Leonardo da Vinci (2nd phase of the Community)	Council Decision	High	Middle	High
2004	Vocational Training	Norm Internalization	Establishing a European Centre for the Development of Vocational Training	Council Regulation	High	High	High
2009	Strategic Framework for European Cooperation in Education and Training (“ET 2020”)	Norm internalization	Lifelong Learning Integration of HE and VT	Council Conclusio ns	High	Middle	High

Table2: Norm Life Cycle and Legalization of Vocational Training Policy

Table 2 is made by this author based on the following citations.

Citation: Rome Treaty 1957, OJ C 81 12-8-1971, OJ C 308 30-12-1976, The European Council Copenhagen 3 and 4 December 1982, The European Council Fontainebleau, 25 and 26 June 1984, Jacques Delors first speech to the Parliament 1985, COM 85/310 final 14-6-1985, Single European Act 1986, OJ L 222 8-8-1986, OJ L 346 10-12-1987, OJ C 177 6-7-1988, The Maastricht Treaty 1992, COM-93/457 final 29-09-1993, OJ C 148/5 30-5-1994, OJ L 256/45 26-10-1995, COM 97/ 563 final 12-11-1997, OJ L 146/33 11-6-1999, OJ L 355/1 1-12-2004, OJ C 119/02 28-5-2009

Through analysis of policy-making process of vocational training in the EU, I draw out the following results concerning the norm life cycle.

The vocational training policy has been changing towards integration with higher education policy since education reform in the early 1980s. The vocational training policy has been made by supplementing higher education policy which is the driving force of the internal market of the Europe.

As previously described, the provision (article 128) of the vocational training in the Treaty of Rome is the norm internalization of the prevailing norm before the Rome Treaty. As far as the author investigated, the document about vocational training was not found in the Official Journal of the ECSC.

Separation of the vocational training from higher education still existed in the 1960s. Due to Council Decision concerning an action programme for the vocational training of young people and their preparation for adult and working life (1987), it is recorded that the fundamental objectives of the common vocational training policy set down in the second principle in Decision 63/266/EEC refer, in particular, to the need to guarantee adequate vocational training for all and to avoid any harmful interaction between completion of general education and commencement of vocational training.

Set up of General guideline for community activity programme on area of occupation education (1970) meant that EU education reform did not start in the field of higher education but in that of vocational training. This guideline is addressed as norm emergency. The education reform in the early 1970s was still under influence of the Treaty of Rome in which provision of vocational training is independent of that of general education. Though non-intervention to higher education is found till end of 1960s, it is not found in the vocational training.

The action programmes such as COMETT (1986), Vocational Training of Young people and their Preparation for Adult and Working Life (1987) and Leonardo da Vinci (1994, 1999) are addressed as norm internalization.

Lifelong learning (1995) meant that vocational training and higher education are incorporated into lifelong learning, and Knowledge of Europe (1997) meant that barriers between higher education and vocational training began to break down by requirement derived from rapid development of science and technology. Lifelong learning and Knowledge of Europe are addressed by norm internalization and norm cascade with norm evolution, respectively.

In a nutshell, the life cycle is found in the policy-making process of vocational training in the EU, where the policy-making process is traced by three stages, norm emergence, norm cascade and norm internalization.

Legalization level is also evaluated in the policy-making of the vocational training, like that of higher education, considering EU primary and secondary legislations.

Single Institutional Framework in the Education Policy

Principle of the single institutional framework which guarantees consistency and continuity of activities to attain the objectives is codified in Article 3 of the Treaty of Maastricht. Realization of the single institutional framework in the educational policy-making of Socrates programme (1995) is shown in Table 3. This table means that higher education programme named Socrates is designed by taking into account of consistency and continuity, based on the EU Treaty, past Council Decisions on several education policies, Commission memorandum on the European dimension, and White Paper and Agreement on the European Economic Area on economic environment concerning growth, competitiveness and employment. I have already extracted a fact that the norm life cycle is found in evolution of not only higher education policy but also vocational training policy of the EU. This example shows that the norm life cycle about education policies is not autonomously formulated but institutionally supported by the single institutional framework as background principle of the EU.

Previous factor	Content
Article 3p of the Treaty	Contribution to education and training of quality.
Article 126 (1) of the Treaty	Development of quality education by encouraging cooperation between the Member States.
Principle of subsidiarity Article 3b of the Treaty	The Community is to take action only if the objectives of the Socrates action programme cannot be achieved by the Member States.
Article 127 (1) of the Treaty	Implementation of vocational training policy
Council Decision 87/327/EEC	Erasmus programme to promote the mobility of the university students.
Council Decision 89/489/EEC	Lingua programme to promote foreign language competence in the Community.
Council Decision 94/819/EC	Implementation of a European Community vocational training policy (Leonardo da Vinci).
Article 126 of the Treaty	This decision concerns vocational training and therefore go beyond general education as covered by Article 126 of the Treaty.
Green Paper on the European dimension	the European dimension in primary and secondary teaching.
European dimension in education at university level	The European Parliament has adopted a resolution on the European dimension in education at university level
Commission memorandum on open and distance learning	Commission memorandum and various resolutions of the European Parliament pointed out that this form of education offers considerable new opportunities.
European Council, meeting in Brussels	European Council, meeting in Brussels, adopted White Paper on Growth, Competitiveness and Employment.
Resolution on cultural diversity	Resolution on cultural diversity and the problems of school education for children of immigrants in the European Community. OJ C 42, 15. 2, 1993

Cooperation with the Council of Europe and with other international organizations	The Commission and Member States should ensure cooperation with the Council of Europe and with other international organizations such as OECD and Unesco.
Agreement on the European Economic Area	Broader cooperation in the field of education, training and youth between the European Community and its Member States on the one hand and the EFTA-EEA States on the other hand. OJ L1 3.1, 1994

Table3 Previous factors showing consistency and continuity about educational policy-making of Socrates programme

Table 3 is made by this author based on this programme and its relevant citations.

Citation : OJ L87 20-4-1995

Conclusion

Through analysis of making process of the EU education policy, I conclude that rule of the norm life cycle is satisfied in evolution of higher education policy and vocational training in the EU. I conclude that evolution of the EU higher education changed drastically from beginning in the 1980s from academic oriented concept to market oriented one. Furthermore, I conclude that development of the EU higher education policy has been accompanied by that of the EU vocational training policy. It is verified that this norm life cycle is supported by a principle of the single institutional framework.

I also conclude that legislation of the EU education policy has been evolving in accordance with development of the norm of the education policy. These legislations are supported by two factors, that is, first, policy-making is flexibly carried out using the EU secondary legislation, in which non-binding soft law is included, and, second, institution of the EU has been established based on concept of the norm.

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OJ C 38 19-2-1976 Comprising an action programme in the field of education

OJ C 308 30-12-1976 Measures to improve the preparation of young people for work and to facilitate their transition from education to working life

OJ L 222 8-8-1986 COMETT

OJ L 166 25-6-1987 Erasmus

OJ L 346 10-12-1987 Concerning an action programme for the vocational training of young people and their preparation for adult and working life

OJ C 177 6-7-1988 European dimension in education

OJ L 158 25-6-1988 Youth for Europe

OJ L 239 16-8-1989 Lingua

OJ L 131 23-5-1990 Tempus

OJ C 148/5 30-5-1994 Leonardo da Vinci

OJ L 87/ 20-4-1995 Socrates

OJ L, 256/45 26-10-1995 establishing 1996 as the “European year of lifelong learning”

OJ L 146/33 11-6-1999

OJ C 119/02 28-5-2009 ET 2020

Single European Act, 1986

Sorbonne Joint Declaration, May 25 1998

The Messina Conference, 1955

The Treaty of Rome, 25 March 1957

The European Council Copenhagen, 3 and 4 December 1982

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The Treaty of Paris 1951

The Treaty of Maastricht, February 1992

Transforming Language Learning through Technology

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Abstract

As is the case in many educational systems worldwide, secondary education in Thailand is largely teacher-centered. Students transitioning from this educational system to liberal arts universities in Thailand and beyond face serious disadvantages. The liberal arts model, which emphasizes enquiry, problem solving, and critical analysis, stands in stark contrast to teacher-centered models of education, which value passivity, obedience, and memorization. This paper presents various educational technologies that are utilized to prepare students to enter an English-medium liberal arts program at a Thai university. These tools include online resources such as Google Drive, Hangouts on Air, and VoiceThread. These technologies have the potential to change many aspects of language teaching. Students collaborate to conduct research and to create content that is relevant to their own experience, practicing their language skills and engaging meaningfully with their peers. In the process of researching, discussing, and presenting their findings, students construct their own understanding of contentious topics and controversial current events. Through this process of exploration and interaction, students are empowered to take greater responsibility for their own learning, beginning a personal transformation that will continue throughout their time in the liberal arts program. This paper will present several applications of educational technology in the EFL classroom and, using the *RAT — Replacement, Amplification, and Transformation* framework, assess the degree to which these applications transform learning.

Keywords: Educational technology, curriculum, EFL

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Introduction

A student-centered learning environment is a goal that is often sought, yet rarely attained. Thailand is a case in point. There have been a number of attempts over the last two decades to shed the straight-jacket of rote learning and shift the paradigm to one where student needs drive pedagogy (Hallinger & Lee, 2011). Despite these attempts, Thai students graduating from high school continue to lack the experience of enquiry, problem solving, and critical analysis in formal education that a more student-centered approach offers. This shortcoming is more apparent and problematic when those students enter a liberal arts university program where the skills listed above become indispensable.

Thai students competing to enter Mahidol University International College face the challenges of adapting to the liberal arts model of education and an English language medium of instruction. Students unprepared for instruction in English have the option of attending the Preparation Center for Languages and Mathematics (PC) where they can hone their skills to a point that is sufficient to enter the university. The PC mission statement indicates that rather than simply readying students' language ability, PC is tasked with "foster[ing] their ability to be self-reflective and responsible learners." Critical to achieving this goal is creating a learning space that emphasizes autonomy, thereby enabling student development of intellectual and practical skills that underlie a successful liberal arts education. Such a learning space can be created through certain applications of educational technology.

Assessing Technology Integration

Given the abundant choices for integrating technology into the classroom and the difficulty in establishing its usefulness, Hughes, Thomas, and Scharber (2006) designed an assessment framework that "look[s] deeper to what end technology serves rather than simply focusing on the variety and number of software programs teachers use" (p. 1). Teachers are likely to be bombarded with examples of technology uses, particularly computer based options, but may have little idea of their pedagogical value in achieving curriculum goals. With this challenge in mind, Hughes et al. (2006) present a working framework that can guide the process of employing technology in the classroom called *RAT — Replacement, Amplification, and Transformation*. "Technology as Replacement" includes uses of technology that "in no way change established instructional practices, student learning processes, or content goals" (Hughes et al., 2006, p. 2). The use of technology, in these cases, simply exchanges one technology (paper, pencil) for another (tablet). In "Technology as Amplification," the effect is one of allowing the learner to improve productivity, what Hughes et al. (2006) describe as "increasing the efficiency or productivity of instruction, student learning or the curriculum" (p. 3). When "Technology as Transformation" takes place, a fundamental change in at least one of the dimensions of instructional practices, student learning processes, or content goals has occurred. Pea (1985) explains that the use of technology "has opened up new possibilities of thought and action without which one comes to feel at a disadvantage" (p. 175), an explanation that has also been quoted by Hughes et al. (2006) in the article "Assessing Technology Integration." Technology has transformed learning, and is akin to Cuban's (1988, p. 84) "second-order changes" that produce "new goals, structures, and roles that transform familiar ways of doing things into novel solutions to

persistent problems” (p. 94). A major example of the transformative potential of technology is dramatically expanded opportunities for collaboration, not only the ease of which technology has enhanced, but the breadth, scale, and varying degrees of coordination that are now available. What Shirky calls the “collaborative penumbra” (McKinsey & Company, 2014) is one iteration of a transformative use of communication technology, whereby collaborators may have no coordination yet share the work involved in achieving a mutual goal.

As technology itself transforms, teachers themselves must become learners to be able to achieve transformative uses of technology. Hughes (2005) describes how for some teachers, integrating technology into the classroom is a “daunting” (p. 278) task, one that “requires practicing teachers to assume a learning stance.” Thus, technology in education can take on the mantle of transformative innovation, but in many cases it essentially maintains the status quo when it remains as a replacement or an augmentation. For transformation to take place, student and teacher technological literacy itself must reach the level of what Davies (2011) calls “phronesis” (p. 45), where there is no fear of and a proficient ability to learn new technology. Effective use of technology in learning, then, depends on the learner’s technological literacy, which include that they “understand the learning task and recognize ways the technology will facilitate attainment of the learning goals” (Davies, 2011). In this way, technology is a means to an end, or curricular goal, and is integrated into the classroom to the extent that it facilitates goal achievement, not merely because it is available.

Applications of Educational Technology

Three primary educational technologies are used at the Preparation Center for Languages and Mathematics: Google Drive, Hangouts on Air, and VoiceThread. Other tools are assessed on an ongoing basis, but these three are used consistently by a significant proportion of the teaching faculty. Significantly, these are all free products (although VoiceThread does charge for the use of premium features).

Google Drive allows the creation, storage in the cloud, and sharing of several types of files. Once files have been shared, simultaneous editing and collaboration by multiple users is possible. The three primary file types are documents, spreadsheets, and presentation slides; less common file types include forms, drawings, and fusion tables.

Google Docs have several uses, the most common being peer and instructor feedback. When a document is shared, the owner of the document can grant one of several levels of permission: view, comment, or edit. Students assigned to give each other feedback are asked to give permission to comment only, and students give their teacher permission to edit the document. A revision history is also available to anyone with permission to edit the document. This is particularly useful to teachers, who are able to check the evolution of the document over time in order to gauge whether students have made a genuine effort to edit their work.

Google Sheets are extremely useful for administrative purposes. At the Preparation Center for Languages and Mathematics, an attendance spreadsheet that contains the students’ names, nicknames, and ID numbers is shared with all of the relevant teachers, who can then input attendance records. In order to protect the students’

privacy, a version of the spreadsheet containing only the ID numbers and attendance record is posted on the students' website. The students' version of the spreadsheet automatically retrieves data from the teachers' version, so the students' version does not need to be updated manually. Using a Google Sheet to record attendance provides a permanent record students' attendance. Also, the spreadsheet is able to calculate and display the total number of absences for each student.

Another useful tool is Google Slides, which allows users to collaboratively and simultaneously edit and comment on presentation slides. One straightforward application of this is have students create individual or group presentations, which can be shared with each other and with the teacher. There are other uses of Google Slides in addition to the creation of individual or group presentations. For example, each student or group of students can be assigned one slide in which they are to provide their text or multimedia response to a given prompt. Organizing an assignment in this way provides more structure than a similar assignment in Google Docs. Having a limited amount of space also encourages students to be succinct in their responses and to follow basic design principles. This tool can also be used in conjunction with VoiceThread in order to provide narrated slides.

Hangouts on Air is a feature of Google+, which is primarily a social networking service. Hangouts allows users to chat and share photos. Additionally, they can start a group video call that includes up to 10 participants. During the video call, users can easily view files from Google Drive together. The user who initiates the call has the option of recording the video call and uploading it to YouTube. As a default, the video is uploaded as private, which means that it is not searchable.

This product is extremely useful in language classes, as it allows teachers to assign homework that involves listening and speaking. In the upper-level classes at the Preparation Center for Languages and Mathematics, students complete discussions about controversial issues for homework. Topics include nuclear power, genetically modified foods, and business ethics. Teachers provide several texts and lectures about a topic, and the students conduct independent research to further develop their understanding. After being assigned to a group, the students choose a mutually convenient time to begin the Hangout on Air. Afterwards, one member of the group submits a link to the uploaded YouTube video of the discussion.

The shared videos can be used in a variety of ways. Segments of the videos can be played in class in order to analyze aspects of the students' performance, such as communicative ability, the strength and specificity of the arguments that they use to support their assertions, and body language. The videos can also be used for further assignments,

VoiceThread is a cloud-based application that allows users to upload, share, and comment on many types of media, including photos, videos, and presentation slides. Once content has been uploaded, the owner can share a link that will allow others to make audio or text comments. Users can make individual comments on each slide of a presentation. They can also draw on the slides using various colors. Their markups will appear whenever the associated comment is viewed. Many users can comment on a given thread, allowing conversations to develop.

At the Preparation Center for Languages and Mathematics, VoiceThread is primarily used to provide students with presentation practice. After creating presentation slides in PowerPoint, Google Slides, or other presentation software, students download the presentation as a .pdf and upload it to VoiceThread. The student or group of students delivering the presentation record the audio content for each slide. They have the option of re-recording the audio associated with each slide until they are satisfied with the quality. The teacher and other students can then give audio and text feedback. Based on this feedback, students update their presentations and deliver them live to the class.

Discussion

The integration of Google Drive, Hangouts on Air, and VoiceThread into the curriculum of the Preparation Center for Languages and Mathematics can be assessed using the *RAT – Replacement, Amplification, and Transformation* framework. It is important to note that this framework does not assess technologies themselves; rather, it assesses the application of technologies in educational contexts.

The application of Google Drive allows fundamental transformation of instructional methods and of the students' learning. The three main products within Google Drive — Google Docs, Google Sheets, and Google Slides — all share the capacity for real-time collaboration and feedback. This distinguishes Google Drive from other word processing software, and makes it invaluable in process writing. The revision history is another feature that allows transformation of the basic dynamics of the writing classroom. Using this feature, a teacher can check the evolution of a piece of writing over time. He or she can verify the extent to which a student has made changes based on comments. Also, he or she can ascertain whether a piece of writing was completed in a timely manner or left until the last minute.

Hangouts on Air also has the potential to transform language learning. Using this product, students can engage in discussions regardless of their geographical locations. Furthermore, Hangouts on Air will make discussions, which are typically ephemeral, permanent. This allows students to keep a record of their discussions to monitor their progress and to reflect on their performance. Keeping a record also allows teachers to ascertain that the discussions have taken place and to review students' discussions in order to provide feedback.

Finally, certain application of VoiceThread can transform the teaching of presentations. This tool allows students to easily practice, record, and share their presentations. The audio that corresponds to each slide is recorded separately, allowing them to re-record the audio until they are satisfied. This encourages students to practice their listening and speaking skills, and to reflect on their performance. The ability to define the audience of the recorded presentation by sharing the link is novel; it would not be possible without the use of VoiceThread or a similar tool. Notably, all of these products facilitate collaboration and sharing, activities that promote student-centered learning and individual inquiry.

Conclusion

This paper has presented several applications of educational technology and assessed them using the *RAT* — *Replacement, Amplification, and Transformation* framework. The technologies discussed in this paper — Google Drive, Hangouts on Air, and VoiceThread — have the potential to transform the way that languages are taught. These are but three of the many resources available to learners, and the array of options is growing exponentially. As language learning shifts from teacher-centered to student-centered methodologies and approaches, tools such as these will take on an ever greater role in empowering students.



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Transformative Language Education: The English of Sustainability

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Abstract

As the countries of South-East Asia continue to broaden their horizons and coalesce into a single ASEAN community, numerous transformations are taking place that will radically alter the educational landscape. The ASEAN Secretariat emphasizes sustainable development as a goal to permeate the changes ahead, which will require the voices and experiences of all the stakeholders involved. Current university students in Thailand will graduate during the integration of the ASEAN Economic Community and will face social change in all aspects of society. Preparing students for the challenges ahead is the context for this paper's focus: a term-long project that combines business studies and EFL. The project uses content-based language instruction and transformative pedagogy to engage students in study of the Triple Bottom Line framework developed by John Elkington. In addition to improving students' language skills, the aim of the project is to provide students with a richer understanding of social responsibility and business ethics — an understanding that they develop themselves through exploration and critical thinking. Determining the successfulness of a company by researching and analyzing its effects on the environment and society in addition to its profitability offers students the opportunity to rethink corporations' role in society as well as their own. Student autonomy is emphasized through independent research, peer editing, and negotiating meaning of sustainability. The project described in this paper can be adapted to suit a wide range of content and should therefore be of interest to language teachers in diverse contexts.

Keywords: Content-based instruction, sustainability, EFL, triple bottom line, transformative education

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Introduction

This paper will introduce a project that utilizes content-based language instruction in order to facilitate transformative learning. The goal of the project is to improve students' language ability while simultaneously fostering awareness of business ethics and social responsibility. The content around which the project is based, John Elkington's triple bottom line framework, was selected based on the needs of students at the Preparation Center for Language and Mathematics, which provides an intensive English for academic purposes program at Mahidol University International College in Thailand. The content of the project has been tailored to meet the needs of these specific students; however, the project can be adapted to meet the needs of students in diverse contexts.

Thailand is a member state of the Association of Southeast Asian Nations (ASEAN), which will form the ASEAN Economic Community (AEC) at the end of 2015. The stated goals of the AEC are to create the following: "(a) a single market and production base, (b) a highly competitive economic region, (c) a region of equitable economic development, and (d) a region fully integrated into the global economy" (ASEAN Secretariat, 2012, p. 6). English is the working language of ASEAN, and this language will only become more important in the region upon the integration of the AEC. Barriers to trade and labor mobility will be relaxed, and as a result individuals and companies in member states will face increasing competition. These changes have significant implications for educational systems in the region.

The Thai educational system is in a state of flux. A wave of reforms followed the Asian economic crisis of 1997 (Sangnapaboworn, 2003). The crisis was blamed partially on a lack of effective education in the kingdom, and these reforms were meant to prevent further catastrophes (Jungck & Kajornsinsin, 2003). The reforms promised much: the modernization of the Thai educational system, its decentralization, and a shift from teacher-centered to student-centered learning (Hallinger & Bryant, 2013). Despite the ambitious promises put forward after the crisis, deep change has been slow to come (Hallinger & Lee, 2011). Changes mandated by the Ministry of Education have failed to reach the classrooms, causing frustration on the part of the public (de Segovia & Hardison, 2009; Hallinger, 2010). Because of this, many students enter university with only rudimentary critical thinking skills.

It is in this context that Mahidol University International College strives to "[provide] quality liberal arts education" ("A liberal arts education in an Asian setting," 2012). Mahidol University International College, which was founded in 1986, aims to "produce well-rounded graduates" ("About MUIC," 2013) who are able to "meet the challenges of living and working in the 21st century" ("A Liberal Arts Education in an Asian Setting," 2012). Attention to context is critical. Green (2012) cautions, "In education, as far as student learning is concerned, it is a mere step from 'best practice' to 'one size fits all', an approach that threatens to silence a multitude of alternative (even complementary) approaches, especially in a multi-cultural setting" (p. 2). Accordingly, the project described in this paper is explicitly situated in the Thai higher education context.

The specific institutional context informs the implementation of this project. Many students who are entering Mahidol University International College first take foundational English for academic purposes courses in the Preparation Center for Languages and Mathematics. Students typically enter the program at the pre-intermediate level of language proficiency and exit at the upper-intermediate level. In the intermediate and upper-intermediate level classes in the Preparation Center for Languages and Mathematics, the language skills of speaking, listening, reading, and writing are integrated. Students in these courses write essays based on readings and audio lectures, then participate in small group discussions on the same topics about which they have written. In short, the upper-level language courses are taught using content-based instruction.

Content-Based Language Instruction

Content-based instruction is increasingly prevalent in programs teaching English for academic purposes. Beglar and Hunt (2011) provide a concise explanation on the priorities of this type of instruction: “A focus on real-world content and the understanding and communication of information through language is the key to second language learning” (p. 93). This approach, which “integrates the learning of some specific subject-matter with the learning of a second language” (Brown, 2001, p. 234), has both linguistic and cognitive benefits. It is aligned with communicative language teaching in that “the primary focus is the acquisition of information” (Kasper, 1995, p. 223), information that is “meaningful ... [and] contextualized” (p. 223). As for cognitive benefits, content-based instruction allows students to build up significant knowledge in a particular area, which can in turn aid in the development of reading comprehension skills.

It should be noted that there are “strong” and “weak” versions of content-based instruction (Brown, 2001, p. 234). The “strong” version prioritizes content over language learning, whereas the “weak version,” which can also be called theme-based instruction, values language and content learning equally. Brown (2001) provides an example of a theme-based language course: “An intensive English course for intermediate pre-university students might deal with topics of current interest such as public health, environmental awareness, world economics, etc.” (p. 236). Both the “strong” and “weak” versions of content-based instruction are based on the following major principles: “automaticity, meaningful learning, intrinsic motivation, and communicative competence” (Brown, 2001, p. 236). With regards to guiding principles, content-based instruction can be contrasted with skill-based instruction, in which students take “separate classes in reading, writing, speaking and listening, supplemented perhaps by an extended writing or study skills class” (Garner & Borg, 2005, p. 119). Skill-based instruction is a throwback to the “pre-Communicative Language Teaching (CLT) days of language teaching” (Brown, 2001, p. 233) when focus on forms (i.e., on grammatical features) dominated. This type of instruction tends towards higher levels of monitoring and less automaticity. Students in skill-based courses are often “forced to plod through” (Brown, 2001, p. 233) courses that lack cognitively challenging and engaging material, whereas students in content-based courses benefit from meaningful and thus intrinsically motivating material. Finally, whereas skill-based courses often “[teach] students a lot *about* language but sometimes at the expense of teaching language itself” (Brown, 2001, p. 233), students in content-based instruction “reflects the dynamic nature of real-world use” (Garner &

Borg, 2005, p. 131) of language. Largely because of “administrative considerations” (Brown, 2005, p. 233), skill-based instruction has long been a “mainstay” (Garner & Borg, 2005, p. 119) of university preparatory programs; however, the advantages of content-based instruction are becoming increasingly evident.

Content-based instruction has achieved positive results in both ESL and EFL contexts. A study by Kasper (1997) found that content-based instruction offered intermediate-level English language learners studying at university two benefits: improved language skills and an increased chance of successfully completing their degree program. These students were ready for “full matriculation into the academic mainstream” (Kasper, 1997, p. 318) sooner than students in skill-based language instruction. Song (2005) reported similarly positive results. In a study conducted at an American university, the author found that content-based ESL instruction had both short- and long-term benefits. In the short term, students achieved higher scores and were more likely to pass the language course. In the long term, students’ performance in further language courses and in content courses improved. The author concluded that “[content-based instruction] enhances cross-curricular academic achievement in both language and discipline courses and promotes academic growth and success over time” (Song, 2005, p. 435). In an EFL context, Kirschner and Wexler (2002) describe the success of a content-based course based on the life of the artist Caravaggio. They found that the course provided many opportunities for students to use English to convey meaningful information. This led to increased student motivation, and the authors observed that “students are far more engaged in the process of reading and learning in this unit than in other courses” (Kirschner & Wexler, 2002, p. 174). The benefit of content-based instruction in a variety of contexts is supported by the literature.

Needs Assessment

The mission of the Preparation Center for Languages and Mathematics is as follows: “to provide educational experiences which cultivate students’ academic English communication skills; to foster their ability to be self-reflective and responsible learners; and to stimulate their curiosity about the world.” The project described below was created with the intention of simultaneously addressing all three core elements of the mission. That is, it seeks to provide students with the language skills that will lead to their success in an English-medium liberal arts program, to foster the development of autonomous learners with strong study skills, and to help students become responsible citizens of Thailand, ASEAN, and the world.

Many of the students enrolling in the Preparation Center have spent the entirety of their academic careers being exposed to the “pedagogy of the worksheet” (Pennington, 1999, p. 2). In the case of language classes, this has often taken the form of skill-based language instruction. Despite having studied English for several years, in some cases since kindergarten, many students lack communicative competence. Learning that has been largely rote and teacher-centered has deadened many students’ passion for learning. Furthermore, in some cases teacher-imposed extrinsic motivation has not allowed students to become autonomous learners. The project described in this paper represents an attempt to meet the needs of these students.

Business Sustainability and the Triple Bottom Line

In the search for meaningful content for the upper-intermediate level courses, student interests and needs underlie the selection process; the fact that 60-70% of the students in PC plan to pursue business studies in university became a significant determining factor. Further factors included the future involvement of many PC students in a family business that will be grappling with the challenges of an integrating AEC that has stated goals of inclusive and environmentally sustainable growth (ASEAN Secretariat, 2009). A marriage of these factors was found in the “triple bottom line” (TBL), a phrase coined by John Elkington in 1994 (“Triple bottom line,” 2009). Elkington, a business sustainability consultant, envisioned companies evaluating their performance based on three very different indicators, only one of which would be the traditional profit and loss concern. In the triple bottom line framework, social and environmental impacts are calculated separately and, ideally, hold equivalent weight in proportion to a company’s profitability.

There are no universally applicable accounting methods for social and environmental impacts; however, rather than minimizing these two aspects of the TBL, the lack of widely accepted accounting methods serves as an opportunity for firms to create ones that address the specific concerns of their situation, which vary widely. This allows for a level of autonomy, even creativity, in creating such accounting methods that requires a high degree of self-awareness of sometimes difficult truths and questions the role of the corporation. Stakeholder theory considerations come to the fore and drive the discussion. The process of crafting social and environmental accounting methods is then one of discovery, reliant on a critical approach, and holistic at core. Used as the content of an ESL program, business sustainability provides fertile grounds for transformative learning. In the course of engaging with the idea of sustainability in business, students will not only gain the knowledge and lexis that this entails, but also reexamine the norms of doing business and what role they want to perform in society; a “perspective transformation” (Clark, 1991) is possible.

The TBL Project

To begin the project, students read and watch video about the history of the environmental movement. Learning about the devastating effects industry has had on the natural environment is a graphic introduction to the interconnectedness of the three bottom lines. A video segment from the PBS documentary *American Experience: “Rachel Carson’s Silent Spring”* is used to underline this relationship. Following this, students read adapted texts from Elkington’s book *Cannibals with Forks* to gain a detailed definition of the TBL and real world examples of its application. Discussions are held to address any misunderstandings, extend knowledge, and theoretically evaluate local businesses TBL.

With this grounding in business sustainability, students are then given a large corporation to research and evaluate in terms of the TBL. Students are shown how to use Google’s advanced search operators to find online sources of information and given guidelines for evaluating the credibility of those sources. Once students have collected a number of sources, they begin outlining a term paper. The structure of the term paper is provided to help students organize their research and findings. Each student is assigned an instructor that acts as an advisor through the process of

outlining and drafting the paper. Advisors offer recommendations for improvement of content and language in one on one meetings and written comments on the various drafts. Students use APA the 6th to cite their sources of information and submit drafts to Turnitin to ensure academic honesty. Finally, students present their research in class to their peers and advisor.

Evaluation

Using the TBL as the content for the term project fulfills Brown's (2001) four principles of "automaticity, meaningful learning, intrinsic motivation, and communicative competence" (2001, p. 236). Students are provided a number of tools to use and guided through the project by instructors and their advisor which allows them to do the work on the project largely independently and, to some extent, at their own pace. Despite the focused content of the project, students are free to investigate any number of aspects about the corporation and the TBL. What they learn about sustainability and how businesses affect people and the environment is directly relevant and meaningful regardless of their future career. Through the understanding that everyone is a stakeholder in the operation of a corporation, students' views of what it means to be a consumer, employee, or business owner is changed and deepened. On an individual level, students are able to see that their consumption habits are not simply a matter of preference or convenience, but have real consequences for the world in which they live. This imparts an enhanced level of motivation in the learning process because the content itself is no longer abstract and removed from their experience, but intertwined with their daily lives. Throughout the project, students are engaged with language in authentic ways, from reading company reports, news articles, and their peers papers to writing and presenting in fashion they will be using at the university level. In discussing, writing, and presenting the topic and their research, the focus remains on communicating effectively, not simply the minutia of grammatical rules. In this way, students' confidence in using the language is significantly increased.

The TBL project is firmly rooted in the mission of the program which is to "to provide educational experiences which cultivate students' academic English communication skills; to foster their ability to be self-reflective and responsible learners; and to stimulate their curiosity about the world." By engaging with and producing academic content, the students of PC are learning to use English in ways that will be necessary in their future studies. Rather than learning English in ways that are unrelated to the university context, the project encompasses all the necessary academic language skills for an English medium higher education program. The independent nature of the project provides an education experience that fosters responsibility through a number of deadlines that students must meet by managing their time and work habits outside of the classroom. This experience mirrors that which they will encounter in the near future. Through the drafting process and peer editing, the project offers ample opportunity for students to reflect on their language and study skills by comparing them with their peers and the program expectations. Having spent nearly 10 weeks researching and analyzing the sustainability of a corporation in a more thorough manner, students clearly have the knowledge and skills to comprehend the world around them in new, more meaningful ways; an inquisitive disposition has been developed.

Conclusion

This paper has described an example of content based learning in an ESL program that seeks to transform the learning process. The content discussed in paper - business sustainability - offers an opportunity to transform the way in which students improve their academic English. The TBL framework is uniquely apt for the context in which it is used, but there are any number of topics that may be employed to engage students and foster their development as learners.



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***Using Emotional Literacy to improve Pedagogical Confidence:
Initial Findings from a STEM Project***

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Abstract

This paper reports on the initial research findings from a multi-institutional STEM project (the Project: It's Part of MY Life) focused on improving the scientific and mathematical thinking of pre-service teachers (PSTs) by enhancing their pedagogical confidence via improved emotional literacy. This report details how the Project trials have utilised enhanced emotional feedback to enable PSTs to analyse, understand and make use of emotional information to improve their teaching confidence and teaching competence. The report discusses emotional literacy and emotional regulation as aspects of self-reflective professional development, how affect measures were constructed for the project, and how these measures are conceptually related to improving competence and confidence for pre-service STEM teachers. An overview of the research methods designed to connect emotional literacy to the Project goals is also provided, and recommendations made for ongoing research within the project parameters.

Key words: STEM, pre-service teachers (PSTs), emotional literacy, affect, PANAS, critical moments

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Introduction

This paper reports on the initial stages of an OLT STEM program, “The Project: It’s Part of My Life” (the Project) that seeks to address a lack of confidence and competence in science and mathematics instruction for teachers in lower and middle regional and rural Australian schools. In line with the Australian Professional Standards for Teachers (Australian Institute of Teaching and School Leadership, 2012; cf. Hattie, 2003), the Project looks to improve confidence and competence in science and mathematics through the development of interventions that focus on how mathematicians and scientists think and solve problems, and how this may be linked to the ways that people solve problems in everyday life. This report focuses on the development and application of affect measures used by the Project to provide feedback in relation to Pre-Service Teachers’ (PSTs) pedagogical self-reflections on their lesson preparation and lesson delivery.

Affect, as a measure of emotional experience and understanding, is viewed as fundamental to the professional development of confidence and competence in teacher training (Tobin & Ritchie, 2012), and the Project’s use of affective feedback thus represents an important aspect of achieving the larger Project goals of improving these aspects of pre-service training. With this in mind a brief framework to contextualise and position the Project is presented, followed by a description of the affect-related measures and their findings from the initial Project trial. Improvements to the measures, in particular how to use these to better connect emotional literacy to appropriate research goals, are then recommended as a focus for ongoing research within the overall Project parameters.

Context and Theoretical Framework

There has been a steady reduction in the number of Australian students who are studying mathematics and science at both the secondary (high school) and tertiary levels of education (Ainsley, Kos, & Nicholas, 2008; Lyons & Quinn, 2010). There is also a shortage of appropriately qualified mathematics and science teachers available to teach at the secondary school level, particularly in rural schools (Harris & Farrell, 2007; Tytler, 2007). For example, Thomson (2009), in a report based on the 2007 TIMSS data, identified that many Year-4 (4th Grade) teachers reported having little specific training or specialised education upon which to base their teaching of the TIMSS assessment topics. Similarly, Australia’s Chief Scientist has repeatedly expressed his concern in relation to the state of Australian STEM education (Office of the Chief Scientist, 2012; 2014). He also identified that crucial influences on the style of STEM teaching included “time and resource constraints, and in some cases confidence and training” (2012, p. 10) and that “there is now a shortage of qualified science, mathematics and information communications technology teachers, and the participation rates of Australian school and tertiary students in STEM disciplines remain a matter of concern” (2014, p. 21). Importantly, he has also proposed that one key step in developing STEM literacy in schools was by “helping schools to teach STEM as it is practiced, in ways that engage students, encourage curiosity and reflection, and link classroom topics to the ‘real world’” (2014, p. 23).

The Project seeks to address such issues by clarifying links between content knowledge and confidence as related to contextualised or situated learning in

Australian classrooms (cf. Kidman, 2012). In trial 1 of the Project this was enacted by having pre-service teachers (PSTs) work in groups to develop pedagogical contexts and scenarios, guided by expert scientists and pedagogy mentors, to construct and optimize inter-dependent and collaborative scenario-based lessons that utilised local community contexts to increase the meaning of the lessons (Gahan & Lawrie, 2011).

Sources of Feedback to Encourage Competence and Confidence

In terms of tracking the influences associated with STEM teaching, various sources of feedback were provided to encourage PSTs to analyse and reflect on their learning and teaching in a way that connected what they were teaching, and what their school students were learning, to the contextualised content of the lessons. Figure 1 provides an overview of these feedback sources. It is important to note that these sources of feedback were incorporated into a series of iterated enhancement and feedback/reflection modules during trial 1 of the Project. Enhancement modules involved interactions between the PSTs and world-class science researchers, and between PSTs and experienced educators who specialise in the area of classroom pedagogy. The feedback modules involved collaborative groups of PSTs analysing their teaching and how they had made use of the expert advice, as well as including input and guidance from their pedagogical mentors. As the PSTs developed experience across the modules, they then began mentoring less-experienced colleagues, providing yet another source of feedback for the Project.

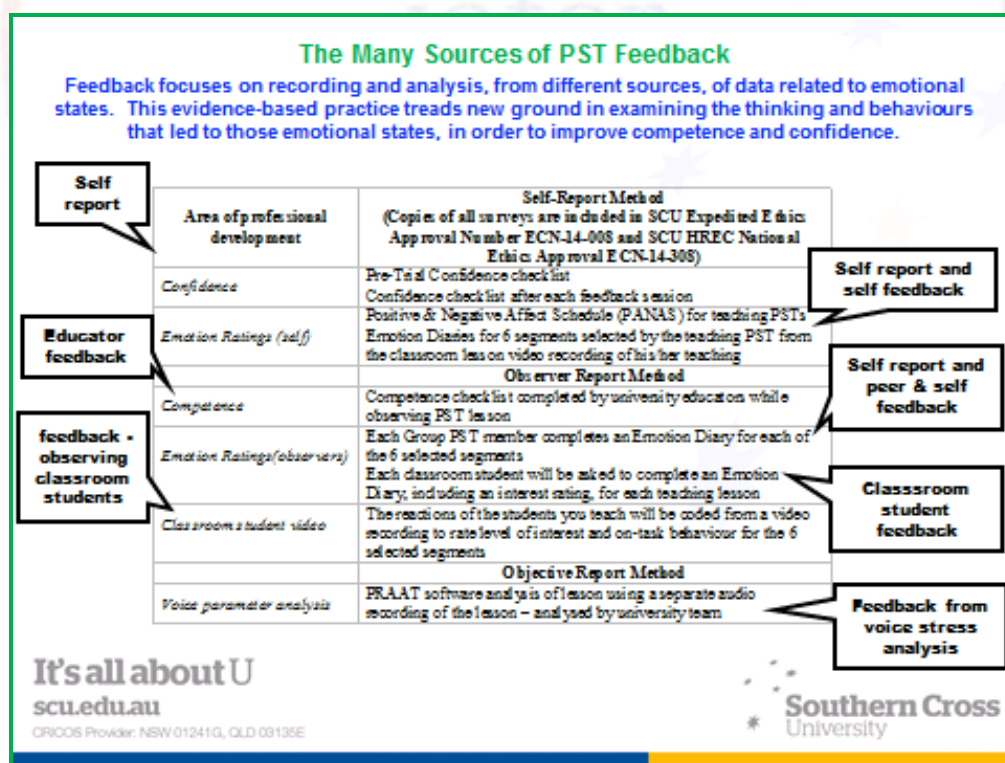


Figure 1: Overview of feedback sources for pre-service teachers in the Project (Slide from presentation given at the 2014 Asian Conference on Education, Osaka, Japan)

The Role of Affect in Teacher Confidence & Competence

As indicated in Figure 1, an important part of the reflective processes for the Project involved *affect* feedback, including the emotion ratings, the video recordings, and the voice parameter analysis. Research by Tobin and Ritchie (2012) suggests that *emotional arousal* (positive or negative) is related to teaching competence and confidence in PSTs, and because of this the particular focus of this report concerns how the Project utilised these sources of feedback to assess and analyse PST affect in relation to the scenario-based lessons they developed in conjunction with the expert scientists and pedagogy mentors (Rothman et al., 2012). Emotional arousal was operationally defined as affect for the Project because affect represents the external expression of emotion as attached to ideas or mental representations. Thus these measures were concerned with how the PSTs were analysing and interpreting their emotions in relation to their teaching, and what impact this was having on their confidence and sense of competence about the teaching. In this respect the Project sought to measure the degree to which affect, and the corresponding ability to regulate emotions, moderated confidence in the PSTs, and how this then influenced their competence.

Affect Measures

Affect was measured from a variety of perspectives and using several different strategies, including a self-report measure of positive and negative affect (the PANAS), in-situ and post hoc observations of inferred emotion to identify critical moments, completing emotion diaries in relation to classroom teaching sessions (using indices of physical change - e.g., facial expressions, breathing rate, sweating, vasodilation [blushing], posture, tone of voice, etc.), and prosody analysis (using the PRAAT, a dedicated software program that analyses recorded voice prints to identify when stress occurred during the teaching sessions). PRAAT analysis has yet to be completed for Trial 1 of the Project, and thus cannot be reported on here. However initial data has been analysed for the other affect measures, and is reported on below. It is important to note that the overall goal for measuring affect was to have the pre-service teachers learn how to identify and analyse their teaching-related affective states in order to assess their own emotions and motivations, and to ensure that the emotional and motivational climate of the classroom was optimally supportive for the learning of their students (Tobin & Ritchie, 2012). Figure 2 provides an overview of the affect measures, as utilised in trial 1 of the Project. A discussion of individual measures follows.

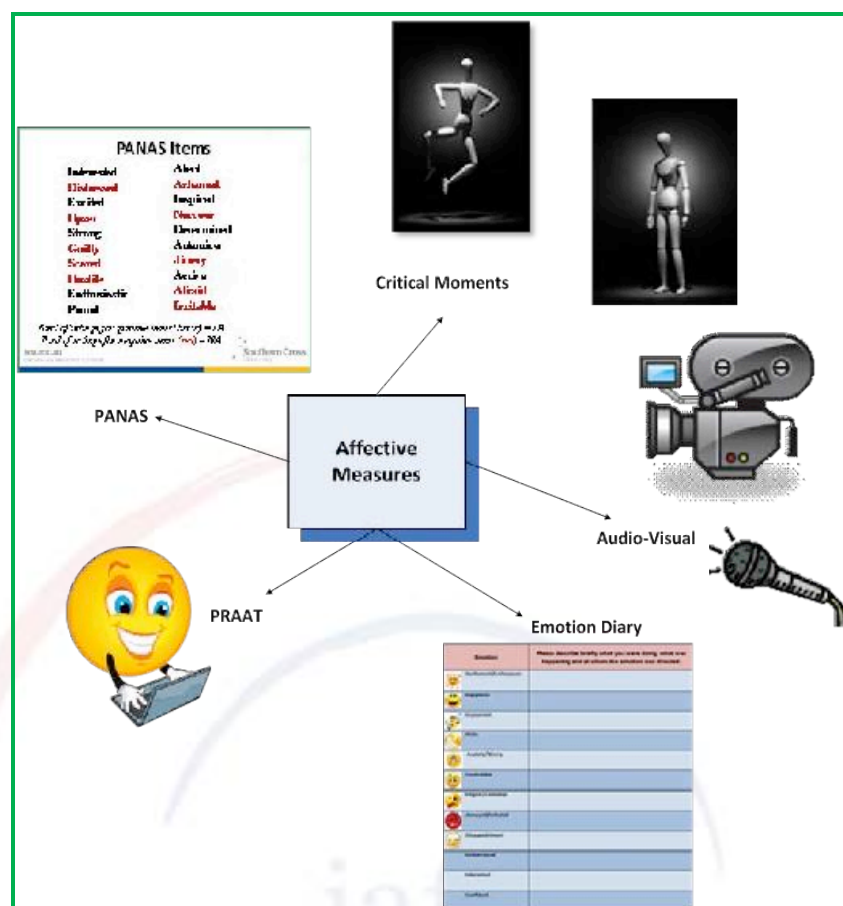


Figure 2: Overview of affect measures used in the Project

The PANAS

The *Positive and Negative Affect Scale* (the PANAS, see Watson, Clark & Tellegen, 1988) was used to assess the different feelings PSTs experienced in relation to their teaching. The PANAS is a valid and reliable measure of affect (Cronbach's $\alpha = .89$ for the PA items and .85 for the NA items, with confirmatory factor analysis demonstrating independence between the two item sets - cf. Crawford & Henry, 2004). It is also fast and easy to complete, and for trial 1 of the Project PSTs completed this measure just before, and again just after, each contextualised lesson was delivered. The PANAS uses a 5-point scale to indicate the extent to which the PSTs were experiencing each of the PANAS emotion words at time of testing. The PSTs were instructed to complete this measure according to the following instructions:

Please read each item and then mark the appropriate answer in the space next to each word. Indicate to what extent you feel these things RIGHT NOW, that is, at the present moment. Please use the following scale to record your answers.

1	2	3	4	5
Not at all	A little		Moderately	Quite a bit
Extremely				

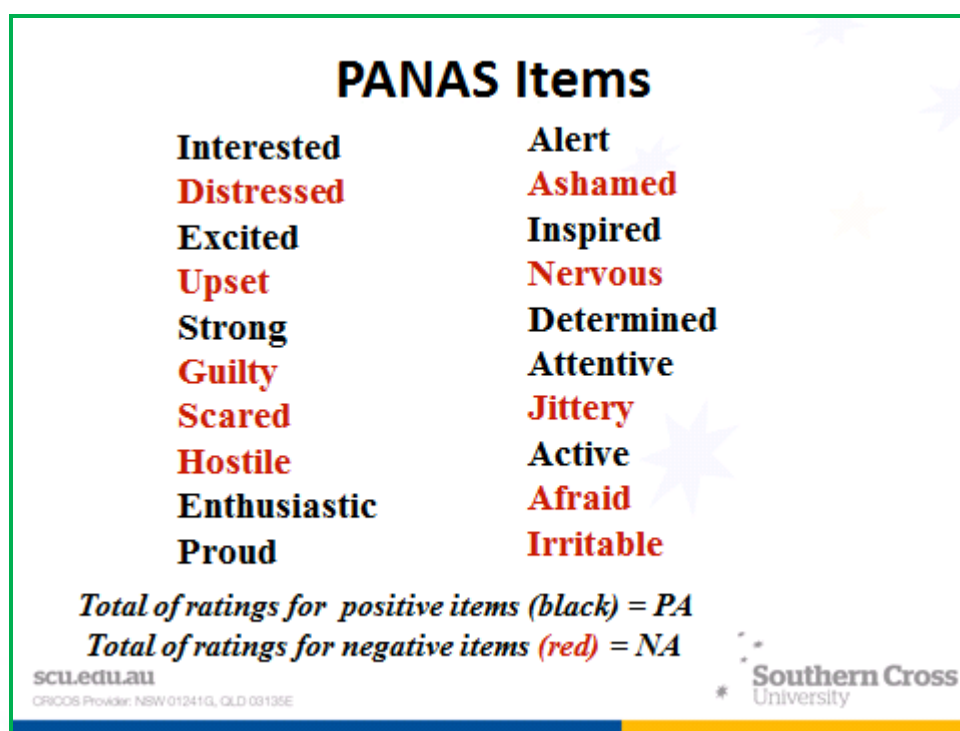


Figure 3: PANAS items used to measure PST affect

In terms of analysis, the Project used differences between the PANAS positive and negative item ratings to construct a differential scale, indicating when PSTs were affectively more positive and when they were more negative. This information was then compared with other forms of emotion data to help inform an overall interpretation of the PSTs' emotions in relation to their teaching and learning.

Critical Moments

All teaching lessons from the enhancement and feedback iterations included full audio/visual (video) and separate audio recordings, and PSTs then used the video recordings to analyse and reflect on their teaching. In particular, they identified six "critical teaching moments" for each lesson, where each "moment" represented an important emotional feeling or experience associated with the pedagogical process of instruction, that they felt influenced their competence and/or confidence in relation to the lesson. Instructions for providing this aspect of the affect data were for PSTs to record the start and finish times for six segments of the video identified as representing a "critical moment" for each lesson, and seeking to identify two segments from the first 1/3 of the lesson, two segments from the middle 1/3 of the lesson, and two from the final 1/3 of the lesson.

Critical moment data was also recorded in the same manner by observing PSTs, allowing comparisons to be made between experienced and observed affect for each PST. These comparisons assisted in identifying affect-related issues for the PSTs, as well as highlighting affective trends in the overall iterations that took place during trial 1 of the Project.

Emotion Diary

PSTs were also asked to complete an emotion diary for the critical moment segments identified in relation to their teaching. The emotion diaries used well-established affect icons and their meanings to represent the various emotional states PSTs might experience during teaching (or observe in another PST's teaching), as shown in figure 4. To complete these diaries, PSTs were trained to recognise emotions in terms of observing changes in voice volume, pitch, tone or other sound qualities when observing one another, and when analysing their own video recordings. They were also trained to notice how overall body language during teaching (e.g., facial expressions, breathing rate, sweating, vasodilation [blushing], posture, increased muscle tension, etc.) might indicate a particular feeling or bodily sensation.

Using this training to direct their diary recordings, observing PSTs were instructed to complete an emotion diary for each teaching PST during lesson delivery, and both observing and teaching PSTs were additionally instructed to complete an emotion diary for each "critical moment" segment identified in the video recording by the teaching PST. The diary was completed by selecting appropriate affect icons to represent the teaching PST's emotions during teaching, and then using the scale below to write a number that represented the intensity of the emotion next to the icon. As shown in figure 4, the emotion diary also provided space to write open-ended comments about the selected emotions, and PSTs were encouraged to use this space to elaborate and explain their affective identifications in terms of what the teaching PST was doing at the time, what else might be going on in the classroom, and at whom the emotion seemed to be directed.

1	2	3	4	5
Not at all	A little	Moderately	Quite a bit	Extremely

Emotion	Please describe briefly what you were doing, what was happening and at whom the emotion was directed.
 Excitement/Enthusiasm	
 Happiness	
 Enjoyment	
 Pride	
 Anxiety/Worry	
 Frustration	
 Disgust/Contempt	
 Annoyed/Irritated	
 Disappointment	
Embarrassed	
Interested	
Confident	

Figure 4: The emotion diary used to identify affect during teaching sessions and in relation to reflective lesson analysis

Project Survey Data

A survey ($n = 130$) designed to measure the target constructs of the Project was also completed by PSTs (Whannell, Woolcott & Whannell, 2014). Factor analysis, using a direct oblimin rotation based on a consideration that the survey factors would be correlated (Smith & Huinker, 2000), and the eigenvalue “greater than one rule” (Ho, 2006), in conjunction an examination of the associated Scree plot (Zwick & Velicer, 1982), indicated that four underlying factors were represented by the survey: a “Mathematical Thinking Scale”, a “Student Support Teaching Scale”, a “Mathematics Teaching Pedagogy Scale”, and a “Teacher Reflection Scale”.

This four-factor solution comprised a total of 28 items and accounted for 75.6% of the variance in the constituent items of the survey. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .903, and Bartlett’s Test of Sphericity ($p < .001$) indicated that the correlation matrix was suitable for factor analysis. Cronbach’s alpha was used to determine the level of internal consistency for each of the scales identified, as shown in table 1. George and Mallery (2003) identify a Cronbach’s alpha of .9 or

above as excellent and .8 or above as good, and thus all four scales are considered robust with respect to representing the Project constructs reliably.

Table 1: Reliability estimates for the Project survey scales

Scale	Cronbach's Alpha	Inter-Item Correlations
<i>Mathematical Thinking Scale</i>	.97	.532 to .845 ($p < .01$)
<i>Student Support Teaching Scale</i>	.89	.540 to .725 ($p < .01$)
<i>Mathematics Teaching Pedagogy Scale</i>	.92	.522 to .888 ($p < .01$)
<i>Teacher Reflection Scale</i>	.85	.571 to .715 ($p < .01$)

Of particular importance to this report is the “Teacher Reflection Scale” (TRS), which includes emotional analysis as part of the scale. This scale displays significant positive correlations (Spearman's Rho) to other important items in the survey, including mathematical thinking, being able to support school students, and pedagogical confidence. However, it also displays a non-significant but negative correlation to the number of mathematical curriculum units completed at university, suggesting that content knowledge by itself does not provide sufficient reflective insight for pre-service teachers. This supports the need to develop the reflective aspects of teacher training in disciplines like science and mathematics, and therefore also supports the Project's goal of using affective analysis to improve the competence and confidence of training teachers.

Affect Findings

The Project trial 1 data is incomplete at this stage; however early findings do support the use of affective data to examine the thinking and behaviours that led to emotional states in pre-service teachers (PSTs). It is also felt that a need exists to report on the current findings promptly, as the purpose of these analyses is to assist PSTs improve their ongoing competence and confidence in STEM-related teaching, and these outcomes appear to support the efficacy of having PSTs learn how to identify and analyse their teaching-related affective states in order to assess their own emotions and motivations, and to ensure that they understand the relationship between emotional literacy and effective pedagogy. Thus the immediate dissemination of these findings is considered worthwhile at the present time.

PANAS Data

The overall PANAS data for trial 1 is displayed in figure 5. As noted prior, a differential scale was constructed from the overall positive and negative PANAS ratings to indicate when PSTs were affectively more positive and when they were more negative. This figure displays the positive and negative PANAS ratings as measured just prior to lesson delivery and again just after lesson delivery, as well as the overall pre-and-post differentials relating to these measures.

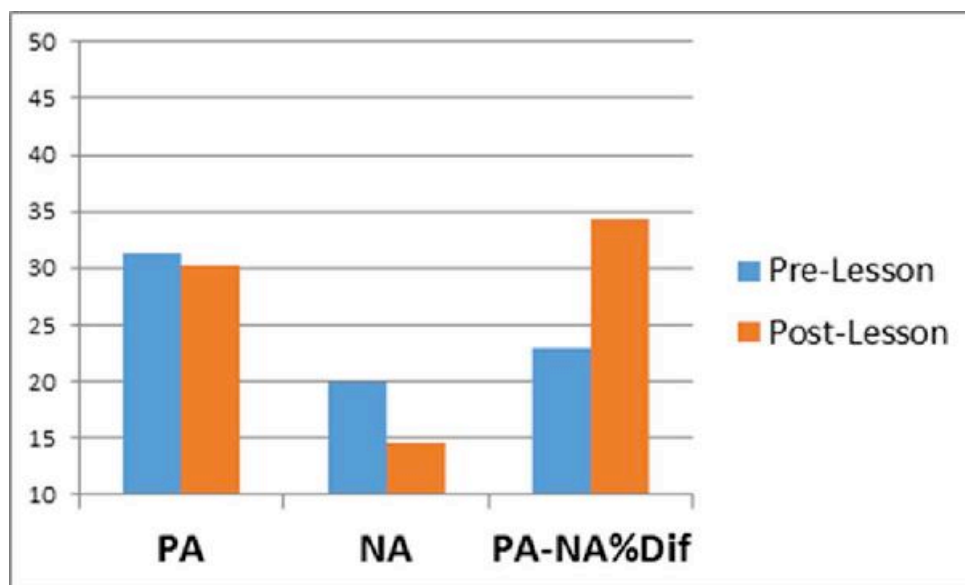


Figure 5: Overview of pre & post PANAS differences
(From Donnelly et al., 2014; used with permission)

Critical Moment Analysis

Critical moment analysis involved both the teaching and observing PSTs using the video recordings to analyse and reflect on the affective states of the teaching PTS's during lesson delivery. For each lesson, the teaching PST initially identified and analysed six critical moments from the video, representing important points at which some form of affect had influenced their pedagogy. The non-teaching PSTs then also analysed the video according to the identified time signature for each "moment", and provided feedback on the affect they observed in relation to each identified moment.

A mean comparative overview of how these critical moments were analysed in terms of reported affect versus observed affect - for PSTs who had received enhancement for the lessons they delivered and for PSTs who had not received enhancement for the lessons they delivered - is presented in figure 6. There were three significant differences in relation to these critical moment analyses, involving differences between reported and observed *anxiety/worry* ($t_{[17]} = 2.62, p < .02$), between reported and observed *confidence* ($t_{[17]} = -2.20, p < .05$), and between reported and observed *embarrassment* ($t_{[17]} = 2.21, p < .05$). It should also be noted that on average the "no enhancement" group tended to experience and report higher levels of positive emotion, and lower levels of negative emotion, than did the "enhancement" group.

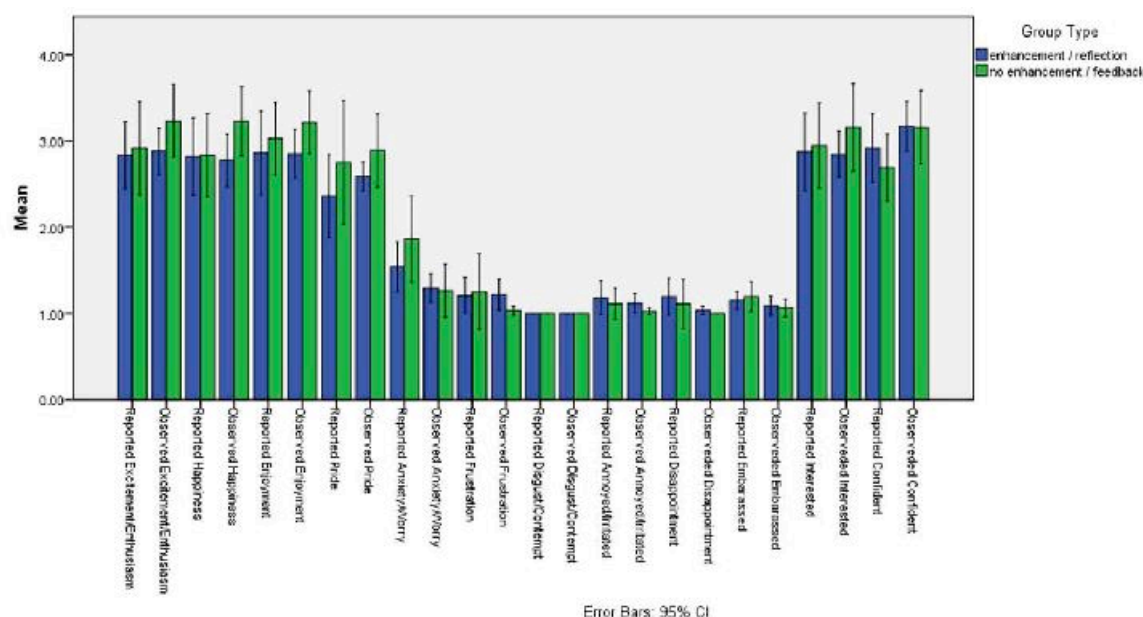


Figure 6: Critical moment data by group type
(Graph by Matthew Snow, Psychology, SCU; used with permission)

Teacher Reflection Scale

The Project survey covers far wider ground than just the affective domains of the Project, and thus its relevance to this particular report is limited. Nonetheless several findings from the factor analysis performed on the survey do appear relevant to the current report, including the existence of a Teacher Reflection Scale (TRS) as a valid Project construct, and that significant positive relationships exist between the TRS and mathematical thinking, being able to support school students, and pedagogical confidence. In addition, it is of particular interest that the correlation between the TRS and the number of mathematical curriculum units completed at university is negative. This suggests that the amount of experience that the respondents had in terms of formalised mathematical learning was inversely associated with their reflections on teaching practice or on the respondents' understanding of the impact of emotions on teaching. Considering that the identification of strategies to enhance PST confidence and competence through reflection is one of the primary aims of the Project, these overall findings indicate that opportunity exists for the Project to make a genuine contribution to the training of pre-service teachers in the STEM area.

Discussion

Although analysis of the Project trial 1 data is incomplete at this stage, there are nonetheless several interesting outcomes that appear to relate to the Project methods and goals. Firstly, with respect to the PANAS data, it is clear that PSTs tended to experience greater positive than negative affect in relation to their teaching overall. As shown in figure 5 however, whereas there was almost no pre-and-post affect "movement" in relation to the positive PANAS ratings, there was considerable negative movement in relation to the negative ratings; with lower post-lesson negative affect clearly evident. This finding is a bit unexpected. Lower negative affect after having delivered a lesson is logically intuitive, in that we would expect the PSTs to feel a type of "emotional relief" once they had finished each lesson. However the

obverse to this is also intuitive and therefore we would also expect them to experience a corresponding “burst” of positive emotion upon completing a lesson, yet this was not the case. This imbalance is reinforced when we look at the PANAS differential findings, which show a more exaggerated positive swing for the post-lesson data overall. This suggests that the extent of differences between individual positive and negative scores were greater than suggested in the pre-and-post ratings themselves, with the differential scoring process identifying this as an overall positive bias on the part of the PSTs.

Looking more closely at the PANAS scoring in relation to the critical teaching moments, it seems that discrepancies are also linked to quite specific PANAS differences, where we found that significant differences occurred between reported and observed *anxiety/worry* for the PSTs ($t_{[17]} = 2.62$, $p < .02$), between reported and observed *confidence* ($t_{[17]} = -2.20$, $p < .05$), and between reported and observed *embarrassment* ($t_{[17]} = 2.21$, $p < .05$). The relationship between observed and reported confidence is of particular interest here, as this relationship was negative, and therefore this finding suggests that the confidence PSTs were experiencing and the confidence they were displaying were quite opposite to one another.

Of importance to the Project goals is that, as a composite, these findings may highlight an issue with respect to affect regulation, that is, they raise certain questions concerning to what degree the PSTs might be consciously or unconsciously controlling particular emotions during teaching. In this respect the question is whether or not this is a conscious strategy, or is it perhaps occurring outside of their awareness? Such questions are important because understanding the authentic differences between pre-and-post PANAS data is crucial for showing any affective changes that may have occurred in relation to the Project enhancement strategies.

Turning more broadly to the analysis of critical teaching moments, it is of interest that the “no enhancement” group tended to experience and report higher levels of positive emotion, and lower levels of negative emotion, than did the “enhancement” group. This was especially true for emotions relating to “Excitement/Enthusiasm”, “Happiness”, “Enjoyment”, “Pride” and “Interested”, which all represent positive forms of affect. Note also, however, that the no enhancement group self-reported much greater “Anxiety/Worry” than the enhancement group, even though this was observed as lower than the enhancement group by others. Perhaps what was occurring here was that a greater sense of “pressure” took place for PSTs undergoing enhancement – a type of performance pressure - while a sense of “missing out” took place for PSTs when they were not receiving enhancement. In either case, the question again arises as to whether an intentional or unconscious emotion-regulation strategy may be occurring to control emotional display and, if so, how this might be operating.

Ongoing Research

One of the clearest outcomes from this early analysis of the Project affect data is that some sort of emotion-regulation strategy seems to be occurring in relation to emotional display. In this respect ongoing research will need to investigate the degree to which PSTs are aware of such strategies, why certain emotions seem to be controlled in a more strategic manner than others, and how emotional regulation takes

place. Perhaps the use of a dedicated debriefing session, aimed at exploring these specific aspects of the reflective process, could be used to further train PSTs in this direction. Additionally, incorporating specific reflective prompts into the critical moment analysis strategy could also be used to elicit this sort of information. In both cases the aim of improving PST emotional awareness, in terms of connecting the experience of distinct emotions to individual behavioural responses, would be further clarified.

Conclusion

The Project: “It’s My Life” is a multi-institution STEM project, designed to increase the competence and confidence of training Mathematics and Science teachers. This report has focused on initial analyses of how the Project used affective measures as part of the iterative processes by which pre-service teachers (PSTs) explored and analysed the pedagogy connected to their teacher training. In these findings we can already see that the PSTs have exhibited a positive emotional bias overall, and also displayed greater changes in their negative versus positive emotions. These findings also suggest that when receiving enhancement for their lesson development (expert science or mathematics input, plus pedagogical guidance), the PSTs may feel pressure to perform, while when not receiving enhancement (developing their lesson in collaboration with other PSTs only) they may feel as though they are missing out on important information.

Early analysis of the Project survey supports the Project’s emphasis on reflective affect analysis to increase pedagogical confidence, and thus links this training strategy to the larger Project goal of increasing competence through increasing pedagogical confidence. Importantly, differences between experienced (self-reported) affect and observed affect highlight the need to elaborate the reflective process in terms of consciously identifying the relationship between specific emotions and their behavioural correlates.

Overall, these findings indicate that the Project’s use of affect analysis is appropriate as a means of addressing the lack of confidence and competence in science and mathematics teachers in Australian schools. Indeed, in this most essential criterion the Project seems to be hitting the targets it has set for itself quite well. The findings also provide clear avenues for improvement with respect to some aspects of the reflective process, suggesting the need to forge clearer conscious correspondences between affect and behaviour on the part of training STEM teachers. In this respect the Project will need to modify certain elements within the reflective process, and this is viewed as an important way forward for the ongoing Project program. The effect of these modifications will be to better connect emotional literacy to the Project research goals, in order to improve the overall Project goal of developing quality teaching practices that are directed at the enhancement of science and mathematics teaching in Australia.

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***Development of a New Inventory of Attitude towards
Statistics among Postgraduate Students***

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Abstract

Statistics is often viewed negatively based on our experience and also conducted studies. As statistics is an important component of postgraduate studies, it is important to assess attitude towards statistics to enable appropriate educational actions to improve the attitude. To our knowledge, currently there is no inventory specifically developed for postgraduate students. Preexisting inventories are unsatisfactory due to different target population, weak theory, lack of confirmatory analysis, parceling issue and overlapping domains. To address the need of such inventory, a new inventory constructed in English measuring attitude towards statistics among postgraduate students was developed using modified Delphi technique. The process was conducted in five phases: 1. Identification of domains on attitude towards statistics from experts. 2. Verification of identified domains. 3. Defining the domains. 4. Identification of relevant and representative items for each domain. 5. Final verification of domains and items. Three domains based on tripartite theory of attitude (affect, behavior, cognition) were agreed upon by three experts considering relevant literature, inventories and experience. Suitable definition for the domains were provided in relation to statistics. A total of 58 items were agreed upon by the three experts and an invited expert not involved in first four rounds, considering their relevancy and representativeness: Affect (22 items), behavior (17 items) and cognition (19 items). The resulting inventory was named as USM-AS that stands for Universiti Sains Malaysia's Attitude towards Statistics. USM-AS is considered a potential inventory to measure attitude towards statistics. However, further validation studies are required to determine its psychometric properties.

Keywords: attitude towards statistics, postgraduate students, inventory

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Introduction

Statistics is an important component of any postgraduate studies, in which quantitative evaluation of research outcomes is prevalent. Despite its importance, it is often viewed negatively as evidenced by conducted studies and our own experience of providing statistics consultation to postgraduate students. Based on their feedback, most of them viewed statistics as a difficult subject that they are forced to learn to complete their studies. They are also unable to appreciate statistics as an integral part of any quantitative research.

At its extreme, learning statistics was suggested to be comparable to learning a foreign language in term of difficulty (Lalonde & Gardner, 1993). Onwuegbuzie and Wilson (2003) estimated that between two-third to four-fifth of postgraduate students had uncomfortable level of statistics anxiety. In addition, Ashaari, Judi, Mohamed, Tengku and Wook (2011) and Sami (2010) reported negative attitude towards statistics among undergraduate students. In a recent study by Zhang et al. (2012) among postgraduate students, negative attitude was also reported.

Therefore, it is quite evident that the negative attitude towards statistics is commonplace. It should be reiterated that although statistics is deemed compulsory for postgraduate programs, the negative attitude could hinder effective learning of the subject (Daher & Amin, 2010; Ashaari et al., 2011). It is important to assess the attitude towards statistics so as to enable appropriate educational actions to improve the attitude in positive direction.

Attitude is generally a person's evaluation on people, objects and ideas (Lawrence, 2008). It is also defined as a mindset or a tendency to act in a particular way due to a person's experience and temperament (Pickens, 2005). Therefore, of our concern is the student's evaluation and mindset on statistics.

In our search for valid and reliable inventories measuring attitude towards statistics, we encountered a number of inventories that differed drastically in term of domains and theoretical backgrounds, as well as validation approaches and the quality of validation evidence. As reviewing these inventories is out of context of this paper, readers are referred to a systematic review on these inventories (Nolan, Beran & Hecker, 2012). Of all the inventories, the most notable and extensively studied are Survey on Attitudes Towards Statistics 28 and 36 (SATS-28 and SATS-26).

SATS-28 was developed by Schau, Stevens, Dauphinee, and Del Vecchio (1995), consisting of four domains (affect, cognitive competence, value and difficulty) and 28 items, measured by seven-point Likert scale at pre- and post-statistical course on a sample of undergraduate students. An updated version namely SATS-36 was proposed by Schau (2003), of which two additional domains (interest and effort) with four items each were added on to SATS28. The inventory went through exploratory and confirmatory factor analysis in its development process, as well as being cross validated in numerous studies. In general, the construct validity and reliability are good (Nolan et al., 2012). However, we noted a number of issues with both SATS versions: 1. Parceling was used in confirmatory factor analysis. The use of the use of parceling for confirmatory factor analysis is controversial (Vanhoof, Kuppens, Sotos,

Verschaffel, & Onghena, 2011). 2. Overlapping domains (multicollinearity) on confirmatory factor analysis without parceling (Schau et al., 1995; Tempelaar, Van DerLoeff & Gijssels, 2007; Vanhoof et al., 2011). 3. It was developed and validated for use among undergraduate students.

To our knowledge, currently there is no inventory measuring attitude towards statistics that is specifically developed for postgraduate students. In general, preexisting inventories are also unsatisfactory due to a number of issues such as different target population (undergraduate students), weak theory, lack of confirmatory factor analysis, parceling issue and overlapping domains (Nolan et al., 2012). In view of these problems, we decided to develop a new inventory measuring attitude towards statistics among postgraduate students.

The newly developed inventory was aimed to have the following properties:

1. Specifically constructed for postgraduate students (master's and Ph.D. programs) with previous exposure to statistics course.
2. Items and response choices are in English.
3. Items are generated and constructed based on strong theory of attitude.
4. Responses are scaled in a way suitable for construct validation by factor analyses.
5. Self-administered format.

Methods

In general, Delphi technique is a structured group communication process that involves four phases: 1. Exploration of a subject by a group. 2. Reaching an understanding of how the group views the subject. 3. Resolving disagreement. 4. Final evaluation (Linstone & Turoff, 2002).

Based on these phases, we utilized modified Delphi technique in the inventory development process, specifically for identification and verification of domains and items. The process was conducted in five phases as follows:

1. Identification of domains on attitude towards statistics: The initial four phases involved three experts with one of the expert acted as a coordinator for all communication processes. The coordinator sent an email to two other experts requesting for possible domains of attitude towards statistics. Every experts provided possible domains based on their own experience and research findings, and also literature reviews. Every contributed domains were continuously appraised until all experts agreed on a number of identified domains to focus on.
2. Verification of identified domains: An email was sent to the experts to verify the identified domains. The verification process involved scrutiny of each domain for appropriateness and applicability to postgraduate students. Only domains that were verified to be appropriate and applicable to the students were carried over to next

phase.

3. Defining the domains: The coordinator sent an email requesting for suitable definitions for the verified domains. The experts kept on improving the definitions and critically appraised other alternative definitions based on literature reviews and expert opinion, while keeping the definitions within the context of postgraduate settings. The email communication continued until all of the experts agreed on provisional definitions for each of the domains.

4. Identification of relevant and representative items: Once the provisional definitions were clear enough to warrant item construction, an email was sent to request for contribution of relevant and representative items for each of the domains. The experts were encouraged to contribute as many items as possible, covering both positively and negatively worded items.

5. Final verification of domains and items: A meeting was organized involving all the three experts and an invited expert who was not involved in the four initial phases. The domains, definitions and items were again appraised in the presence of the new expert. Suitable response choices were also decided in the meeting, weighing on the advantages and disadvantages of different response formats. A final, content validated inventory was produced at this phase.

Results

The five phases were completed in six months from March 2013 to September 2013. Three domains based on tripartite theory of attitude (Lawrence, 2008) were agreed upon in view of literature reviews, related inventories and the experts' own experience. Suitable definition for the domains were provided in relation to statistics and suitability to postgraduate settings. A total of 58 items were agreed upon for the domains (Table 1). Five-point Likert scale was chosen for response options: [1] Strongly Disagree; [2] Disagree; [3] Neutral; [4] Agree; [5] Strongly Agree. While the given scoring is meant for positively worded items, negatively worded items have to be reverse-scored. The resulting inventory was named as USM-AS that stands for Universiti Sains Malaysia's Attitude towards Statistics.

Table 1

Domains, definitions and number of items by domain

<u>Domain</u>	<u>Definition</u>	<u>Number of items</u>	<u>Example item</u>
Affect	Emotional reaction and feeling towards statistics.	22	Statistics lecture is interesting
Cognitive	Thought and belief about statistics.	19	Statistics is important in research
Behavior	Actions resulting from affect and	17	I pay attention in research

cognition towards
statistics.

presentation

Note. Items can be obtained from corresponding author via email.

Discussion

By utilizing modified Delphi technique in our development process, we were able to come up with a new inventory measuring attitude towards statistics. In our opinion, the inventory has a number of appealing features corresponding to our predefined properties. First, the inventory is specifically developed for postgraduate students, which is reflected in the items' postgraduate-specific content. Second, the use of five-point Likert scale is meant for ease of administration and suitability for factor analyses. Third, the inventory is based on generally applicable tripartite theory of attitude (Lawrence, 2008; Pickens, 2005).

However, we have to acknowledge that our development approach is not without limitation. The application of Delphi technique in the development process means the resulting inventory is a result of expert judgment, which makes it vulnerable to distorted understanding and imprecise interpretation (Linstone & Turoff, 2002). Despite this limitation, we are satisfied with the inventory as the domains and items reflected our experience in teaching and providing consultation to postgraduate students.

Conclusion

USM-AS is a potentially valid inventory to measure attitude towards statistics among postgraduate students based on tripartite theory of attitude. In its present form, the inventory consists of three domains, namely affect, cognitive and behavior, and 58 items that are rated on five-point Likert scale. However, further validation studies are required to determine its psychometric properties prior to its use to measure the attitude towards statistics.

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Learning Promotion Trends Based on Problem and Need of Thai Farmers

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Abstract

Since Thailand has been applying green resolution which is the development path, Thai farmers are unsuccessful in term of stable income. Objective of this research is to study farmer's situation both current problems and need, this objective lead to learning promotion trends in order to build a success in occupation. This research is studied by survey research with Thai farmer 742 people in Bangkok and surrounding, central area, east area, north area and south area. Furthermore, tool is applied by open end and close end questionnaire. There is analyzed by the frequency, percentage, mean and standard deviation, while the open end data is analyzed by content analysis.

The result of this research found that the average age of Thai farmer is increased as 54.93 %, most of them graduated from level of primary school to secondary school. 59.8% of the farmers are acquainting with monoculture, have smaller area to be owner and count on water resource to crop. When they face with disease and insect, they apply lots of chemical. Agricultural product distribution still passes through middleman and there is small gap between income and outcome. Performance in occupation is evaluated and found that the result is in medium range (mean = 3.48). Farmers need a support which is cost reduction system and marketing knowledge. Thus the problem solving is promoting the learning ways, which are production management and marketing for increasing independence performance. As solution, the ministry of agriculture and cooperative is suggested to provide short course in order to increase production performance and marketing management performance. To be successful in bargaining power of farmers, group and network connection is supported to apply in this area.

Keywords: Learning Promotion Trends, Problem and Need of Farmers, Thailand

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Introduction

Since 1961 until present, Thailand has been applying green resolution which is the development path as the National Economic and Social Development plan volume 1. Although the Development plan volume 7, Thailand has been applying the Sustainable Agriculture way where is the origin point of self-sufficient economy theory. (Sutthinarakorn and other, 2014) Thai farmers are unsuccessful in term of stable income. This leads to the economic crisis which is the basic problems of Thai farmers. Last decades ago, Thai farmers' problem became politics problem when the product can't be reached the proposed price. Thai farmers usually beg for government helping and close the road for attention from who has power to solving the problems such as income compensating, subsidy paying. Eventually, the economic problems became politics problems. Since the politicians use the Populism policy as the country development path, this affects to marketing mechanism distorting and addiction of giving by population then there is losing of self reliance. (Sutthinarakorn, 2013) Objective of this research is to study farmer's situation both current problems and need.

Objective of the Study

This objective lead to learning promotion trends in order to build a success in occupation.

Research Method

This research was studied by survey research with Thai farmer 742 people from population 2,000 people. It was applied Stratified Random Sampling, divided by the areas which are Bangkok and surrounding, central area, east area, north area and south area. Furthermore, tool is applied by open end and close end questionnaire. There is analyzed by the frequency, percentage, mean and standard deviation, while the open end data is analyzed by content analysis.

Result

The result of this research found that most of famers are 29-80 years old (average 54.93%). They graduated from level of primary school to secondary school 443 people (59.7%), diploma level 74 people (10.0%) and bachelor degree and above 225 people (30.3%). 420 people of the farmers are acquainting with monoculture (59.7%) which is more than integrated farming (332 people, 44.7%). In term of certification of food safety, found that the ratio of certified is 194 people (26.1%) while the ratio of uncertified is 548 people (73.9%). Moreover there is chemical fertilizer applying in their crop 454 people (61.2%). Assumed the certification of good agricultural practices, 248 people of Thai farmers (33.4%) conform to this certification while another is not (Table 1)

Table 1 Background of Thai Farmers

(n = 742)

Background	Amount	Percentage
1. Age		
35 years old and below	18	2.4
36-45 years old	92	12.4
46-55 years old	261	35.2
56-65 years old	263	35.4
66 years old and above	108	14.6
Minimum age is 29 years old, maximum age is 80 years old and average age is 54.93 years old		
2. Education		
Secondary school and lower	443	59.7
Diploma	74	10.0
Bachelor degree and above	225	30.3
3. Planting		
Monoculture	420	56.3
Integrated farming	322	44.7
4. Food safety certification		
Certified	194	26.1
Uncertified	548	73.9
5. Chemical fertilizer applying		
Yes	454	61.2
No	288	38.8
6. Certification of Good Agriculture Practice		
Practiced	248	33.4
Non-Practice	494	66.6

In term of land tenure, found that the farmers own their land from 1 rai to 598 rai. 17.4% of the farmers own their land without certificate of owner ship, refer to open questionnaire, the farmers argue the trend of land tenure in Thailand that it could be owned in smaller scale due to land management for family member and sell the land to outsider. There is lacking of land maintenance knowledge. So when they want to increase their productivity, they will trespass public area and rent the land (28.7%). The cropping with natural water source by farmers 294 people (33.6%), there is cropping with rain water supply by farmers 298 people (40.1%) and cropping with irrigation supply by farmers 150 people (20.2%). Only 108 people of farmers (14.6%) have result of water analysis (Table 2).

Table 2 Land use
(n = 742)

Land tenure and Land use	Amount	Percentage
1. Land owner with certificate of ownership		
10 rai and lower	170	22.9
11 – 20 rai	129	17.4
21 – 30 rai	87	11.7
31 – 40 rai	59	8.0
41 – 50 rai	55	7.4
More than 50 rai	113	15.2
No certificate of ownership	129	17.4
Minimum area is 1 rai, maximum area is 598 rai and average 36.20 rai with S.D. 48.977		
2. Rental		
10 rai and lower	61	8.2
11 – 20 rai	42	5.7
21 – 30 rai	40	5.4
31 – 40 rai	11	1.5
41 – 50 rai	19	2.6
More than 50 rai	40	5.4
No rental land	259	71.3
Minimum area is 1 rai, maximum area is 500 rai and average is 37.7 rai with S.D. 55.30		
3. Water resource		
Natural water resource	294	33.6
Rain water supply	298	40.1
irrigation supply	150	20.2
4. Water quality		
Have water analysis	108	14.6
Don't have water analysis	634	85.4

In term of product distribution, found that 122 people of farmer (16.4%) directly distributed to market, while 620 farmers passed through middleman. Average income from the annual product distribution is 283,804.1 THB. Whereas the average of agricultural expense is 195,289 THB per family and others expense is 193,547.6 THB per family. The comparison of income and expense shown the income is more than expense with a little gap. Nevertheless, when assumed at deviation of income and expense, it is in high level, this means a lot of farmers have income lower than expense. Considering the percentage of income and expense, there are in lowest level (Table 3).

Table 3 Product distribution, income and expense
(n = 742)

Product distribution	Amount	Percentage
1. Market distribution		
Directly supply market	122	16.4
Pass through middleman	620	83.6
2. Annual agricultural income (from crop and domestic animals)	206	27.8
100,000 THB and lower	174	23.5
100,001 – 200,000 THB	99	13.3
200,001 – 300,000 THB	40	5.4
300,001 – 400,000 THB	165	22.2
Upper than 400,000 THB	58	7.8
Lowest is 1,000 THB, highest is 1,000,000 THB and average 286,110 THB with S.D. 1,024.084		
3. Other income		
50,000 THB and lower	346	46.6
50,001 – 150,000 THB	191	25.7
150,001 – 250,000 THB	72	9.7
250,001 – 350,000 THB	41	5.5
More than 350,000 THB	92	12.5
Lowest 3,000 THB, highest 1,000,000 THB, average 283,804.1 THB with S.D. 1,034.615		
4. Annual agricultural expense		
50,000 THB and lower	378	51.0
50,001 – 150,000 THB	196	26.4
150,001 – 250,000 THB	69	9.3
250,001 – 350,000 THB	35	4.7
More than 350,000 THB	64	8.6
Lowest 1,100 THB, highest 1,740,000 THB, average 195,189 THB with S.D. 8,358.504		
5. Annual expense in household		
50,000 THB and lower	147	19.8
50,001 – 150,000 THB	283	38.1
150,001 – 250,000 THB	159	21.4
250,001 – 350,000 THB	58	7.8
More than 350,000 THB	95	12.8
Lowest 1,000 THB, highest 2,000,000 THB, average 193,247.6 THB with S.D. 1,884.466		

As the current situation of Thai farmers, it was found that the farmer's problem is lacking of knowledge and production technology which affects to the management and income,. Including the connection between production line and marketing system, it leads to middleman opportunity increasing in the market nowadays. When surveying the demand in term of upgrading career ability, it was found that what farmers have highly demand is knowledge. The knowledge they mentioned are agricultural academic principle and skill, supply chain management, knowhow and technology adaptation for production efficiency increasing, production and distribution planning, data analysis for production cost reduction and applying

knowledge and technology in order to extent former wisdom in term of agricultural production. However farmers are less considering to the marketing planning and risk control, their needs is in medium level (Table 4).

Table4 Occupation performance
(n = 742)

Occupation performance	$\bar{X}$	S.D.	Level
1. Knowledge and technology adaptation of production efficiency increasing	3.75	.802	high
2. Satisfy of agricultural income	3.57	1.00	high
3. Annual planning for cropping and domesticate animals	3.60	.944	high
4. Studying market demand before planning the production	3.49	.920	medium
5. Have emergency plan (agricultural crisis such as over demand, slumped price, natural disaster and epidemic and etc.)	3.29	1.006	medium
6. Agriculture group which has the authority of bargaining (such as agricultural input, price and etc.)	2.95	1.095	medium
7. Production planning and distribution by considering environment preservation. (soil, water, forest, air, human, residence and neighbor)	3.84	.880	high
8. Data analysis for production cost reduction.	3.84	.828	high
9. Planning the production follows the alter market situation	3.51	.909	high
10. Adapted agricultural academic principle and skill and applied supply chain management (such as soil preparation, seed selection and etc.)	3.91	.815	high
11. To apply knowledge and technology for extending former wisdom in agricultural production.	3.77	.852	high

Discussion

As the result of this research, the researcher noticed as follow:

1. Agricultural cropping is going to the step of modernize agriculture in monoculture system. There is still the same production style which is subsistence farming, it leads to the unsuccessful in their career.
2. Thai farmers are not able to access the market share. While the demand level of organized by grouping is not high, it shown the low opportunity of income successful due to the less power of bargaining.
3. The production performance problem is highlighted by farmers due to the lacking of knowledge and technology, including affects to the good management conditions.

Suggestions

1. Thai farmers should be acknowledged in term of supporting non-formal education by related government such as ministry of agriculture and cooperative with short course institute in order to provide the learning for farmers as below:

1.1 Production knowledge and technology: soil analysis, soil maintenance, fertilized method, disease and insect management, seed selection in order to increasing production performance.

1.2 Knowledge of marketing and information accessibility: to connect the production planning and marketing.

1.3 Apply knowledge of management, authority of bargaining by group and connection process, cost analysis, fund sourcing and internal, external supporting connection building and etc.

2. Policy term

2.1 Government should identify zoning of production and determine production volume which is connected between export and domestic term.

2.2 To support the value added of agricultural product both food product and non-food product by specify the community enterprise as the key of process.

2.3 Finding the way to create the value of agricultural product based on the history and culture in order to build the higher value especially the customer group which has buying power such as tourist, middle level customers both domestic and international customers.

The logo for the International Association of Agricultural Economists (iafor) is centered on the page. It features the word "iafor" in a lowercase, sans-serif font. The text is surrounded by a large, faint, circular graphic composed of several overlapping, curved lines in shades of blue and red, creating a sense of motion or a stylized globe.

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Integrating Formative Assessment into University Education

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Abstract

The role of assessment should not only measure if and how students learn, but also enhance learning. With this motivation, formative assessment was studied and integrated into several computer engineering courses at King Mongkut's University of Technology Thonburi. This paper discusses the nature and role of assessments as well as presents the experience of integrating formative assessment into university education.

Keywords: formative assessment, university education, learning

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Introduction

For education at any level, assessment should effectively measure if and how students learn. Generally, there are two types of assessment. Summative assessment (SA) or end-of-semester assessment provides a summary judgment about the learning achieved after some period of time. It can be used to improve teaching and learning but its primary goal is to inform external audiences for certification and accountability purposes. Formative assessment (FA) is to check students' knowledge and performance along the learning process to close the gap between students' current level of understanding and the desired state via various pedagogical actions.

Summative assessment is more common in the university education. However, it does not always reflect what students have actually learned. This is because SA assesses the final product and is thus more product-oriented, whereas formative assessment focuses on the process toward completing the product and identifies areas that may need improvement. This paper discusses the integration of formative assessment (FA) into university education at King Mongkut's University of Technology Thonburi.

Role and Nature of Assessments

Assessment is an essential part of teaching and learning process. Overall, assessment is a way of determining what students had learned. Both summative and formative assessments gather information relating to student's learning but at different points. For university education, summative assessment is more common since the university needs to meet up with standards, certification and accountability. Summative assessment is called 'assessment **of** learning' or something to check if students meet the required standards or criteria. In the meantime, formative assessment is carried out along the learning process to determine how much learning has taken place. FA is, thus, 'assessment **for** learning' (Gipps and Stobart, 1997). It is part of learning process whose function is to provide feedback and help students improve their performance. In other words, FA is forward looking whereas SA is backward looking or judging since FA uses information to adapt teaching so that learning is proceeding to the right direction.

One might question: what is the problem with SA? SA uses formal, standardised tests. But the test content is often too simplistic to represent broad ranges of skills and knowledge that have been covered in a course. Overreliance on testing, for both teachers and students, brings about rote and superficial learning. Also, since summative assessment is more manageable, educators tend to adopt it at the cost of learning.

As for FA, some instructors or educators claim that there is not enough time to incorporate FA into their courses, i.e. they do not have time to assess students along the way since they are afraid of not covering enough of the contents. However, the more they try to cover, the less students are actually learning. Without time to reflect on and interact meaningfully with new information, students are unlikely to retain much of what is "covered" in their classrooms.

Integration of Formative Assessment

Assessment here is regarded as the way to enhance learning instead of simply measuring or judging students. Apart from helping students to really learn, three major benefits of formative assessment that we consider include: improving equity in student outcomes, raising student's attainment and, most importantly, building 'learning how to learn' skills. These benefits are our motivation to integrate formative assessment into the university education.

Since teaching and learning is a collaborative process, the integration of formative assessment involves both teachers and students. For integrating FA into the courses, the following framework is proposed:

For each class, the learning intention (i.e. what students are going to learn) should be presented clearly to the learners (instead of focusing on the tasks, see Table 1 below). Also, the success criteria (to assess whether and how well students have learned) should be stated and discussed. This is so that students will take learning as their own responsibility, not only something that they have to do to pass the course or to receive the degree. Ultimately, this will bring students to have self-assessment as well as peer assessment which will make them truly learn and achieve in education.

Table 1: Learning Intention (adapted from William, 2011)

Unclear Learning Intention	Clarified Learning Intention	Context of Learning (Task)
To be able to write instructions on how to change a bicycle tire	To be able to write clear instructions	Changing a bicycle tire
To be able to present an argument for/against assisted suicide	To be able to present an argument either for or against an emotionally charged proposition	Assisted suicide
To produce and analyse a questionnaire about movie going habits	To construct and analyse questionnaire data	Movie-going habits
To design an experiment to find out what conditions pill bugs prefer	To design fair tests for scientific questions	Preferred habitat of pill bugs

Now we will turn to consider what constitutes formative assessment. At first, formative assessment was described as mostly relevant to giving feedback to students so that they can improve. Traditionally, in marking system that focused on scores, feedback that the teacher gave was normally too little, too late, too vague and too impersonal. Also, students were mostly interested on the scores they received and ignored any comments or feedback. Therefore, feedback had not been optimally used. William and Thompson (2007) proposed the framework for implementing formative assessment (including providing better, meaningful feedback). This framework consists of: where the learners are in their learning, where they are going and how to reach there. They also recommended that formative assessment should be built up from the following strategies.

1. Clarifying, sharing, and understanding goals for learning and criteria for success with learners
2. Engineering effective classroom discussions, questions, activities, and tasks that elicit evidence of students' learning
3. Providing feedback that moves learning forward
4. Activating students as owners of their own learning
5. Activating students as learning resources for one another

Based on these strategies, we have implemented FA into Computer Engineering courses at King Mongkut's University of Technology Thonburi (KMUTT) using various techniques. First, the traditional classroom culture is changed to remove students' fear and make them feel good in learning. For example, in CPE 113 Algorithms and Data Structures course, instead of traditional quizzes, we apply 'anti-quizzes' which have the same characteristics as normal quizzes but instead of quizzes to be done individually, an anti-quiz is something to be done together by students of the whole class, with the help from the teacher in answering questions. Therefore, the purpose of anti-quizzes is not about the scores but the understanding of the learners. Students were interested in this new kind of activity as well as their worriedness about marking or scores from quizzes was removed.

Next, the instructional methods have been varied. Traditional, in-front-of-the-class lectures do not work well with formative assessment. Considering that the purpose of lecture is to deliver information, we apply various approaches to describe new concepts as well as allow students who have grasped the concepts to help their peers. For example, students were asked to volunteer to come to the front of the class, one student after another, and write parts of the solution of the question posted on the whiteboard until the solution was complete. The questions and solutions were used to explain certain concepts instead of lecturing.

Subsequently, we carried out the peer review process in CPE 601 Technical Research Writing course. Peer review as well as self-review methods allow learners to practice meta-cognition or higher order thinking skills such as reflecting and providing feedback and to have autonomy towards their lifelong learning skills. For the review process, first, the guidelines for peer review were prepared and given to the students. This was so that when students did peer review, they did not review freely but followed the guidelines which would make the review useful for both the reviewer and the reviewee. The guidelines consist of questions for the reviewer to answer when conducting the review. For example, the reviewer was asked to list the strengths and weaknesses of the paper and to point out the parts which were not clear or hard to understand. The final question in the guidelines was about what the reviewer has learned from reviewing that would benefit his/her own paper.

After students are equipped with the guidelines, some assignments that were submitted to the teacher for grading were distributed to other class mates as well after deleting the names of the owners of assignment. In this way, students did not feel pressure because they obviously did not know who owned the assignments given to them for peer-review. This review process gave the new perspectives to both the reviewer and the reviewee. The reviewer learned about the things that the instructor looks for in an assignment. As for the reviewee, after reading the results of peer review, students gained new perspectives about the assignments.

Finally, formative assessment has been incorporated and standardized into the computer engineering project course, CPE 401, for the fourth-year students of computer engineering department at KMUTT. Previously, some students procrastinated or worked on their project in the last minute at the end of the semester. This resulted in low quality projects or projects that could have been much better if students had spent more time working on them. Therefore, we apply the idea of formative assessment by dividing the project into smaller assessment tasks or milestones and scheduling frequent meetings between advisor and advisee(s) of the project to provide feedback. The benefits of integrating formative assessment into this course include: distribution of student effort evenly across time according to the assessment tasks, clear communication of expectations to students and providing feedback to help student learn and solve the problems concerning their projects. These methods have been applied successfully for the computer engineering project course for several years now.

Conclusion and Suggestion

In university education, the true value of assessment should be to enhance learning and not simply measuring or judging students' performances. If assessment is for the purpose of meeting standards or accountability, then we should aim to raise the bar for everyone and not only for some students. We believe that formative assessment is the solution. In this paper, the philosophy behind formative assessment was discussed and the experience in implementing FA at the computer engineering department of KMUTT was presented. We hope to have shown that FA is suitable for modern university education and generation-Y learners.

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Assessment Patterns in Computing Education

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Abstract

One of the primary objectives of Computing Education is to develop computational thinking skills, which enable the students to solve problems using computers. It requires higher-order cognitive skills, which are more difficult to learn and practice when compared to lower order skills such as memorization and recollection. But to what extent have these higher order skills been tested through assessments in our computing courses? A preliminary study was conducted in this regard in a post-graduate course in Computer Applications, based on Bloom's Taxonomy (BT) on cognitive domain. BT is a well-known taxonomy on educational objectives. A total of 510 questions were analysed using BT keywords and were mapped to the respective cognitive levels based on the question cues. The results show that questions at higher order levels are few when compared with the lower order level questions. Mainly the memorization and recollection skills of students are tested. This paper describes the details and findings of this study.

Keywords: Assessment system, Bloom's Taxonomy, Computational thinking, Question paper setting

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Introduction

Computing education necessitates good problem solving and program design skills which are directly related with higher-order thinking skills of students [10]. Nowadays the effectiveness and quality of computing education is questionable. There are many reports which point out the high failure rate and poor effectiveness of computing education courses [4][5].

In any education system, there are three stages, such as, plan the learning-objectives, teaching/instruction and assessment. In these three stages, assessment is the most important since it aims to make judgements about students' and teachers' effectiveness [11]. In effect, assessment can also determine the success of the planning and teaching stages. The most common method to assess the learning outcome and thinking level is written-examination. The success of this assessment method is in setting an appropriate question paper which comprises questions from various difficulty levels especially higher order thinking levels [8]. Higher order cognitive skill items are defined by Zoller & Tsapalis [12] as "quantitative problems or qualitative conceptual questions, unfamiliar to the students, that require for their solution more than knowledge and application of known algorithms. Such an application may further require (partially or fully) the abilities of reasoning, decision-making, analysis, synthesis, and critical thinking".

In this study, an attempt has been made to discover whether we are testing the higher order thinking skills of students in a post-graduate computing course - Master of Computer Applications (MCA). The data collection has been done from the past five years' university question papers. Bloom's Taxonomy of educational objectives has been chosen as the framework for the analysis of questions, due to its wide acceptance and simplicity in structure.

The entire paper is organized as follows. The next section describes Bloom's Taxonomy, which is followed by the methodology and the analysis results. The last section concludes the paper.

Bloom's Taxonomy

Bloom's Taxonomy (BT) is a well-known taxonomy on educational objectives and it explains 3 domains of learning – Cognitive, Affective and Psychomotor [6]. Cognitive domain deals with knowledge and thinking. Affective domain deals with attitudes and, psychomotor domain deals with physical skills. Previous studies on computing education show that there is a high cognitive requirement for computing education [9][10] and hence BT on cognitive domain is used in this study.

The taxonomy was primarily developed by Benjamin Bloom in order to promote higher order thinking in academic education. Later Anderson et al. revised it by slightly rearranging the higher levels in the cognitive domain (Fig.1). Cognitive domain has a well defined hierarchy of six cognitive levels - Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation. Of these 6 levels, analysis, synthesis and evaluation are considered as higher order cognitive levels which require various skills such as critical thinking, decision making, problem solving etc. The current study mainly focuses on the higher levels (Analysis,

Synthesis and Evaluation together as a group) and hence the original model by Benjamin Bloom is considered in this study.

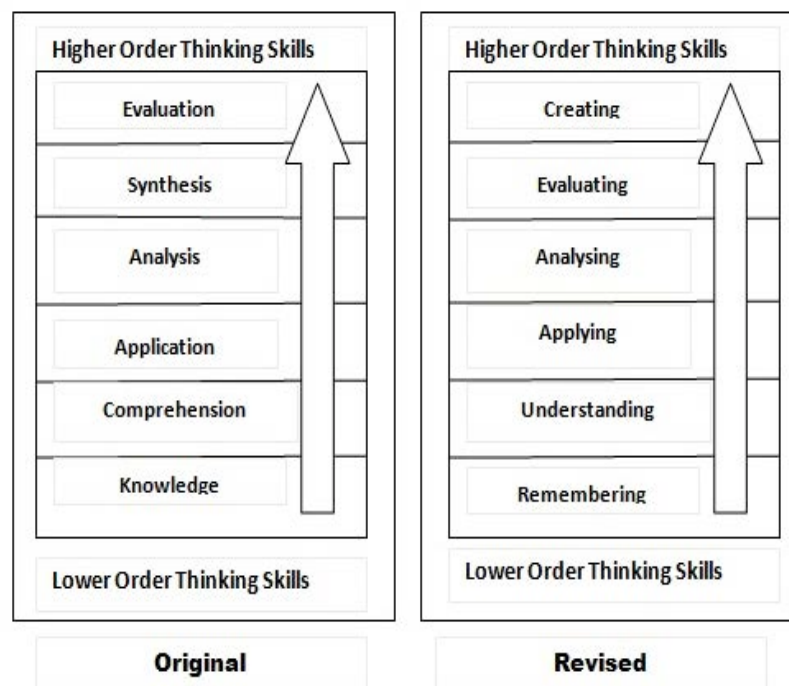


Figure1: Bloom's Taxonomy - original and revised

Knowledge: This is the lowest level of the taxonomy where questions are asked to test whether a student is able to remember the lessons learned. Concepts, definitions, principles, formulas etc. are examples of knowledge level questions. Knowledge of the main ideas being taught can be included in this level [2]. Some of the question cues for this level are identify, describe, name, label, recognize and reproduce.

Comprehension: At comprehension level students need not only be able to recall information but also be able to understand the meaning of remembered material, and explain in their own words or citing examples. Interpret the facts, explain the process and describe the function of each component etc. are examples of comprehension level questions [2]. Describe, summarize, explain, interpret and identify are some of the question cues for this level.

Application: In this level, students should be able to apply and use the knowledge they have learned. For example, students may be asked to solve a problem applying the knowledge they have gained in the class, to illustrate some concept with a diagram or to create a viable solution [2]. Some of the question cues for this level are apply, illustrate, demonstrate and solve.

Analysis: Analysis level requires students to go beyond knowledge and application and actually analyse a problem using their own patterns. Students need to examine and discriminate between the relationships of the component parts of the material. For example, "What factors in the Indian economy are affecting the current price of

petrol?”[2] is an analysis level question. Analyse, discriminate, compare, distinguish and break down are some of the question cues for this level.

Synthesis: Questions on synthesis level require students to use the given facts to create new theories or make predictions. Knowledge from multiple subjects can be combined to reach to a new solution or conclusion. For example, a student may be asked to invent a new product, to devise ways to design test hypothesis or to propose a new solution [2]. Some of question cues for this level are synthesise, propose, plan, construct and organise.

Evaluation: This is the highest level of thinking where students are requested to make judgements about the merits of an idea, method, procedure or product. It is the most complex process and requires students to use all the other five levels. Question cues like estimate, assess, select and debate can be used in this level [2].

Methodology

The objective of this study is to assess the quality and effectiveness of current university assessment system in a post-graduate computing course. We have selected the Master of Computer Applications (MCA) programme, affiliated to Mahatma Gandhi University of Kerala, India. Questions are the essential component of assessment and effective questions are the keys to productive discussion that requires students engage in higher order thinking [7]. Hence, questions have been collected from the university question papers of the past five academic years - 2009, 2010, 2011, 2012 and 2013. It has been done for the first, second and third year of the MCA programme, from the university library to form the sample for the study. Questions from the various subjects of the MCA – Structured Programming in C, Data Base Management Systems, Data Structures, Operating Systems, Java and Web Programming, Software Engineering, Data mining and Warehousing, Linux Internals and Computer Graphics - were analysed using Bloom's taxonomy by focusing the cognitive level of the questions.

For I MCA, questions are collected from the subjects - Structured Programming in C, Data Structures and Operating Systems. Questions of Java and Web Programming, Software Engineering and Data Base Management Systems are collected from II MCA question papers. For III MCA, questions are collected from the subjects Data mining and warehousing, Computer Graphics and Linux Internals. Number of questions taken from various subjects is shown in the following tables.

Table1: Number of Questions for I MCA

Subjects	No. of Questions
Structured Programming in C	60
Data Structures	58
Operating Systems	57

Table2: Number of Questions for II MCA

Subjects	No. of Questions

Software Engineering	56
Data Base Management Systems	56
Java and Web Programming	58

Table3: Number of Questions for III MCA

Subjects	No. of Questions
Linux Internals	55
Computer Graphics	57
Data mining and warehousing	53

A sample of 510 questions from these question papers are subjected to analysis. Each of the 510 questions from these question papers was mapped to the respective cognitive domain levels of Bloom's Taxonomy, such as Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation. The mapping was done based on question cues [1][3] as given in Table 4.

Table 4: Question cues for each BT Level

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Describe Order Recall Reproduce Define Recite Record Match Name Recognise List Repeat Arrange Label Underline State	Arrange Express Identify Restate Explain Recognise Report Sort Interpret Locate Discuss Translate Classify Extrapolate Indicate	Apply Prepare Demonstrate Build Practice Use Operate Make Solve Illustrate Sketch Model Choose Schedule Measure Predict	Analyse Discriminate Contrast Experiment Diagram Test Examine Break Down Question Categorise Compare Differentiate Calculate Distinguish Criticise Separate	Design Propose Compose Construct Prepare Manage Organize Conduct Assemble Set Up Synthesis e Modify Formulate Collect Plan	Appraise Evaluate Value Score Estimate Support Attack Rate Select Assess Predict Defend Argue Judge Critique

Analysis Results

As explained earlier, the questions collected are mapped to various levels based on the question cues. The count of questions based on each question cue is tabulated

separately for each level. Then the number of questions in each level and its percentage were computed.

Number of questions belonging to knowledge level and the percentage of questions are shown in Table 5. This was computed separately for the first, second and third year questions.

Table 5: Number of questions in Knowledge Level

Question cues	IMCA	IIMCA	IIIMCA
Describe	25	13	8
Define	13	24	21
Name	4	6	6
Order	2		
Recite			
Recognise			
Label			
Recall			
Record			
List	20	24	17
Relate			
Reproduce			
Match			
Repeat			
State	4	5	1
Arrange			
Percentage	39%	42%	32%

The following lists some of the sample questions from the knowledge level.

1. *"State 2 clustering methods that are used?"*
2. *"List the advantages of DBMS over a file system?"*
3. *"Define functional dependency?"*
4. *"Define polymorphism?"*
5. *"State the system calls used for file access in Linux?"*

It has been observed that for the first year MCA, 39% of the questions were from knowledge level. For second year it was 42% and for the final year students (where we expect minimum) it was 32%.

The numbers of questions in the comprehension level and the percentage of questions for the first, second and third year students are shown in Table 6.

Table 6: Number of questions in Comprehension Level

Question Cues	IMCA	IIMCA	IIIMCA
Arrange			
Explain	40	49	53
Interpret	1		
Classify			
Express	3	1	
Recognise		4	
Locate			
Identify	15	5	26
Report			
Discuss	11	9	15
Indicate			
Restate			
Sort			
Translate			
Extrapolate			
Percentage	40%	40%	57%

The following lists some of the sample questions from the comprehension level.

1. *“Explain spatial data mining?”*
2. *“Explain how do you read the content of URL?”*
3. *“Explain Fork?”*
4. *“Discuss the architecture of data mining?”*

The observed results showed that for the first year MCA, 40% of the questions were from comprehension level. For the second year it was 40% and for the final year students where we expect a minimum it was 57%. The most frequently used keyword was “explain”. Approximately 10% of the entire sample used this keyword.

Table 7 lists the numbers of questions and its percentage belonging to the application level for the first, second and third year students respectively.

Table 7: Number of questions in Application Level

Question Cues	IMCA	IIMCA	IIIMCA
Apply			
Practice			
Solve	12	4	
Choose			
Prepare			3
Use	1	1	
Illustrate	3		
Schedule			
Demonstrate			
Operate			
Sketch			

Measure			
Build			
Make			
Model			
Predict			
Percentage	9%	3%	2%

The following are some of the sample questions from the application level.

1. *"Illustrate the use of expr command in shell script?"*
2. *"Prepare SRS for an Automatic Teller Machine?"*
3. *"Prepare a tutorial on maintenance tools?"*
4. *"Illustrate K-means partitioning algorithm using the data set($x_1=(0,2)$; $x_2=(0,0)$; $x_3=(1.5,0)$; $x_4=(5,0)$; $x_5=(5,2)$)?"*
5. *"Prepare a tutorial on biological data analysis?"*

It has been observed that for the first year MCA, only 9% of the questions were from application level. For the second year it was only 3% and for the final year, it was only 2%.

The number of questions belonging to the analysis level and the percentage of questions are shown in Table 8.

Table 8: Number of questions in Analysis Level

Question Cues	IMCA	IIMCA	IIIMCA
Analyse		5	1
Diagram		2	
Question			
Calculate	2	1	
Discriminate			
Test	2		
Categorise			
Distinguish	2		4
differentiate	9	11	9
Contrast			
Examine	1		
compare	2	1	1
criticise			
experiment			
break down			
separate			
Percentage	10%	12%	9%

Some of the sample questions in the analysis level are listed below:

1. *"Differentiate between pass by reference and pass by value?"*
2. *"Distinguish between verification and validation?"*
3. *"Compare the merits and demerits of various software process methods?"*
4. *"Compare Linux and Unix?"*

5. “Differentiate embedded and dynamic SQL?”

The observed results showed that for the first year MCA, only 10% of the questions were from the analysis level. For the second year it was 12% and for the final year students (where we expect maximum) it was only 9%.

Table 9 shows the number of questions and its percentage belonging to the synthesis level for the first, second and third year.

Table 9: Number of questions in Synthesis Level

Question Cues	IMCA	IIMCA	IIIMCA
design	1	1	
prepare		1	
assemble			
formulate			
propose			
manage			
set up			
collect			
compose			
organize			
synthesise			
plan			
construct	2	3	
conduct			
modify			
Percentage	2%	3%	0%

The following are some of the sample questions from the synthesis level.

1. “Design an algorithm to reverse the words in a string and then change the case of every first letter of all the words?”
2. “Construct a class diagram for Library management system?”
3. “Prepare the items that need to be kept together in order to increase profit for a super market (given the transaction set)?”

The observed results show that only few questions are mapped to the synthesis level. There were only 2% of the questions for the first year MCA and 3% of the questions for the second year. There was no synthesis question for the third year.

Surprisingly, there are no questions from the evaluation level for the first, second and third year MCA programme.

In order to compare the values, the above results are grouped based on the year and converted into bar charts. The different cognitive levels are given on the x-axis and the percentage of questions on the y-axis. It has been observed from the chart for the first year MCA that most of the questions are from the knowledge and the comprehension levels. This is represented in Fig 2. First year students are in a stage of

assimilating new information and hence cannot be expected to answer many higher cognitive level questions. However, more questions may be included to test the students' higher order cognitive skills.

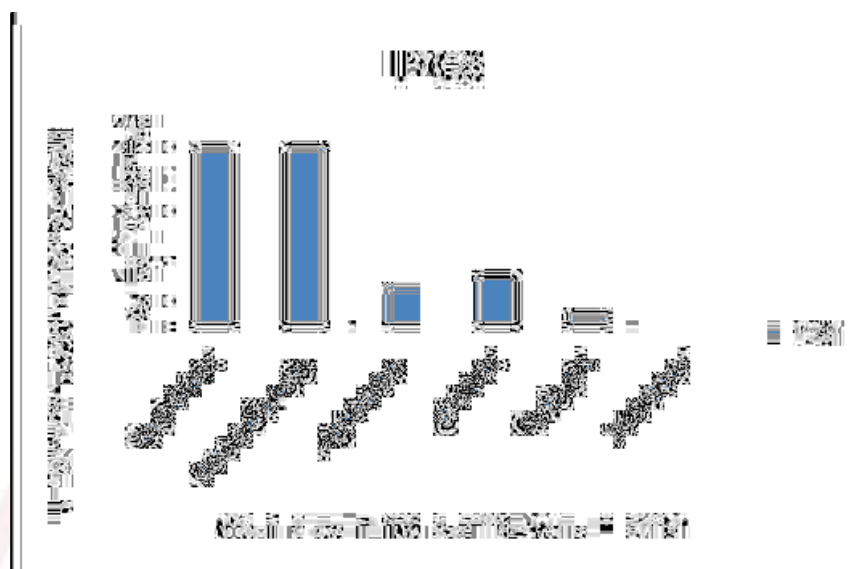


Figure 2: Mapping of I MCA questions to different cognitive levels

Figure 3 shows that, for the II year MCA students who are expected to answer more higher cognitive questions, most of the questions are mainly from the first two levels. Very few questions are included from the application, analysis and synthesis level. There are no questions from the highest level. This is really unfortunate because hardly no effort is done to test the higher order cognitive skills of the students.

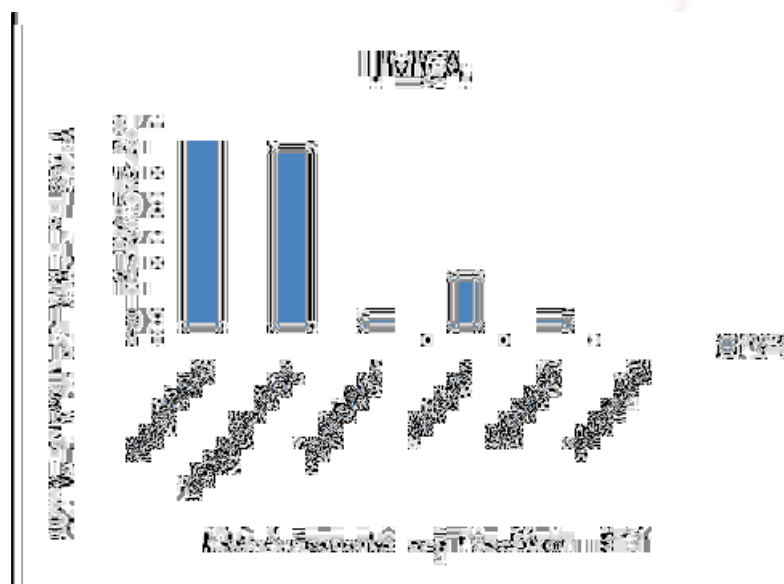


Figure3: Mapping of II MCA questions to different cognitive levels

Figure 4 shows the bar chart for the final year MCA question papers. It is observed that the highest levels such as synthesis and evaluation are not at all considered. Only the lowest levels are given importance. Thus, in the final year also their higher order cognitive skills have not been tested.

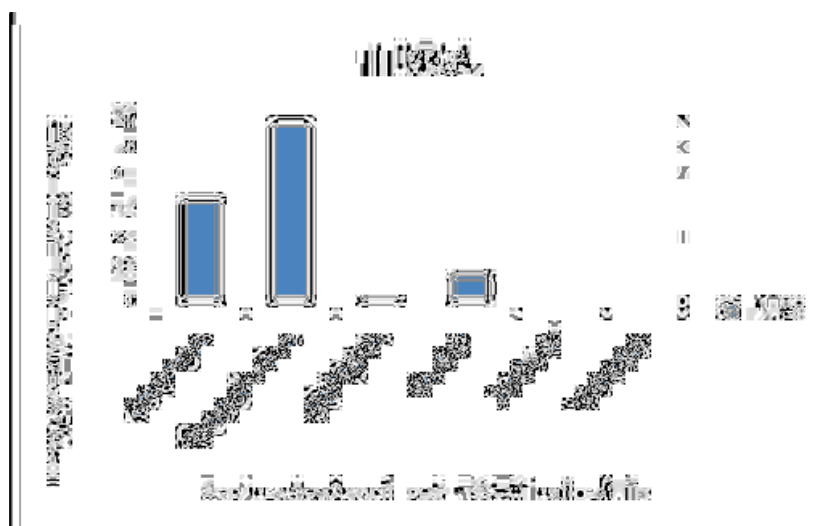


Figure 4: Mapping of III MCA questions to different cognitive levels

When all the three years' question papers are combined and analysed, it has been observed that approximately 38% of the questions are from the knowledge level, 45% of the questions are from the comprehension level, 5% of the questions are from the application level, 10% of the questions are from the analysis level and only 2% of the questions from the synthesis level. There was not even a single question to test the highest thinking skill, as shown in Fig 5.

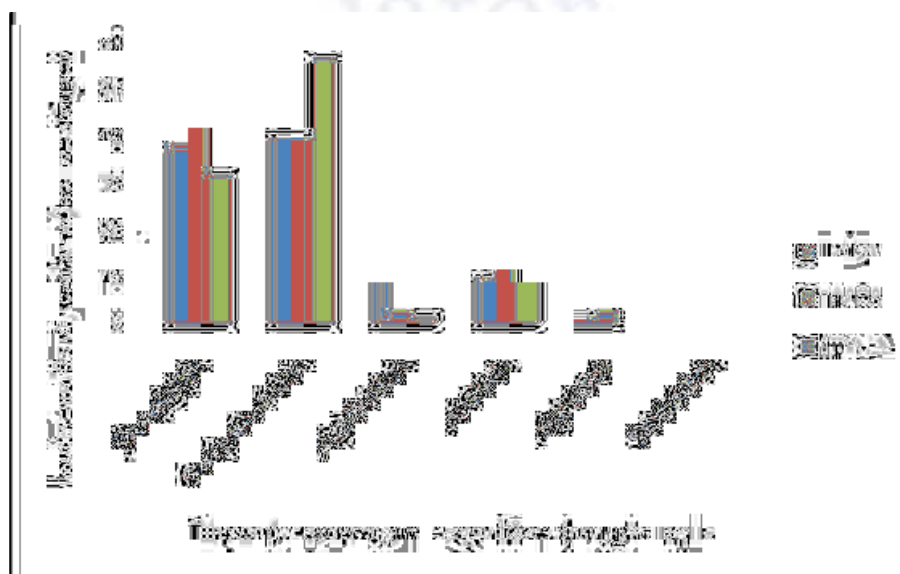


Figure 5: Mapping of questions of MCA programme to different cognitive levels

Conclusion and Future Work

The preliminary study shows that the questions from the higher cognitive levels are very less compared to the lower cognitive levels. Current assessment system has given preference to the memorization and recollection skills than the higher order thinking skills of students. This assessment pattern needs to be changed and a proper association with the Bloom's taxonomy levels are required for the improvement. In

order to improve the computational thinking skills of students, teachers should ask questions which will enable the students to apply their higher order thinking skills.

It is also found that most of the teachers are interested in asking ‘explain’ keyed questions. A study to identify the reason for this may be useful to rectify our assessment system. This study warrants similar experiments on other computing education courses such as B.Tech, M.Tech. B.Sc., M.Sc. etc. Further research on instructional design and questions paper setting to develop and test the higher cognitive skills in students may improve the quality of computing education.



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The Curriculum Development of Science Camp for Primary Students in Udon Thani Municipality Schools Based on Constructivist Paradigm and Learners' Skills in 21st Century

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Abstract

The Science Camp for Municipality Students Project was collaborative science camp conducted by the Faculty of Education, Udon Thani Rajabhat University, and Udon Thani Municipality in which an educational experience was designed to provide students with opportunities to apply basic concepts in science and thereby develop their 21st century skills. Three study objectives were 1) to construct and develop a science camp curriculum through an area-based context for primary students by collaboration between school teachers, expert referees, camp mentors and researchers, 2) to compare students' understanding of science concepts before and after using science learning stations, and, 3) to study students' 21st century skills throughout science camp activities. The individuals attending this science camp were comprised of 80 Mueangthani 4 and 5 students from the Municipality 2 School. Seven science learning stations were designed for each group. Each station consisted of a scientific scenario, question, and a Predict-Observe-Explain task. Data collection was employed with two-tier multiple choice questions, written student work and interviews. Data triangulation was used to interpret and confirm students' understanding of scientific concepts before and after working at each station. The results of the study revealed the following: 1) seven science stations were completely constructed through collaborative workshop, 2) the proportion of students with correct science concepts after working in these seven stations was 74.100%, and, 3) the students' 21st century skills after finishing the camp process were at a high level, between 3.6 and 4.1 on a 5 point Lickert scale.

Keywords: curriculum, science camp, constructivist, learners' skills in 21st century

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Introduction

Since 2002, formal teaching and learning activities in Thailand have become focused on student-centred approach both in schools and at universities. After the announcement of the National Education Act B.E. 2542 (1999) and Amendments (Second National Education Act B.E. 2545 (2002)), a constructivist paradigm has been progressively implemented for planning learning activities inside and out of classrooms. This paradigm was recognized as one supporting student-centred approach applying students' prior knowledge and understanding. Additionally, the new educational policy features a complete change in approach to basic education in Thailand. Beginning in 2012, all schools in Thailand adopted a new approach to planning school curricula. Each school developed its own curriculum based upon the Basic Education Core Curriculum B.E. 2551 (A.D. 2008) (Bureau of Academic Affairs and Educational Standards, 2008). Now student-centred and constructivist approaches are widely employed in promoting five key competencies and eight desirable learner characteristics within the basic educational system. The five key competencies and Learners' skills in 21st century have several facets, such as communication, creativity and problem solving skills (Buaraphan, 2012). The current study investigated the science camp curriculum, its coherence, and current conceptual scientific understanding of primary students in the local area. This was done by presenting challenging alternative (incorrect) concepts during the science camp process. Each was based upon a student-centred, constructivist approach addressing skills that learners' will need in the 21st century.

Constructivism includes both psychological and epistemological principles. It advances the notion that knowledge is not merely received passively, but is progressively built up by the cognising subject. It holds that the function of cognition is adaptive, enabling the learner to construct viable explanations of experiences (Driver, 1989). Such constructivist ideas embrace many facets of Piaget's genetic epistemology and often serve as a reference position for discussions of constructivism in education (Treagust, Duit, & Fraser, 1996). Constructivist teaching approach also considered students' beliefs and concepts with respect to a student-centred pedagogy in science instruction by including a focus on the interests, learning skills and needs of students in actively constructing their knowledge (Duit, 1994).

In educational constructivism, teaching approaches also consist of two principles such as individual constructivists' and social constructivists' views on learning. Individual constructivist educators believe that knowledge is not merely received passively, but is progressively built up by the cognising subject. It holds that the function of cognition is adaptive, enabling the learner to construct viable explanations of experiences. This idea follows Piaget's genetic epistemology. Additionally, social constructivist educators believe that knowledge not only is personally constructed but also is socially mediated (Driver, 1989; Treagust, Duit, & Fraser 1996) following Vygotsky's epistemology.

Learners' individual and group skills in the 21st century need to include learning and innovation skills, life and career skills, as well as information, media and technology skills. Learning and innovation skills, the 4Cs, include critical thinking and problem solving, communication, collaboration, and creativity and innovation. Mentors in each

station tried to encourage students to individually complete their own worksheets based on the 3Rs, i.e., reading, writing and arithmetic (Buaraphan, 2012).

This study applied area-based research, student-centred and constructivist approaches as well as the necessary 21st century skills in a 1-day science camp for students. The research process involved 1) a review of a theoretical framework about science camps and educational curricula, 2) brainstorming among science teachers in Udon Thani Municipality schools to collect broad ideas and set alternative concepts for students, 3) construction and validation of science stations used in the curriculum of the science camp, 4) design and conduct of relevant science experiments, 5) reflection upon the results of learning activities both with respect to conceptual understanding and science camp processes, and, 6) evaluating science camp activities. The study adopted some common strategies for investigating students' understandings, including two-tier multiple-choice tests (Treagust, 1988), Predict-Observe-Explain (POE) sequences (Gunstone, 1995), interviews (Chen, Lin, & Lin, 2002), and written work tasks based on learners' 21st century skills (Kay, 2010 cited in Buaraphan, 2012). Additionally, learners' 21st century skills were assessed using a survey instrument compiled by the current author, school teachers and science camp mentors (as expert referees). It was used to investigate students' 21st century skills in science camp activities.

The current study's author constructed science problems based upon concepts and experiences of local science teachers in the Udon Thani Municipality. The science curriculum was completed upon reflecting activities from camp members, camp mentors, and expert referees.

The aims of the study were to develop a curriculum for a science camp using an area-based context and to investigate the effectiveness of using science learning stations to improve students' understandings of various scientific concepts, using multiple investigation methods as part of a 1-day science camp. Additionally, students' 21st century skills were investigated using a questionnaire after they finishing learning activities as part of the science camp evaluation process. Learning activities through this science camp curriculum challenged students' present conceptual understandings in primary school by consideration of alternative conceptions presented through participation in group activities within constructivist-oriented science learning stations.

Research applying a student-centred approach, constructivist paradigm and learners' 21st century skills was conducted during a 1-day teacher workshop and a 1-day school science camp named "Science Camp for Municipality Students". The development process of the science camp curriculum involved 1) reviewing theoretical framework, 2) brainstorming to develop broad ideas and students' alternative concepts, 3) constructing and validating science stations, 4) designing and conducting relevant experiments at the science stations, 5) reflecting upon learning activities by camp members, camp mentors and school teachers, and 6) evaluating science camp activities.

The study included of two main parts, workshop and science camp activities. A teacher workshop was done as an area-based approach. It adopted pedagogical content knowledge (PCK) to focus broadly upon scientific contents and alternative concepts for students. Science camp activities adopted some common strategies for

investigating students' understandings, including two-tier multiple-choice tests (Treagust, 1988) which included situation, question, answers and suitable reasons (Pathommapas, 2012), Predict-Observe-Explain (POE) sequences (Gunstone, 1995) through experiments, interviews (Chen, Lin, & Lin, 2002), and written tasks. Additionally, students' 21st century skills were evaluated using a survey questionnaire compiled during the teacher workshop.

2. METHODOLOGY AND RESEARCH DESIGN

2.1 Methodology

The research methodology used workshop activities as an area-based strategy to prepare science stations and pretest-experiment-posttest techniques for measuring changes in students' conceptual understandings. Furthermore, pedagogical content knowledge (PCK) and learners' 21st century skills were used for developing ideas and evaluating science camp activities, respectively.

The teacher workshop used an area-based strategy based upon student-centred approaches and a PCK sequence. Science content was developed as strand, standard and grade-level indicators of the Basic Education Core Curriculum B.E. 2551 (A.D. 2008). Pedagogical knowledge used group activities in science stations through a science camp process. So, PCK was the main strategy for designing each science station.

Assessment techniques for group and individual activities in this study were based upon established assessment strategies, including the two-tier test, interviews, written work and open investigation. Furthermore, learners' 21st century skills were assessed and evaluated using a Science Camp Evaluation questionnaire.

2.2 Research Design

The research design used a series of case studies (Merriam, 1998) which in the design of the seven learning stations, using both quantitative and qualitative methods (Cohen, Manion, & Morrison, 2000) for data collected from primary (levels 4 & 5) students at Municipality 2 Mukkamontri School, Udon Thani Province, Thailand. The students attended a science camp organised by Udon Thani Rajabhat University. The results of these form the substance of this report. The participant sample, numbering 80 students, was divided into groups of approximately 12 which again divided into 2 subgroups. Two subgroups, A and B, were assigned to one science station. As the research was conducted within a science camp format using a constructivist paradigm, the research protocols are therefore presented here in three parts. Part One caught broad scientific ideas and set science station during a teacher workshop (Phases 1, 2 and 3). Part Two explored challenges to students' conceptual understanding scientific concepts (Phase 4) Part Three examinee the quality of the science camp activities (Phases 5 and 6). The research process is outlined in Figure 1.

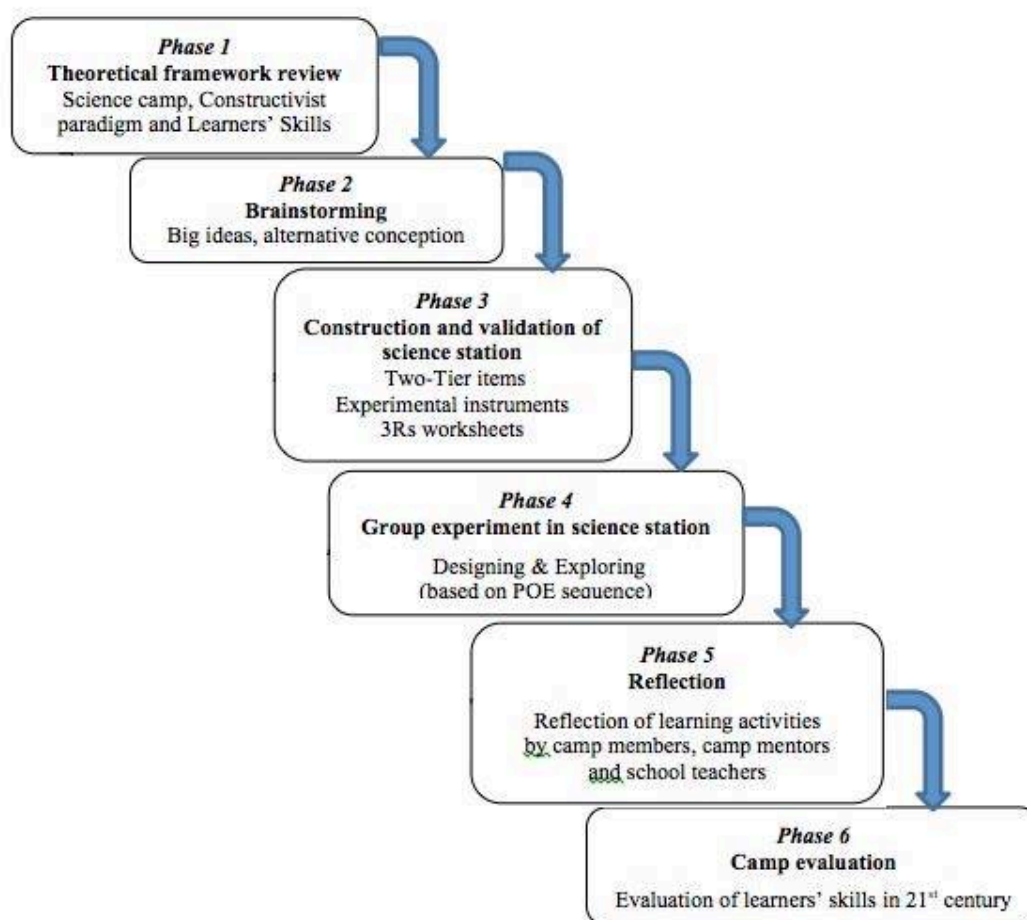


Figure 1: Flow diagram showing group activities within science stations used to modify students' alternative conceptions

Part One: Workshop for catching broad scientific ideas and setting science station

The first part of the study was done in a workshop to determine which concepts would be presented at science stations. The details are as below.

Phase 1: Theoretical framework review

Review of the theoretical framework was done in the first teacher workshop of the research study. This phase was conducted with expert referees and researchers to guide development of the science camp using a constructivist paradigm using a 21st century learners' skills.

Phase 2: Brainstorming for broad ideas and alternative concepts

The last phase of the teacher workshop was brainstorming to determine broad ideas, and gather students' alternative concepts. The teacher workshop used an area-based strategy. Using their experience, each teacher tried to provide his or her students with alternative concepts. Then, priorities were set and science stations designed.

Phase 3: Construction and validation of science station

The science station designs were carefully checked for both content and format by three expert referees. The referees all held Doctorates in Science Education. Finally, ten science stations were set up to include experimental instruments, a poster exhibition, a mentor's manual and a student worksheet. Two-tier multiple choice questions, a science station poster and a student worksheet are shown in Figures 2, 3 and 4, respectively.

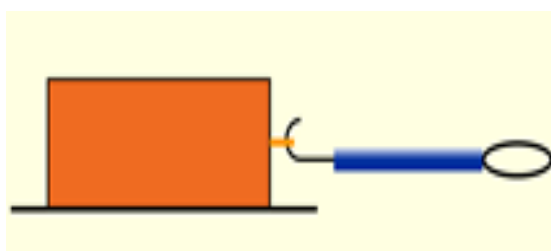


Strand 4: Forces and Motion

Standard: SC4.2

Grade-level Indicator: SC4.2

Scenario: Pull a piece of brick which is on the rigid surface, such as table, with spring balance as figure. Determine static friction by reading balance scale in Newton unit while immediately start moving.



Question 1: If two pieces of tiny sticks are fixed with oil clay between the brick and floor in parallel direction of movement. What does the static friction change?

Assertion		Reason
1) no change	<i>because</i>	a) The weight of brick which pressed to the table is the same quantity;
2) increase		b) The use of sticks have no effect to the friction change;
3) *decrease		c) *The area which pressed to the table is smaller;
4) there is no rule of friction		d) The surface of brick is rougher.

* Correct answer

Figure 2: Two-tier item question for static friction (translated from Thai version)



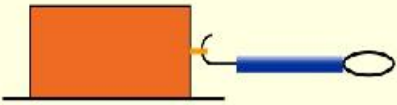


SCIENCE STATION 3P



สาระที่ 4 แรงและการเคลื่อนที่
 มาตรฐาน ว 4.2
 ตัวชี้วัด ว 4.2.1 (แรงและการเคลื่อนที่)

สถานการณ์ : โด่เรียนกำลังเล่นลูกตุ้มอยู่ด้วยตัวเองเมื่อครูเดินเข้ามาในห้องเรียนและถามว่าลูกตุ้มเคลื่อนที่อย่างไร



คำถาม: ถ้าโยนลูกตุ้มไปทางซ้ายแล้วปล่อย (ในแนวระนาบกับการเคลื่อนที่) ลูกจะเคลื่อนที่อย่างไร	
คำตอบ	เหตุผล
1) กลับคืน	เพราะว่า ลูกตุ้มจะเคลื่อนที่กลับไปมาอย่างสม่ำเสมอ
2) เบาลึ้ม	
3) หยุด	
4) ไปทางขวา	

Figure 3: Poster of Science Station 3P using for learning activities in Science Camp (Thai Version)





SCIENCE STATION 3P



Student work Sheet

Reading

.....

.....

.....

.....

Writing

.....

.....

.....

.....

Arithmetic

.....

.....

.....

.....

Figure 4: Format of student's work sheet based on 3R's**Part Two:** *Exploration for challenging students' science conceptual understandings*

Part Two was a constructivist exploration via group work activities at science stations. There was one phase in this part. The learning activities were done via a science camp process. The details of this part are given in Phase 4.

Phase 4: Designing & exploring the constructivist-informed laboratory

The sequence activities in Phase 4 were pretest, group exploration and posttest. Group exploration in this phase involved a group design to construct laboratories focused on experimental objectives and exploration of results based on the Predict-Observe-Explain (POE) task model. The students designed, tested and confirmed the results by themselves. Successful completion of the POE tasks required that students' independently recognise and modify their individual conceptual understandings. This process involved the following three steps:

Step 1: Groups of students developed the experimental objectives, designed POE scenarios (more than one) and set up the laboratory procedures by themselves.

Step 2: Groups of students tested POE tasks (more than one) and confirmed the appropriateness of the concepts involved, based upon the POE task results.

Step 3: Each student completed an individual worksheet, 3R's, in accordance with the concepts he or she learned in their experiments.

Part Three: *Examination the quality of the science camp activities***Phase 5: Reflection**

Reflective activities were done in the last section of the science camp before its formal closure. The presenters were group members and science station mentors using the Plus-Minus-Interesting (PMI technique). There were three steps in this process:

Step 1: Groups discussed positive experiences (Plus), limited experiences (Minus) and the most interesting experience (Interesting) of learning activities in science camp.

Step 2: Oral presentation from group representative members and station mentors by random selection.

Step 3: Gathering and summarizing data and drawing conclusions.

Phase 6: Science Camp evaluation

This phase was the final part of science camp. Its purpose was to determine students' 21st century skills as a part of science camp evaluation. The Science Camp Evaluation questionnaire was used to assess these skills and was followed by assessment before formal closure of the science camp project. This 14-item questionnaire consisted of 8 items for Learning and Innovation Skills, 3 items for Life and Career Skills, and 3 items for Information, Media, and Technology Skills. It was compiled by the study author and science teachers as workshop activities. The content validity (Creswell, 2008) of this instrument and succeeding question scores were verified by experts comprised of University colleagues. Students individually completed questionnaires and returned them to camp mentors for interpretation and evaluation.

3. RESULTS

Results and data analysis pertaining to the five-step research design are as follows:

Part One: *Workshop for gathering broad ideas about science and setting science stations*

Phases 1, 2 and 3

After completion of teacher workshops in Phases 1 and 2, and expert validation in Phase 3, ten science stations based on the same number of science concepts were completed. Media for these stations were printed including poster presentations, mentor manuals and student worksheets. The ten station concepts were:

Station 1: Light refraction

Station 2: Floating force

Station 3: Static friction

Station 4: Free fall

Station 5: Sound frequency

Station 6: Food web

Station 7: Air pressure

Station 8: Solubility

Station 9: Electric circuit

Station 10: Animal taxonomy

Part Two: *Exploration challenging students' science conceptual understandings*

Phase 4

The results from students' answers to the two-tier diagnostic pre-test questionnaire at seven stations, 1-7, were triangulated with data from their written work and personal interviews. The numbers and percentages of pre-instruction students with correct, alternative or unclear science concepts are shown in Table 1.

Table 1. Results of students' pre-constructed conceptions, focusing upon level of understanding

Level of Understanding	Science station 1		Science station 2		Science station 3		Science station 4		Science station 5		Science station 6		Science station 7	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Correct conception	7	22.0	7	12	14	24.0	14	23.0	6	15.0	46	97.0	8	36.0
Unclear conception	10	31.0	10	10	70	12.0	0	0	16	40.0	0	0	7	32.0
Alternative conception	15	47.0	17	64	38	64.0	46	77.0	18	45.0	1	2.1	7	32.0
Total	32	100.0	34	86	59	100.0	60	100.0	40	100.0	47	100.0	22	100.0

N= number of students, % = percentage

Station 1: Light refraction, Station 2: Floating force, Station 3: Static friction, Station 4: Free fall, Station 5: Sound frequency, Station 6: Food web, and Station 7: Air pressure

Students' answers to the two-tier diagnostic post-test questionnaires, obtained after completing the science station activities, were triangulated with data from their written work and personal interviews. The post-test questionnaire results show that the number of students having correct conceptual understandings was higher than that of the pre-test results. The numbers and percentages of post-instruction students with correct, alternative or unclear science conceptions are shown in Table 2.

Students' answers to the two-tier diagnostic post-test questionnaires, obtained after completing the science station activities, were triangulated with data from their written work and personal interviews. The post-test questionnaire results show that the number of students having correct conceptual understanding was higher than that of the pre-test results. The numbers and percentages of post-instruction, students with correct, alternative or unclear science conceptions are shown in Table 2.

Table 2. Results of students' post-constructed conceptions, focusing upon level of Understanding

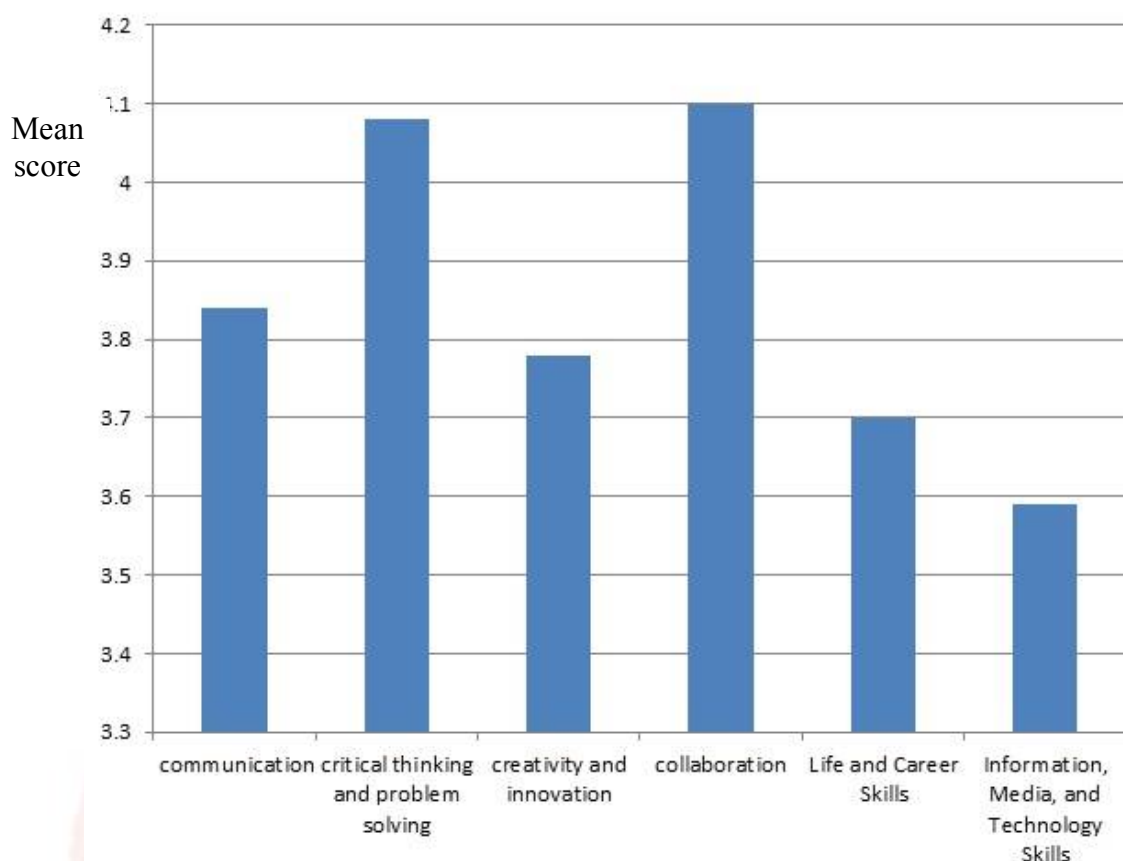
Level of Understanding	Science station 1		Science station 2		Science station 3		Science station 4		Science station 5		Science station 6		Science station 7	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Correct conception	26	74.0	43	100.0	53	89.8	60	97.4	40	100.0	47	100.0	19	86.0
Unclear conception	7	20.0	0	0	1	1.7	1	1.6	0	0	0	0	3	14.0
Alternative conception	2	6.0	0	0	5	8.5	0	0	0	0	0	0	0	32.0
Total	35	100.0	43	100.0	59	100.0	61	100.0	40	100.0	47	100.0	22	100.0

N= number of students, % = percentage

Part Three: Examination the quality of the science camp activities

Phases 5 and 6

The mean scores of the five point scale of the Science Camp Evaluation questionnaire reflect personal satisfaction with respect to perceived changes in learners' 21st century skills after completing the science camp. These data appear in Figure 5 and Table 3.



Note: 1-strongly disagree, 2- disagree, 3-Neutral, 4- agree 5- strongly agree

Figure 5: Comparison of mean scores for learners' skills in 21st century (n=72)

Table 3: Mean scores, standard deviations and personal ratings of students' skills in 21st century (n=72)

Students' skills	Mean	Std. Deviation	Rating
Communication	3.84	0.88	agree
Critical thinking and problem solving	4.08	0.97	agree
Creativity and innovation	3.78	0.88	agree
Collaboration	4.10	0.88	agree
Life and career skills	3.70	0.89	agree
Information media and technology skills	3.59	1.30	agree

The results showed that learners' 21st century skills received high scores for all of six skills. Scores for learning and innovation skills, i.e., communication, critical thinking

and problem solving, creativity and innovation, and collaboration were 3.84, 4.08, 3.78 and 4.10, respectively. The scores in life and career skills, and information media and technology skills were 3.70 and 3.59, respectively. These responses suggest that a science camp curriculum based upon a constructivist learning paradigm is suitable and useful for developing students' 21st century skills with respect to the relevant competencies.

4. FINDINGS AND CONCLUSIONS

The research findings indicate that essential concepts pertaining to seven scientific concepts changed following participation in science camp learning activities. The science camp curriculum served to enhance students' understanding of concepts in various areas and may serve as a promising means for investigating both the *process* of conceptual change and the *influence of conditions* generally supportive of such changes.

A science camp curriculum is suitable to explore constructivist-oriented activities within science learning stations, using a series of Predict-Observe-Explain (POE) tasks and constructivist experiments. Science camp processes appear to be useful facilitators for the achievement of conceptual changes. Group activities conducted during the science camp environment resulted in a significant degree of success in rectifying inaccurate conceptual understandings of science students. After completion of the learning activities, the majority of student understanding was found to be correct. Students' 21st century skills, gauged from their responses to a five-point Lickert on the project questionnaire suggested that a high degree of students' satisfaction was derived from attending the science camp using POE tasks and constructivist experiments.

The findings of this study have broad implications for the use of science stations employing a science camp curriculum, constructivist approach and relevant science camp processes in formal Thai education. This will provide students with improved opportunities for developing their understanding of essential concepts in the various ideas of science at the primary school level.

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***Applying Interdisciplinary Case-Based Learning in Teaching for
Master of Public Health in Vietnam***

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Official Conference Proceedings

Abstract

Active teaching-learning methods have been applying more common in public health training. Hanoi School of Public Health (HSPH) is one of the public health training institutions in Vietnam that has been applying active teaching-learning methods. Problem-based learning and scenario-based learning have been introduced to students since 2009. To reduce the burden of using case study for each separate subject, HSPH has piloted developing cases that can be used for multiple subjects called interdisciplinary cases/case-based learning. Three cases had been developed with the collaboration of 8 subjects of 4 faculties. This study aims to describe the process of developing interdisciplinary cases and initially assessing the result of applying interdisciplinary cases in teaching for the Master of Public Health (MPH). The study design was combining quantitative and qualitative methods among 175 respondents. Epi Data 3.0 and SPSS 16.1 were used to managed and analyzed quantitative data. Qualitative information was analyzed based on themes. The results indicated that both students and teachers highly appreciated the advantages of interdisciplinary case-based learning (ICBL) (70%). Some conditions that support the application of ICBL were: the case should be revised and updated annually, adequate instructors for group work, appropriate time schedule... This method needs to be continued piloting and assessing in the next academic year in order to affirm its appropriateness in MPH teaching in HSPH.

Keywords: interdisciplinary, case-based learning, public health.

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Introduction

Higher training today is based on two main approaches: 1/ Providing learners with basic knowledge to support for their professions, and 2/ Providing learners with methodology, problem solving skills emerged in their professions and in life rather than providing knowledge (Stanford University, 1994). Public health, with interdisciplinary characteristic, huge information, and continuously updating, knowledge providing approach may not be appropriated. Approaching, applying knowledge of multiple subjects, solving existing and emerging public health issues as well as creating new knowledge are factual meanings of public health training.

Public health training, especially for MPH training, requires appropriate teaching methods to provide students with basic knowledge, reasonable problem solving approaches to support students in their self-study to improve knowledge and skills to solve practical issues. These requirements based on the public health competencies that students need to achieve such as: identifying and analyzing health issues; controlling diseases; developing health policy; mobilizing stakeholder participation; health planning; doing research, developing and implementing advanced public health solutions (9 essential public health functions) (WHO, 2003).

Even though active teaching-learning method applying case study is considered appropriate method in public health training (WHO, 2005), its application in public health academic institutions is not as such popular. HSPH is one of the academic institutions that applying active teaching-learning methods such as problem-based learning (PBL), scenario-based learning (SBL), etc. in teaching; however, they have applied in separate subjects. In reality, health issues are affected by many health determinants and needed to be solved by interdisciplinary approach. Hence, the idea of using one case for multiple subjects has become reality when lecturers develop one comprehensive case based on health issues in Vietnam to use for different related subjects. For instance, the competency of health management is to address health problems but need to ensure cost-effective; the competencies of controlling diseases and injury, of analyzing environmental determinants of health, behaviour change can be achieved after using a case study that refers to many determinants of health. Solving this case requires synthetic knowledge and skills, analyzing and considering actual conditions, interacting between students as well as with lecturers to come up with appropriate solutions.

This paper answers such questions as: how is the process of developing, applying ICBL in teaching at the HSPH? What lesson learnt should be noted to improve the quality of training and help students attain necessary competencies?

Objectives

1. Describing the process of developing interdisciplinary cases.
2. Initially assessing the result of applying ICBL method in MPH teaching.

Methodology

The study design was descriptive with both quantitative and qualitative methods applied. This study was conducted from March to July 2014 at the HSPH.

Respondents are MPH students who had learnt the subjects included in the interdisciplinary cases and Lecturers who had involved in developing and teaching the cases.

157 MPH students participated in filling the self-administered questionnaire including questions on the content of the case, studying activities, and their comments. The purposive sampling of 30 MPH students and 10 lecturers joined in 3 focus-group discussions (FGD) of MPH students (10 students/group) and 1 FGD of lecturers. FGD of students and lectures focused more on the appropriateness of the content, advantage and limitation of applying ICBL in teaching and other recommendations. The quantitative data were collected, cleaned and coded by using Epidata 3.0 and SPSS 16.1. The qualitative data were recorded, transcribed and analyzed by themes.

Result and discussion

1. The case developing process

Cases were developed with interdisciplinary approach. Each case was used for 3 different subjects. The 3 cases were designed with the collaboration of 8 subjects of 4 Faculties: Basic Sciences, Environmental-Occupational Health, Social Sciences, and Health Management:

1. Case “Systematic approach to prevent the transmission of avian influenza A (H5N1) in Vietnam” integrated 3 subjects: Basic Epidemiology, Environmental Health, and Health Promotion.
2. Case “Traffic accident in Vietnam” integrated 3 subjects: Injury Prevention, Health Promotion, and Social Marketing.
3. Case “Hospital overload” integrated 3 subjects: Hospital Management, Health Economic, and Health Policy.

The teaching was implemented as following:

Stage 1 - Preparation: Lecturers who were responsible for developing the 3 cases gathered to develop the case outlines and to agree on the case format. Face-to-face meeting, and emailing were held. After agreeing upon the outlines and format, each subject developed the contents that could reflex the theories. The outlines included 6 parts: Goal, objectives, learning instruction, case content, learning activities (divided into 3 specific subjects), and references.

Stage 2 - Develop the cases: After the 3 groups agreed with the outlines, group members began to search for references to develop the cases. Documents in different types were searched including articles of prestigious journal, books, video clips related to the topics. In this period, group members continued to discuss through email to ensure that the contents of each subject were integrated in the cases properly. Besides the case contents and learning activities, there was a list of references to support students in answering questions in learning activities.

When the first drafts were done, each group sent the case to the other two groups for comments. Besides, this project was collaboration between HSPH and Global Health Institute, BRAC University, Bangladesh, so the 3 cases were also translated into English and sent to Bangladesh team for comments. After receiving feedback from

other groups and from Bangladesh team, the 3 cases were revised again and then piloted with MPH students.

Stage 3 - Pilot: The 3 final drafts of cases were used in teaching related subjects. The piloting was done after students completing subjects. The self-administered questionnaire and FGD were applied for collecting students' answers and comments. Piloting results were used for revising the 3 cases. FGDs were also carried out with lecturers who applying the cases for their teaching to receive comments on advantages and disadvantages of using ICBL.

Stage 4 - Revision: After having piloting results, the 3 cases were revised and finalized for applying officially in the academic year.

2. Results of piloting ICBL

2.1. Advantages and limitations of the method

2.1.1. Advantages

The application of one case in teaching different subjects is an active teaching-learning method, which is highly appreciated by both students and teachers because of its advantages in comparison to other traditional methods. Both quantitative and qualitative results confirm this opinion.

Quantitative data showed that more than 70% students agreed with the advantages of this method such as: enhance the active role of the students, improve such skills as analyzing and solving problems, searching for references, group work, presentation, improving interaction between students and lecturers, etc. The advantages that were emphasized the most including improve such skills as analyzing and solving problems in a multidiscipline approach and enhance the active role of the students (see Figure 1).

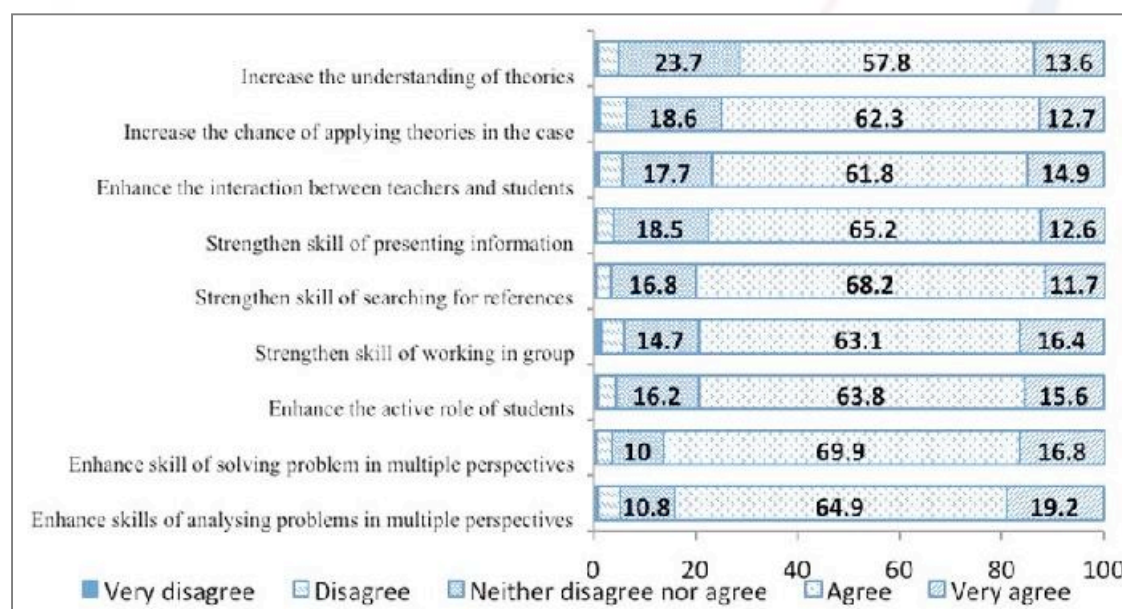


Figure 1: Advantages of ICBL method from the view of students

Results from FGD with students also reconfirmed the quantitative results in terms of emphasizing the two advantages: enhance the active role of the students and multidiscipline approach in analyzing and solving problems:

“For answering questions in the learning activities, we need to be active in searching for references. We understand the problem more deeply. That is the biggest advantage of this method” (FGD1, student)

“The problem is hospital overload. It needs to be analyzed in different perspectives of hospital managers, health economics or policy makers. The solutions are also different for each perspective... The biggest lesson in solving this problem, according to me, is our way of thinking. We should not be narrow-minded, we should look at multi-perspectives and we need to synthesize the knowledge. That is an important lesson” (FGD3, student)

This learning-teaching method not only brings benefits to students but lecturers also achieve many lessons through the development and implementation of CBL method:

“Honestly, at first I feel confused because the developing and applying CBL go beyond the subject that I am responsible for. However, the process of developing the case and facilitating students help me improving my references’ searching skill and updating information as well as problem analyzing skill”(FGD1, lecturer).

The advantages that were confirmed by students, lecturers and facilitators when applying this method would help the training managers designing appropriate training program to support students reach the highest results. The acknowledgements from students also help lecturers encouraging and empowering students to self-study in group based on specific learning guidelines.

2.1.2.Limitations

Results indicated that there were different perspectives between learners and teachers about limitations of this method.

According to the students, the limitations were emphasized including requiring students to put much more time; work in group may lead to the reliance of some students on other active ones. This might also lead to the difficulty in assessing students equally and lack of trust between group members (see Figure 2).

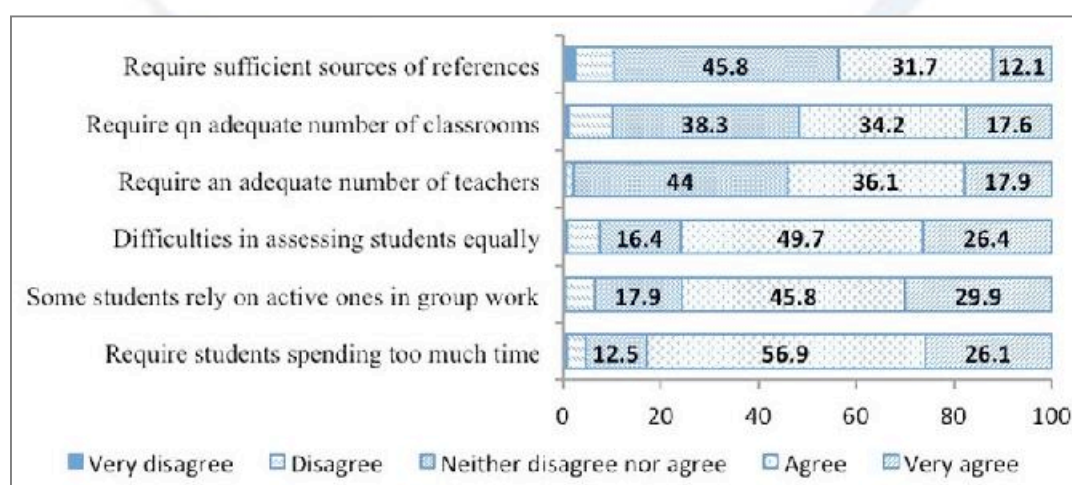


Figure 2: Limitations of ICBL method from the view of students

Results from FGD also reconfirmed the results from questionnaires:

“Learning pressure for us when using this method is quite high because we have to spend more time on searching for materials. If one case is used for different subjects (like this), it’s much better. At present, each subject has its own case; we have to shift from this case of this subject to another case of another subject. Sometimes we are confused” (FGD2, student)

“There are 6 people in our group but only 3 people do the work, other 3 rely on us and don’t do anything. But finally they get the same mark with us” (FGD3, student)

Meanwhile, lecturers stressed on such limitations as the requirement of human resource and references to support for solving the case:

“Applying this method requires us to divide students in groups, facilitators need to follow each group while they are working in class, helping them with looking for references, meanwhile we lack of facilitators. Source of references need to be rich to support students effectively...” (FGD, lecturer)

Feedback from students on the limitations of this method recommended lecturers of the number of interdisciplinary cases should be applied; the schedule was also needed to be rearranged to reduce teaching pressure for lecturers. Methods of monitoring and assessing students in their studying process should be considered to make the assessment more reliable.

To answer questions in learning activities, students should use information given in the cases as well as find other materials from different sources. This requires sources of references must be available and accessible. Lecturers also need to spend time for searching for other sources of references to support students in their learning. Working in small groups also requires more classrooms and more facilitators to support students to improve the quality of facilitating.

2.2. General feedbacks from students and lecturers of the method and the cases

2.2.1. General feedbacks of the method

After the pilot, the assessment results showed that most of the respondents (both students and lecturers) enjoyed this new learning method.

With Likert scale from 1-5 (from “not so interested” to “very interested”), quantitative results showed that 42.8% of the respondents feel “interested” and 32.8% feel “very interested” with this new learning method. The percentage of respondents feel “not so interested” or “not interested” were quite low, 11.6% and 2.5%.

FGDs with students and lecturers also showed the same result:

“I was so excited with the new learning method when we learnt the 3 subjects: Health Promotion, Environmental Health and Epidemiology. We work in different sectors so we can share our opinions and support each other as well as learn from others...” (FGD1, student).

“Applying this method makes us feel interested. We learnt a lot while facilitating students in group work. We really surprised with their creative ideas in figuring out the solutions” (FGD, lecturer)

2.2.2. Feedback on the cases

Assessment on the appropriateness of the 3 interdisciplinary cases showed that most of the students agreed that the cases were appropriate with the related subjects. The percentage of respondents chose “appropriate” or “very appropriate” with the subjects were from 73.2% (Epidemiology subject in the case of Avian flu H5N1) to 100% (Health Promotion in the case of Avian flu H5N1). Nobody chose “not so appropriate” (see Figure 3).

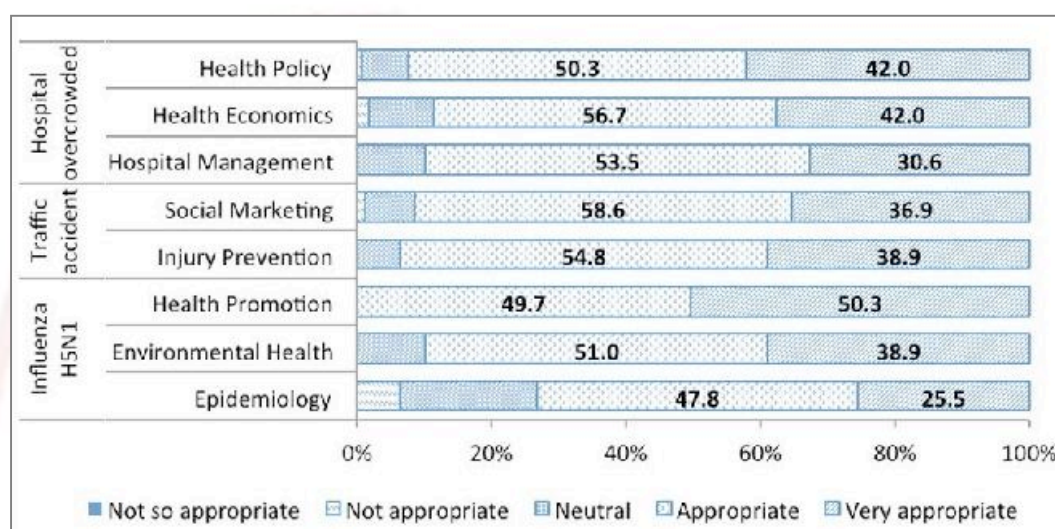


Figure 3: The appropriateness of each case

Students in FGDs also confirmed this result:

“Hospital overload is definitely appropriate with the 3 subjects: Hospital Management, Health Economics, and Health Policy. Especially with Health Policy and Hospital Management, the theories in these 2 subjects support us a lot in solving the case. With Health Economics, I think the case should focus more on the way of payment or the changing of financial pathway in the context of hospital overload” (FGD3, student).

“Traffic accident needs to be solved with different solutions, in which prevention should be strengthened. I think the case Traffic accident helps us connect the contents that have been introduced in the 3 subjects: Injury Prevention, Health Promotion and Social Marketing. Especially Social Marketing has presented us a new approach to do intervention. However, because it’s new so the case should includes activities that have been done in other programs, price/product strategies to help us understand more this subject more” (FGD1, student).

2.3. Some conditions to ensure the effective application of interdisciplinary case-based learning method at HSPH

FGD results have suggested some necessary conditions to make CBL more effectively at HSPH, including:

The case should be developed with various topic and reflex real life:

The case are developed close to the jobs that students take charge at work will increase their interested in learning the case, especially with those who are now working. Information given in the case should be holistic, should show the relationship and impact between different factors to maximize the advantage “enhance multi-perspective problem solving” of this method.

“The case is close to what we are doing, we can apply it in our work. That’s a good point. We’re really interested in such cases” (FGD2, student).

“Public health requires multi-perspective way of thinking, so the case should include fruitful information. When solving the case, learners will be trained with such skills as information synthesis and problem solving in different perspectives” (FGD3, student).

The number of cases should be various and should be changed annually to avoid the whole class use one case or the case is used in many school years:

“I think if we continue to apply this method, you should develop more new cases. For example this year we use one case. We can learn from each other but it still uninteresting. And the case should also be altered for the next class to create interest for learner” (FGD3, student).

Lecturer or Facilitator: enough in numbers, same in skills and profession.

On students and lecturers’ opinions, to successfully apply this method, the department needs to have enough lecturers and facilitators:

“When facilitating students in class, if the number of groups is too many but there are only 1-2 facilitators, the method will not be effective because the time one facilitator spend for each group is too short” (FGD, lecturer).

On the other hand, facilitators need to have such skills as instructing, guiding the references searching activities, monitoring the group work to have equal assess, especially they should be unified in instructing students:

“Lecturers should guide the references searching activities and have equal assessment to draw everybody’s participation. So that the group work can be effective” (FGD2, students).

Reasonable time schedule: group work, self-study alternative with lectures. This may help students in searching for references and preparing the presentation.

The size of group should be 4-6 students. This learning method requires students to work in group, so the numbers of students in each group should be appropriate. If the group is too big, it may lead to the reliance. If the group is too small, it may lead to the difficulty in searching for and sharing.

Ensure the number of suitable classroom and necessary equipment. Working in groups requires more classrooms for group work and presentation. Hence, to apply this method effectively, there is a need of having enough classrooms:

“Regarding the facilities, I think there should be enough classrooms to divide students into different groups as the Environmental Health Department has done. The class was divided into groups and there were enough facilitators for each group. This has led to the effectiveness of this method” (FGD1, student).

Training the new learning method for students. ICBL requires the activeness of students, so before applying this new method, students need to be trained and instructed group work skills. This is an essential condition of the effectiveness of applying CBL.

Conclusion

HSPH has developed 3 cases to apply in teaching-learning for 3 groups of subjects: (1) Epidemiology-Environmental Health-Health Promotion; (2) Injury Prevention-Social Marketing-Health Promotion; (3) Hospital Management-Health Policy-Health Economics. Initially received advantage feedbacks such as: create self-study chances, enhance problem analyzing skills. ICBL also pushes lecturers or facilitators to search for and update information; analyze the problems in different perspectives, empower and support students to achieve learning objectives. Besides, this method brings some challenges such as: human resource pressure; rearrange the time schedule in the whole academic year appropriately to apply CBL; students need enough time for self-study and the references need to be fruitful and accessible; the cases need to be adjusted to meet the reality; and having the reliable assessment.

Some lesson learnt can be shared: the cases should be closed to the health issues, holistic and can orient students to search for more information to analyze and solve the problem properly. Lecturers or Facilitators need to have good knowledge and experience. Students should be divided into groups of 4-6 persons to strengthen effective participation and have to be equipped learning method in order to participate actively. Teaching-learning schedules need to be planned properly. Adjusting the cases as well as the method base on students' feedback. Ensure the teaching-learning conditions.

Recommendations

The cases should be continued to pilot and assess in the next academic year to maintain and widen in teaching-learning for MPH program. The design, revision, updating of the interdisciplinary cases should be invested properly; enhance the teaching capacity for lecturers; equipped students with learning skills; ensure necessary teaching-learning conditions as well as reference sources. Sharing and learning experience on this method to improve training quality of MPH program.

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The logo for the International Association of Faculties of Education (iafor) is centered on the page. It features the word "iafor" in a light blue, lowercase, sans-serif font. The text is enclosed within a circular graphic composed of two concentric, slightly offset arcs. The outer arc is a light red color, and the inner arc is a light blue color, matching the text. The overall effect is a subtle, circular frame around the organization's name.

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***Decision-making and Communication Processes To Create the Best Practice for
Implementing Engineering Accreditation***

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Official Conference Proceedings

Abstract

This study investigates the programs' decision-making and communication processes that can foster the best practice for accreditation implementation. After 20 interviews, including deans, department chairpersons, and faculty members, this study employed the theoretical framework of Soft Systems Methodology (SSM) and a general inductive approach to come up with the best practice for implementing engineering accreditation in Taiwan. Eijkman, Kayali and Yeomans claimed (2009) that that previous studies did not address how on-going tensions had existed among faculty members during the accreditation implementation process. Inspired by the findings of Lattuca et al.(2006), this study conducted an open-ended interview to hear the voices of 20 university faculty members regarding their programs' decision making and communication processes through the SSM theoretical framework and the general inductive approach in order to develop recommendations for the best practice for implementing engineering accreditation in Taiwan. Although the present study does not discuss how such tensions are resolved, the results of this study point out what might lead to those tensions and how to prevent them in the first place. This study can serve as a basis for further research on evaluating the effectiveness of engineering accreditation in Taiwan. Based on the results of these research findings, a series of conclusions and recommendations are presented so that a program undergoing accreditation can proceed more efficiently, and faculty members will be able to approve of or acknowledge the necessity of accreditation.

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I. INTRODUCTION

In engineering education, a major reform that has been implemented over the past few years is an accreditation system for engineering education. This program is a quality assurance system that is outcome-based and emphasizes continuous improvement of the school and the development of graduates' core competencies. Its purpose is to evaluate whether an engineering program undergoing the accreditation process has fulfilled the educational goals that it has set for itself, as well as to ascertain whether graduates are equipped with the necessary core competencies to work professionally.

Lattuca, Terenzini and Volkwein (2006) indicated that the accreditation process resulted in changes in the faculty culture. However, they did not clearly indicate how the deans and chairpersons of engineering colleges could overcome and resolve issues derived from the changes in curriculum design and faculty culture during implementation of the outcomes-based accreditation process. Successful implementation of an accreditation system for engineering education depends upon the strengths derived from both top-down and bottom-up approaches. The process itself is sensitive, difficult, full of complexities and potentially chaotic. Even if the educational innovation might be valuable, its proponents must first resolve conflicts and address the entrenched organizational culture along with personal priorities, values and interests.

II. LITERATURE REVIEW

1. Problems with engineering education accreditation have yet to surface : Internal Issues Arising from Innovation in Higher Education

Implementation of accreditation systems for engineering education has not only resulted in major changes in engineering curricula but has had a significant cultural impact on engineering faculty members as well. Arreola (2007) pointed out that in the United States, there are two types of outcomes resulting from the rejection of faculty evaluation or program evaluation by university faculty members: opposition simply to going through the accreditation process, and expressing indifference while cooperating reluctantly. The accreditation process sometimes gives academic staff a negative feeling that the university questions their competence to work in their professional fields. Moreover, during the accreditation process, faculty members may be confronted by areas outside of their fields of expertise, with which they are not familiar or in which they are not interested. These circumstances may indeed cause anxiety and resistance. Thus engineering faculty members may remain skeptical about the effects of accreditation, even though they are not altogether unfamiliar with its

purpose and procedures. This is largely because they lack a sufficient understanding of the rationale behind the accreditation process. Therefore, a major challenge to ensure the effectiveness of engineering education accreditation is to raise the level of recognition and acceptance of accreditation within the engineering faculty (Eijkman, H., Kayali, O. & Yeomans, S., 2009).

Froyd et al. (2006) pointed out that if an organization lacks awareness of a problem and is unable to control the situation, then innovation will have low efficiency and high failure rates in sustaining curriculum innovation at a deeper level. However, there have been very few empirical studies done in this area (Eijkman et al., 2009). Hence, it is essential to explore the important issues related to political structure during the implementation of the accreditation system.

2. Vertical communication yields little results in administrative affairs

Even when conducted with respect, it is difficult for top administrative executives to effectively convey the right messages to each faculty member. Generally speaking, the common experience in academia is that if a policy is promoted top-down in a forceful manner, any resulting changes will not be effective (Schachterle, 1998). While it is true that members of the team charged with promoting and implementing engineering education accreditation must first enlist genuine advocacy and support assessment systems from the dean of the engineering college and heads of departments, what is even more important is that the support system must be derived from listening to and the respect for the voices of faculty members.

Summarizing the literature discussed above, no current study on engineering education research has examined how the programs' decision-making and communication processes can be adjusted to create the best practice for accreditation implementation. Therefore this study has collected, analyzed and compared qualitative data on the different viewpoints of administrators and faculty members regarding the accreditation process via the methods outlined below.

III. METHODOLOGY

To gain a more comprehensive picture of how faculty members decision-making and communication processes could create the best practice for accreditation implementation, the interview targets were faculty members who had been actively involved in the process of accreditation implementation or who had served as head of their department. Many of these interviewees had served simultaneously as a member of the accreditation committee and as dean of the college of engineering or some other

administrative role within the university.

Eijkman, Kayali and Yeomans claimed (2009) that that previous studies did not address how on-going tensions had existed among faculty members during the accreditation implementation process. Inspired by the findings of Lattuca et al.(2006), this current study conducted an open-ended interview to hear the voices of university faculty members regarding the decision-making and communication processes through the SSM theoretical framework. Although the present study does not mention how such tensions can be resolved, the results point out what factors might lead to those tensions and how they can be prevented in the first place. The results are described in the next section.

IV. RESULTS AND DISCUSSIONS

This study uses the Soft Systems Methodology (SSM) to explore the decision-making and communication processes during the implementation of educational innovation initiatives from the perspectives of college deans, chairpersons and faculty members. In-depth interviews were conducted with 20 subjects who were actively involved in accreditation and were willing to share their views.

1. Who makes the decision to participate in accreditation?

(1) University policy

If the program will not be accredited, it will have to be evaluated by HEACT, which is the higher education evaluation system running by Ministry of Education in Taiwan. This is the main reason why many engineering departments have chosen to undergo the accreditation process.

This is what the university required us to do. You either choose the Ministry of Education version or this one... At the time, as I recall, the chairperson said, "Let's go with the accreditation." Since many programs in colleges of engineering around the country are also participating in this system, he decided to go with the flow. (K)

About accreditation... the university encouraged all the departments to take part in accreditation. At the time I heard that we could choose either accreditation or the Ministry of Education's evaluation. Since some of the professors in our department were accreditation committee members, so we thought accreditation wasn't such a bad thing. Finally the decision was made in a departmental affairs meeting (L).

I remember that the Vice President of the university was asking if there were

any departments that would like to go ahead with accreditation. And so this wasn't an option for any department. At that time three programs in the College of Engineering decided to participate in accreditation, but the College of Management decided to go with the other option. (F)

(2) Support from the Dean

Apart from university policy, chairpersons were the key figures in deciding whether to implement engineering education accreditation. Professor O was the chairperson of the department at the time, and he felt that the accreditation of engineering education was a prevailing trend and decided to go ahead with it. Chairperson E also mentioned that at the time the chairperson wanted to implement the accreditation program because he considered it an important and useful system. Those departments that received support from the dean of the college were able to go through with the implementation process much more smoothly and effectively.

Under such a trend, this [accreditation] was impossible to stop. If the top-ranking universities had already begun their accreditation process, we believed that there was no time to waste. So the College of Engineering began to call for the meetings to discuss the matters. I think that under the current trend, we could not hesitate any longer. Several departments in the College of Engineering were among the first batch of participants, and their involvement was entirely at the discretion of the department chairs. (O)

After he took on the chairman position, he was very enthusiastic about this kind of improvement in teaching. So when he found out that XYZ University was running the accreditation system, which was a fine system, he said, "If we don't it today, we will regret it later." His analysis convinced him that this [accreditation] would be really beneficial to students, so... he was the originator. He believed that if you don't do it today, you won't have the competitiveness to excel in the future. And he began to invest a great deal of resources in that direction. (E)

(3) Support from senior faculty members

While Professor O was the department chairperson, he decided to go ahead with the accreditation process and received tremendous support from the department's senior faculty members. This enabled him to announce during a departmental affair's meeting that the accreditation process was going to be implemented.

The important thing is that several senior faculty members in our department provided tremendous support, and this allowed me to make the formal

declaration in the departmental affairs meeting that we were going ahead with accreditation. (O)

The same situation occurred in the department of a senior faculty member, professor B. Even though he was not the department chairperson, all the faculty members went ahead with the engineering education accreditation process after he proposed the idea to his department.

I remember that I recommended it to the department and said that it was probably necessary to go through with accreditation, which would be very helpful to us. And that was my reason for proposing it. I explained the reason why we should participate in the accreditation process and everybody agreed because it seems to be very beneficial to our students. (B)

In contrast, Professor A, ran into many difficulties when he carried out the accreditation process. There was nothing he could do when many senior faculty members refused to cooperate.

There's really nothing you can do. I have tried every possible ways to persuade them, but nothing works. Since I am not senior enough, sometimes I feel my hands are tied. There are a surprising number of people who don't stick to the facts. Ironically, seniority is a huge barrier during the accreditation processes (sigh)... (A)

Whether it is university policy or the chairperson's decision, what these administrators consider are factors such as the prevailing trends, benefits to students and the impact on the department. These are the responsibilities associated with the legitimate leadership. Whoever has taken on that role must go through with the accreditation process no matter how difficult the job is. However, if they carry out the project in an uncompromising manner, there are bound to be negative sentiments and reactions among faculty members. This is because one side of the battle is eager to complete an important mission, while the other side thinks that the decision has been made without their consent.

To conduct an in-depth analysis of the implementation of accreditation system for engineering education in each department, it is necessary to understand the communication processes among the departments during their accreditation implementation stages.

2. The consensus-building process: communication versus indoctrination

Mutual communication refers to the expression of logical or rational opinions based

on facts and data by members of an organization in a formal setting. It also involves persuading faculty members in an open, honest and direct manner. Most academic departments and graduate institutes have conducted regular meetings as the medium to introduce engineering education accreditation to members of the faculty.

So we talked to the faculty face-to-face... We also mentioned what was happening in other colleges within the university or even at other universities, and we analyzed the accreditation practices of ABET and the resulting benefits. In other words, we provided the information so that they could figure it out for themselves if accreditation was worth doing... (A)

However, the information provided at the meeting appeared to be a one-way indoctrination event rather than two-way communication and discussion. Professor I recalled what happened in his department. At the time he was not yet the department chair, but he was aware that the department had decided to go ahead with accreditation, although he had no idea what the accreditation was all about until he learned it via related websites.

In the beginning, accreditation was briefly mentioned and no details were provided. It was not until I visited the websites did I become aware of what the accreditation was all about... (I)

From the above information we can see that the process of implementing accreditation does not necessarily involve two-way communication. If faculty members do not understand exactly what engineering education accreditation is, it would be difficult for them to approve or accept it. Communication is both a social and psychological process. Only under an appropriate feedback mechanism can the effectiveness of communication be ensured, and two-way communication is absolutely essential to avoid conflicts. If there is only a one-sided distribution of information, or if faculty members are not convinced despite having had numerous discussions, it is obvious and understandable that the accreditation process will be met with passive and halfhearted responses.

3. Approaches to Prepare for Accreditation

Regardless of whether the decision to implement engineering education accreditation comes from the university administration as a institution-wide policy or at the discretion of the department chair, once the department has begun the process of accreditation, there will be a great many substantial tasks to be carried out. From our interviews, we found that there are three approaches that have been adopted by participating programs to implement the accreditation process:

(1) Setting up an Accreditation Task Force

Typically, the program will form an accreditation task force which consists of a group of faculty members (either by election or appointment), with the program chairperson being the chief leader. The preparatory work is carried out in accordance with Engineering Accreditation Council's (EAC) AC2014 criteria. Some faculty members within the task force are responsible for Criteria 1, others are in charge of Criteria 2, and so on. Finally the program chairperson will be responsible for compiling and consolidating all the information for self-study report.

We held an election during a program affairs meeting, and a task force with four faculty members was formed, including the program head. Actually that was only a discussion meeting. Most of the paperwork was done by administrative and teaching assistants. I think now we have five members, with each person assuming a two-year term. A new election is then held after two years. Some members are re-elected and some are otherwise decided during meetings. (A)

We have an accreditation working group, and the group is still running the process now. The group has 4-6 members. For us, certain parts of the EAC criteria are assigned to certain professors. Whoever is responsibility for that criterion will have to prepare for and submit documents accordingly. Basically, our working group members rotate once every two years via voting. (H).

Faculty members in the accreditation task force devoted great effort in preparation for the accreditation process. However, most of the participating programs and institutes do not offer incentives to the members involved. Among those we interviewed, only one faculty member was allowed to teach fewer hours, and the other faculty member received a positive remark on his service contribution scores. This fact points out that programs in Taiwan rarely employ motivational strategies to give credit to those faculty members who participate in accreditation. Research literature has suggested that an organization using appropriate motivations when promoting educational innovation will build up its members' loyalty and increase their identification with the innovative activities. (Hanson , 2003).

(2) Full participation from the entire program faculty

Some programs have fewer faculty members, and in these cases everyone is involved in the accreditation process. From the formulation of educational objectives and core

competencies to data collection and writing up self-study reports, the program chair is the natural leader and convener. In addition to conducting working meetings regularly, the chairperson is also responsible for the compilation of all the evidence and information associated with accreditation self-study reports.

Five professors (comprising the entire program) were involved. Actually we had frequent meetings, lots of meetings. Criteria 1 through 9 of the self-study report would be divided into sections and undertaken by groups of professors. For example, criteria 1 and 2 would be assigned to certain professors, while criteria 3 and 4 would be assigned to others, etc. We would have regular meetings (probably about every other week), when we would often compare our drafts with one another. For example, when working group 1 was working on the educational objective, there might be a connection or correlation to working group 3, which was dealing with student learning outcomes and assessment. (G)

The entire program was involved - and the tasks were allocated by the program chair. About 2 or 3 professors would be responsible for each section of the criteria, and it was usually the case that each of these subgroups would have both senior and junior faculty members, and everyone within the working group would then figure out together what would be the content for the assigned criteria. (L)

(3) Program chairpersons and administrative staffs gradually bearing sole responsibility for accreditation

Despite the existence of an accreditation task force, it was not difficult to realize that toward the latter part or during mid-term assessment of the accreditation process, some programs had gradually left the accreditation paperwork to their chairperson and the administrative staff.

During the first half of my tenure, nobody paid any attention to me, and I alone was responsible for convening the meetings and proceeding to set the educational objectives. It wasn't until Professor X indicated that he was quite familiar with these procedures and was willing to help me out that I delegated some of the later work to him. He was responsible for drafting the final reports as well as the surveys and questionnaires with the help of teaching assistants. At the end, it was two of us who finished the self-study report together. (O)

By means of in-depth interviews and participant observation, this study provides insight into those university faculty members' approval or resistance process amidst

shifting power dynamics during the implementation of engineering accreditation. The conclusions and recommendations are discussed as follows. Respondents in the present study mentioned that accreditation-induced changes in equipment and programs' overall structure and planning, though neither of these was mentioned by Lattuca et al. (2006).

The next section provides a series of recommendations based on the findings and conclusions so that each program undergoing accreditation can proceed more efficiently and avoid unnecessary mistakes, hence faculty members will be able to approve of or acknowledge the necessity of accreditation.

V. CONCLUSIONS

1. Top-down implementation approach left few faculty members approving of accreditation.

Tener (1999) emphasized that whenever the university intends to conduct any educational innovation, it is a challenging but necessary task to reach a consensus with faculty members by every possible means. McGourty et al. (2002) found that one of the major challenges for a program to implement outcomes-based teaching and appraisal system is to persuade the faculty members to understand how such an approach could be integrated with their previous teaching and assessment methods.

However, this study found that most engineering programs administrators announced the decision to be accredited at the departmental meetings, where no consensus was built to justify the value of devoting to accreditation preparation efforts. Such one-way decision making seemed to leave many faculty members confused about the purposes of accreditation. Faculty members were informed about the end results of decision-making with very limited authority or opportunities to consider the decision.

2. Program chairpersons are key figures in implementing accreditation

This study found that program chairpersons usually served as a catalyst at the inception of accreditation efforts. They coordinated the multiple sources of data collection and integrated all sorts of information as required by each criterion of accreditation, guided the administrative staffs to update data, as well as helping the faculty members with submission of curriculum documents. Moreover, their attitude significantly influenced the organization's capability for sustained improvement.

For instance, Teacher E, who was the previous chairperson, mentioned that he worked closely alongside his program's accreditation task force to inspire new ideas,

viewpoints or perspectives. Through departmental meetings and constant dialogues, he constantly encouraged the faculty members to work as a team and eventually change their resistant attitude and actions. There are five factors of a program chairperson's success in education accreditation efforts. 1) the intention to bring about a positive change; 2) gradually building consensus and goals through understanding or guidance; 3) a sound leader-member relationship; 4) the ability to create and share knowledge; 5) the pursuit of consistency between the reform policy and strategy execution (Fullan, 2004). Teacher E happened to fulfill all these five characteristics with the intention of helping the program to improve. He was optimistic and enthusiastic about the accreditation and conducted several meetings with faculty members until the consensus was finally reached. To effectively instill the accreditation into the program, program chairperson not only must have a clear vision of changes ahead, but also fully aware of the program's organizational culture, as well as the faculty members' needs and attitudes (Garrett, 2005).

3. Faculty members with administrative experience within the university perceived greater identity with the impact of accreditation than those without such experiences.

One of the results of this study echoes the finding of Lattuca et al. (2006) that program chairpersons and non-administrative faculty members differ substantially in their attitudes toward innovative changes. This may be due to the university chairpersons' sensitivity to university change. Besides, chairpersons take most of the responsibilities during the accreditation procedures. Therefore, they have greater awareness of how the outcomes-based teaching and assessing approaches to the effects of students' learning results than non-administrative faculty members.

4. Faculty members' resistance to accreditation was substantially related to their confusion about the purpose of accreditation.

Most programs relied heavily on questionnaires to evaluate students' learning outcomes. However, the results of these questionnaires were not examined afterwards and therefore contributed little to the program goal of sustained improvements. Apparently, the engineering program remained unfamiliar with how to implement the results of outcomes-based assessment to pursue the future improvement of students' learning.

5. Faculty members still doubted that whether the accreditation implementation could bring sustainable improvement.

Most teachers interviewed in this study agreed that the accreditation not only brought

sustain improvements to the program, but also served as a good mechanism. By adjusting the curriculum and instruction design as required by the criteria of accreditation, they said the alignment between educational objectives and corresponding assessment methods of outcomes-based curriculum can better meet the needs of students' learning in a systematic way.

However, there are three aspects of the university faculty members' concerns about the accreditation program: 1) Regulatory concerns: many program were paralyzed with a double burden as they simultaneously prepared for the accreditation application and the assessment by Higher Education Evaluation & Accreditation Council of Taiwan (HEEACT); 2) Implementation-related concerns: enhanced teaching and learning quality is a benefit of the accreditation program, but the teachers argued that the overly labor-intensive compilation of paperwork seemed to enhance their teaching and students' learning only to a very limited extent; 3) If under-qualified on-site accreditation evaluators fail to give the appropriate advice, it may cause the faculty members to be suspicious about the efforts to implement accreditation.

6. A set of shared values, role and norms that interact with one another within the program is the key point for best practice of accreditation.

After analyzing the social system within the program based on the Soft System Methodology theoretical framework, this study found that when a program's own values were consistent with the purpose and underlying philosophy of accreditation, the sustainable improvement mechanism will be easier to carry out and maintain, rather than making superficial, pro-forma attempts to passively fill in all the forms. Meanwhile, in order to reduce the teachers' workload and resistance to accreditation while efficiently monitoring students' learning results, Teacher C, a former Dean of Academic Affairs, mentioned that he constructs a matrix of rubrics into an e-portfolio system and to minimize the workload of faculty members' evaluating and analyzing students' performance. That computerized assessment tool reduced teachers' resistance to accreditation.

VI. RECOMMENDATIONS

Eijkman et al. (2009) posited that earning faculty members' support is a great challenge for program aiming to effectively carry out the accreditation implementation. Based on the results of this current study, the following approaches are recommended to expedite the accreditation implementation within the program.

1. Combining the bottom-up and top-down approaches is the best strategy to expedite

the implementation of the accreditation.

To ensure genuinely sustained improvement, however, each program should develop an internal mechanism and provide a basis for its members' self-control and self-development. It is impossible to rely solely on external monitoring for education quality assurance and, as demonstrated by the present study, programs that are successful in their accreditation efforts first took a bottom-up, detailed approach with full support from the top administrative levels. Not only does the combination of top-down and bottom-up approaches encourage faculty members to pursue self-improvement, but the support of senior faculty members (with referent power) or the assistance from university-level authorities (with reward power) also expedites the accreditation implementation within the program.

2. Two-way communication is an important means for faculty members to share a specific set of values.

An important prerequisite for a program's continuous improvement is a vision and set of values that are shared among all its members. Sustained improvements would be possible only if the faculty members' shared values are consistent with the intention of the accreditation for the program. Since sufficient communication is needed to establish common values within a program, the chairpersons must ensure ample opportunity for intra-organizational dialogue, while also eliciting the faculty members' opinions through a participatory communication process that involves rational, diversified views. In this way, the faculty members can better achieve mutual understanding and create cooperative relations. When the program's accreditation task force reaches out to the faculty members, they will have a better grasp of the faculty members' needs and listen to their concerns, and eventually reduce their resistance to program change.

3. University-level authorities should minimize the burden of collecting data

Regardless of the EQA system adopted, a university program must submit the required information for review, which makes data collection, management and storage a highly time-consuming process. It is advised that each university establish a template or platform to compile the information systematically. Meanwhile, this university-wide system should be shared by all the programs to avoid conflicts between university-level and program-level administration regarding data collection/compilation, and therefore ensure on-going improvements. Most of the participants in the present study did not completely reject the accreditation, even if they found it inconvenient in many ways. In fact, most of them appreciated the intention of accreditation to improve their teaching. Clarifying all of the faculty

members' concerns about the value of accreditation should be an on-going effort at the university- and program levels.

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