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INTEGRATION OF THE RESEARCH INTO THE CLAKKROOM FOR THE *ULŪ AL-ALBĀB* APPROACH IN CREATING, NURTURING AND BUILDING CONDUCIVE ENVIRONMENT FOR LIFELONG LEARNING IN MALAYSIA

Muhammadhusnee Benjasom
Freelance Researcher 9 M.5 T. Koutoom A. Yarang Ch. Pattani 94160 Thailand
Email: hkate21@gmail.com

Suhaimi Mhd Sarif
Assistant Professor
Faculty of Economics and Management Sciences International Islamic University Malaysia Jalan Gombak, 53100 Kuala Lumpur, Malaysia
Email: albanjari@yahoo.com

Abstract

This paper postulates the *Ulū al-Albāb* approach in creating, nurturing, and building conducive environment for lifelong learning in Malaysia. The *Ulū al-Albāb* approach is spiritual-based knowledge management that offers an integrative framework to achieve sustainable knowledge management and organizational learning. The existing lifelong learning approach lacks of spirituality foundation to sustain the motivation for continuous learning and development among knowledge workers. An opinion survey with knowledge workers who are familiar with conventional lifelong learning perceived that the *Ulū al-Albāb* approach is commendable insights into dynamism, uncertainty and complex business contexts. The current stage of the *Ulū al-Albāb* approach has to be operationalized to fit into the contemporary business models and processes. However, the views of the knowledge workers are not comprehensive and rigorous without the views from other stakeholders. Nevertheless, managers can apply the *Ulū al-Albāb* approach into its communities of practice and social network. The *Ulū al-Albāb* approach contributes to the theoretical and practical understanding of knowledge management development.

Keywords: Lifelong learning, organizational learning, the *Ulū al-Albāb* approach.

INTRODUCTION

How to create, nurture and build conducive environment for lifelong learning in Malaysia? The traditional approach is not comprehensive because it emphasized on skill, knowledge, ability and habit only which is imbalance. The imbalanced approach is not strategic to face the competitive, dynamic and fluid world. The world is changing very fast in all aspects of life. Individuals, groups, teams and organizations are not spared from the effects of the fast changing world. In today's world, everyone needs to be skillful, competent, and competitive in order to survive. If one decided to stay on status quo, the person has no room to have a life in this world. Competition is getting intensive and difficult, but that is the order of the day (Ismail, 1991; Ismail, 1996; Vergragt, 2012). Everyone is aiming to be competitive, but how to be competitive is another big question mark that needs immediate answers. There is no short cut for being unique and competitive if without having knowledge and ability to innovate. These two items are essential means to be competitive and dynamic (Karim & Hussein, 2008). Physically, spiritually and all aspects of human must be capitalized, manipulated and optimized to develop competitiveness. According to Lewis (2006), in today's competition, individuals and enterprises must use all aspects of life to create, use, and sell knowledge in order to be attractive and competitive. Osman-Gani and Sarif (2011) argued that the excellence in spirituality leads to better worldview, far sighted and continuous improvement that guided by commendable values.

In responding to the need of lifelong learning, most Asian countries including Malaysia had subscribed to lifelong learning concept which is a step to follow the global trends so that they will in line with the rest of the world (Han, 2001; Kuman, 2004; Han, 2007). While these countries are excited about practicing lifelong learning, they might overlook to create, nurture and build environment for lifelong learning. A lifelong learning environment should be practical and realistic (Kumar, 2004). The ultimate aim of lifelong learning is to give the dynamism to acquire skill, knowledge, ability and habit and translate these into sustainable profitability and global competitiveness. Both business decision makers and public policy makers are keen to subscribe this idea because of its promises in the future (Han, 2001; Han, 2007; Osman-Gani and Sarif, 2011). As for public policy makers, the only reason is to ensure sustainable prosperity and full employment. Therefore, the novelty of lifelong learning is an essential agenda for everyone. Han (2007) argued that Asian's motivation for lifelong

learning to address economic problem, to meet global standard, and to be competitive at par with other developed countries. If this is the aim, then the approach has to be sustainable too.

LITERATURE REVIEW

This paper postulates the *Ulū al-Albāb* approach in creating, nurturing, and building conducive environment for lifelong learning in Malaysia. The *Ulū al-Albāb* approach is spiritual-based knowledge management that offers an integrative framework to achieve sustainable knowledge management and organizational learning. The existing lifelong learning approach lacks of spirituality foundation to sustain the motivation for continuous learning and development among knowledge workers.

Tawhidic Paradigm

The *Ulū al-Albāb* approach applies *Tawhidic*-based lifelong learning paradigm. *Tawhidic*-based lifelong learning is based on Islamic monotheism worldview that the dynamism is actually part of the process to attain ultimate victory in this worldly and the hereafter life. According to Professor Ismail R Al-Faruqi (1992, p.5), the subscription to *Tawhidic* paradigm manifests the readiness and willingness to fulfill the Divine trust (*al amānah*) and obligatory duties (*al farā'id*) that are accompanied by the Divine guidance and human unique capability (Qur'ān, Surah Hud, 11: 6 and *Sura Az Zumar* 39: 41). Based on that notion, National Distinguished Professor, Tan Sri Professor Dr. Mohd Kamal Hassan (2010, p.187) defines *Tawhidic* paradigm as Islamic monotheism thinking on how to live in this world as the true servants of Allah (*'ibād al-Rahmān*), vicegerents (*khulafā' fī al-ard*), true believers (*al-mu'minūn*) for the sake of betterment of mankind (*khayra ummatin ukhrijat lil-Nās*) (Qur'ān, 3:110) and 'balanced community' (*ummatan wasatan li-takūnū shuhadā' 'alā al-nās*) (Qur'ān, 2:143).

According to Zarkasyi (2010), based on Al-Ghazālī's approach of learning and development, knowledge can be divided into religious and rational knowledge. Religious knowledge includes the science of the practical religion (*'ilm al-mu'amālah*), God's guided knowledge on how the religion can be executed (*'ilm al-shar'iyy*), and knowledge that derived from human intellect (*'ilm al-'aqliyy*). The scope of the practical religion (*'ilm al-mu'amālah*) is available in two forms, exoteric (*zāhir*) and esoteric (*bātin*) sciences. The exoteric (*zāhir*) sciences include the act of worship (*'ibādat*), social ethics (*'ādat*), and matters pertaining to dangerous act (*muhlikāt*). As for esoteric (*bātin*) sciences, it is about spirituality dimension. The second category of knowledge is the rational knowledge (*'ulūm al-'aqliyyah/'ulūm ghayr shar'iyyah*). This type of knowledge can be divided into fundamental (*usūl*) and subsidiary (*furū'*). The fundamental knowledge includes mathematics/logic, natural science (observation and experiment), and investigation science of existence.

The theoretical classification of knowledge allows organizations to identify priorities, resources, and efforts to convert the knowledge into absorptive capability. Zarkasyi (2010, pp.162-164) argued that there are two ways knowledge can be acquired by individuals, namely through human teaching (*al-ta'lim al insaniyy*) and Divine teaching (*al-ta'lim al rabbāniyy*). People learn from other people via face-to-face and other instructional ways (Zabeda, 2004, 2008) with monetary or non-monetary rewards (Zabeda, 2008). However, the Divine teaching is highly spiritual when the learners acquiring knowledge based on Divine revelation (*al-wahy*), inspiration (*ilhām*), reflection and contemplation (*al-ishtighal bi al-tafakkur*).

Zarkasyi (2010, pp.162-164) contended that the absorptive capacity to acquire human and divine teaching (*al tarbīyyah al-wahy*) is through five capabilities (power), namely common sense (*al-hiss al-mushtarak*), representative power (*al-quwwah al-khayāliyyah*), estimate power (*al-quwwah al-wahmiyyah*), retentive power (*al-quwwah al-hāfidah wa al-dhakirah*), imaginative power (*al-quwwah al-mutakhayyilah/ al-quwwah al mutafakirrah*).

Tawhidic Paradigm and Lifelong Learning

This section elaborates *Tawhidic* paradigm can be integrated with lifelong learning because Islamic knowledge and learning is built upon the foundation of Islamic faith (*al-iman al-Islamiyyah*). The Islamic faith is based on *kalima shahaada*, which is to recognize Allah as the only universal God and Prophet Muhammad (Peace Be Upon Him) as the messenger of Allah (Ismail, 1991; Ismail, 1996). With this foundation, the ultimate aim of Islamic management system is to gain the pleasure of Allah by executing all of the duties prescribed by Him (Ismail, 1996; Haneef, 1997; Hamid, 1999). The discussion of this paper begins with the explanation on the major components of *Tawhidic* paradigm.

According to *Tawhidic* paradigm, man's multiple relationships revolve around *Tawhid*. The Islamic worldview links the prerequisites to *Tawhid* and the roles of the believers of the paradigm (Mawdudi, 1992; Ismail, 1996; Osman-Gani & Sarif, 2011). Figure 1 depicts the integrative linking role of *Tawhid* with worship (*'ibadat*), submission of mankind to Allah for the sake of securing His Pleasure vis-à-vis the roles of mankind as servant (*'abd*) and vicegerent (*khalifa*) of Allah.
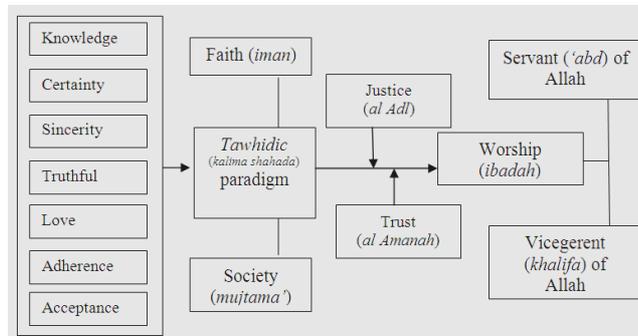
Figure 1: Lifelong learning based on the integrative role of *Tawhid* in executing worship (*'ibadat*) with trust and justice.

Lifelong learning environment must be created, nurtured, and built in line with the main reason the creation of man, which is to worship (*'ibadat*) Allah, in which it has to be performed with trust and justice is depicted in Figure 2 to be consistent with the job description of vicegerent (*khalifa*) as stated in *Sura al Baqarah* 2: 30. This assignment is in line with the purpose that Allah has created mankind to be His servant and also His vicegerent on earth.
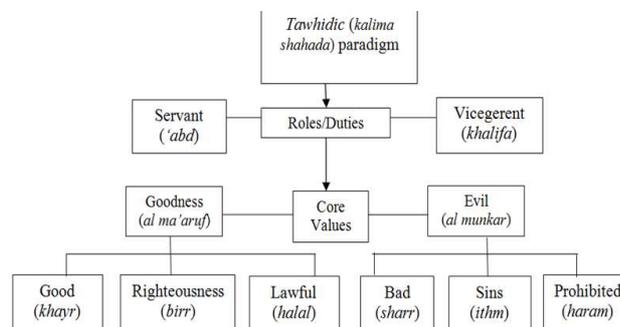
Figure 2: Fundamental Principles of *Duniawi-Ukhrawi* View for Lifelong Learning

Economic objectives of Lifelong Learning
The fast changing pace of the economy has resulted many of the traditional jobs are slowly disappearing from the job market. This is also a contribution to the long term unemployment and slow economic growth. Cully and Curtain (2001) contended lifelong learning in the forms of apprenticeships, industrial training and so forth becomes essential. Meyers, Billet, and Kelly (2010) argued that mature workers will participate in lifelong learning if they see potential personal and institutional benefits. Thus, lifelong learning becomes an essential requirement of the contemporary job market.

New requirement for the job market as contended by Cully and Curtain (2001), and Meyers *et.al.* (2010), lifelong learning is also contributed by the need to find for a new source of employment. Hancock (2006) argued that traditional jobs are getting no space in the contemporary business world. New source of employment is essential to buffer the increase of unemployment in the society. Stenberg and Westerlund (2008) argued that the long term unemployment becomes the essential factor to encourage for lifelong learning so that with new knowledge and skill, new employment or entrepreneurial opportunities can be offered to the job market. Hence, the unemployment can be addressed gradually. According to Hancock (2006), the mature workers should be

given encouragement in lifelong learning practices to enable them relevant in the current job market so that they will not be phased out from the job market before their retirement age.

As a result of changes in the new job requirement, lifelong learning occurs in all spectrum of life. Cornford (2009) argued that the current workplace and social life requires workers to be updated with the latest news, lifestyle, and social events. The advancement of technology has accelerated the transfer of information, which has substantial influence on work and social life. However, some practices are not serious in supporting lifelong learning efforts, merely superficial. In the meantime, Jenkins, Vignoles, Wolf and Galindo-Rueda (2003) argued that lifelong learning becomes social and workplace order of the day. Workers are eager to participate as mean in securing individuals' economic outcomes, namely wages and job security. Feinstein and Hammonda (2004) argued that lifelong learning is determined by the ability of adult learning. Active adult learning enhances lifelong learning.

Thus, this study proposes that three main factors contribute to lifelong learning at workplace of business organizations: requirement of the job market, new source of employment and social/workplace order. Figure 1 illustrates the framework of the study.
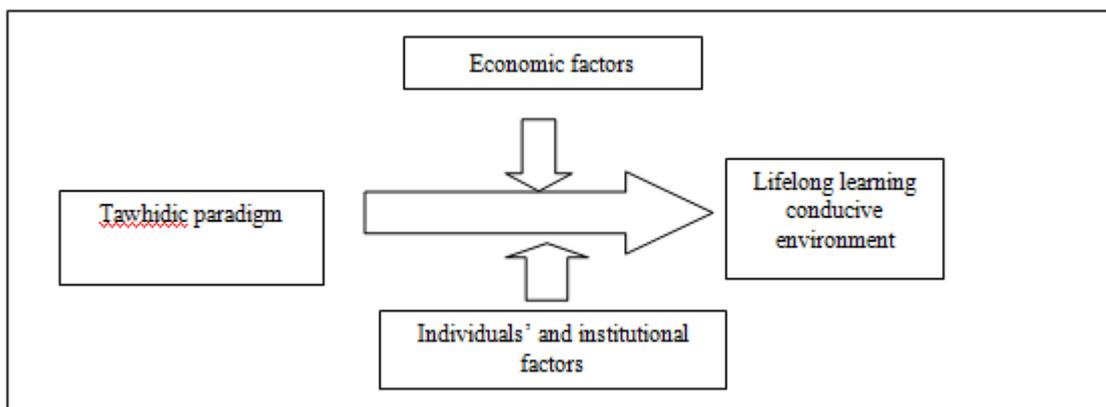
Figure 1: Framework of the study

METHODOLOGY

The study examines the perceptions of managers and knowledge workers pertaining to the use of *Ulū al-Albāb* approach in creating, nurturing and conducting friendly and conducive environment for lifelong learning that contribute to organizational sustainable innovation and competitive advantage. The study approached technology-based firms located in Technology Park Malaysia, Selangor Science Park, and Cyberjaya.

The data collection method is a qualitative research method. The qualitative method enables the study to explore a context deeply, which could not be done adequately by quantitative methods, such as survey (Wainwright, 1997; Patton, 1990).

FINDINGS

The study interviewed 10 informants, three (3) managers and seven (7) knowledge workers executives of technology-based firms in Malaysian technology parks. Table 1 summarizes the brief profile of the informants.

Table 1: Profile of informants of the study

Code	Position	Location
M1	Senior Manager	Technology Park Malaysia
M2	Marketing Manager	Cyberjaya
M3	Business Development Manager	Selangor Science Park
K1	Senior Programmer	Technology Park Malaysia
K2	Content Development Executive	Cyberjaya
K3	Cyber Security Executive	Technology Park Malaysia
K4	Senior Executive	Cyberjaya
K5	Senior Production Executive	Technology Park Malaysia
K6	Technical Executive	Selangor Science Park
K7	Marketing Executive	Selangor Science Park

Initially, all informants were not familiar with the term *Ulū al-Albāb* as it is not widely used. They used to hear some educational initiatives that used the term *Ulū al-Albāb* such as *Ulū al-Albāb* School, *Ulū al-Albāb* Generation by Terengganu State Government. When they were informed that *Ulū al-Albāb* refers to people that always use brain when reflecting and doing something in daily activities and always trying the best level to seek the Pleasure of Allah, they were comfortable. According to M1, the use of *Ulū al-Albāb* approach in creating and encouraging lifelong learning is meaningful because it is in line with the teachings of Islam. However, M2 has some reservation on the implementation part due to the diversity of faith and races in the workplace. M2 said: "In the 'Islamiphobia' situation, any use of Islamic term could be perceived as an attempt to impose Islam to the followers of other faith. Unlike the Japanese and Chinese terms, even though they originated from the Taoism and Buddhism, but the terms are not based on religious faith." As for M3, any good framework of practice should be given a trial. K1 welcomes the initiative at technology-based companies because to K1, technology is just a tool or device. K1 mentioned: "As a Muslim, any concept from Islam is good for us. I think the use of Islamic concept in technology has no religious or spiritual effects on the users." K2's response is in line with M1 and M3 and K1 that *Ulū al-Albāb* approach is just an approach offers by Islam. It should be commendable to be practiced.

The views of three managers (M1, M2 and M3) and seven knowledge workers (K1-K7) pertaining the incorporation of *Ulū al-Albāb* approach to create and nurture lifelong learning through organizational tasks, namely interpersonal, information and decisional roles (Mintzberg, 1980). According to Mintzberg (1980), interpersonal roles include figurehead, leadership, and liaison activities. As figureheads, managers perform ceremonial and symbolic duties, such as presenting a letter of appreciation at the company's dinner. In leadership, managers are involved in the hiring process, appraisal, motivation, and training. Finally, managers provide a bridge for contacting external sources (i.e. individuals or groups) to obtain information for the organisation. M1 and M2 used to attend training on Islamic management at their own initiatives and are actually applying the concepts into their work.

As for K3, K5 and K7, they supported the effort to use of *Ulū al-Albāb* approach in creating and nurturing lifelong learning environment. M3, K1, K2, K4, and K6 have positive perception about the approach, but need to attend more training in order to understand them.

DISCUSSION

This part discusses lifelong learning of *Ulū al-Albāb* approach provides the philosophy or purpose of doing things that is solely for Allah; to secure His Pleasure. In the context of workplace, daily routines and managerial tasks can create the environment for lifelong learning through *Ulū al-Albāb* approach. The tasks are related to the specific activities and roles that managers and workers perform to achieve the goals of their organization

effectively and efficiently. The lifelong learning of *Ulū al-Albāb* approach lays down the guiding principles for mankind so that they perform the duties as servant and vicegerent of Allah. As for MF, it can be guided by any principle, as long as it is able to satisfy the owners or shareholders of company.

Thus, *Ulū al-Albāb* approach stresses that that it is Divine duty of mankind to serve Allah. Besides human beings, other creatures are also the servants of Allah and are created to worship Him. Allah says in *Sura Adh Dhariyat* 51: 56:

> We (Allah) have not created jinns and mankind except to worship Me (Allah).

A person becomes more resourceful and humble by worshipping Allah. These two qualities are essential to balance human's physical and spiritual aspects in facing the challenges of life (Mawdudi, 1992; Qutb, 1994; Rahman, 1995; Hamid, 1999). In contrast, one who does not worship Allah will be punished in the form of distracting affairs and timidity (Ismail, 1996; Osman-Gani & Sarif, 2011). It is the power of *Tawhid* that motivates man to worship (perform *'ibadat*), submitting himself to the Commandments of Allah in order to secure His Pleasure. He accepts the dual role specified by Allah, i.e. to be servant (*'abd*) and vicegerent (*khalifa*) of Allah. The execution of these roles requires man to uphold certain principles: (a) *Tawhidic* paradigm, (b) vicegerency (*khilafah*), (c) servant (*'abd*), (d) trust (*amanah*) and (e) justice (*'adalah)* (Haneef, 1997, pp.44-49; Hamid, 1999). As servant and vicegerent of Allah, man is commanded to establish *ma'aruf* and forbid *munkar*, as reflected in the following verse (*Sura Ali Imran 3*: 110):

> *You are the best nation which has ever been raised for guidance of mankind. You enjoin good, forbid evil, and believe in Allah.*

"The best nation," according to Ibn Kathir (2003), refers to the best of peoples for the people. With the best qualities, "the best of peoples" are able them to encourage fellow men to do good deeds and to prevent them from committing sins. This can be interpreted as a collective responsibility towards worshipping Allah. In fact, one's level of faith, whether increasing or decreasing, is very much dependant on the individual's initiatives in enjoining goodness and forbidding evil.

Ulū al-Albāb approach must permeate the entire management functions. Daft (2010) identified four management functions, namely planning, organizing, leading and controlling to achieve goals of organization that can please Allah and satisfy the shareholders. Planning is defined as the process to formulate goals for future performance together with the resources required. Organizing refers to the arrangement of tasks, responsibilities, accountability, and resources allocation to enable the organization to execute activities that attaining the goals. Leading is about the use of influence on employees so that they are motivated, willing and ready to perform the tasks assigned to them. As for controlling, it is about monitoring employees and resources so that they are on the right track to achieve the goals of the organization. The linkages between *Ulū al-Albāb* approach and organizational routines are workable for lifelong learning environment because both are not conflicting and could be complementing. In fact, *Ulū al-Albāb* approach serves as the 'software,' whereby organizational routines provide the platform or 'hardware' for *Ulū al-Albāb* approach to activate lifelong learning.

CONCLUSION

Lifelong learning environment from the *Ulū al-Albāb* approach is appropriate with the new managerial paradigm to achieve organizational sustainable innovation and competitive advantage. The *Ulū al-Albāb* approach is spiritual-based knowledge management that offers an integrative framework to achieve sustainable knowledge management and organizational learning. The existing lifelong learning approach lacks of spirituality foundation to sustain the motivation for continuous learning and development among knowledge workers. An opinion survey with knowledge workers who are familiar with conventional lifelong learning perceived that the *Ulū al-Albāb* approach is commendable insights into dynamism, uncertainty and complex business contexts. The current stage of the *Ulū al-Albāb* approach has to be operationalized to fit into the contemporary business models and processes. Tthe views of the knowledge workers are not comprehensive and rigorous without the views from other stakeholders. Nevertheless, managers can apply the *Ulū al-Albāb*

approach into its communities of practice and social network. The *Ulū al-Albāb* approach contributes to the theoretical and practical understanding of knowledge management development. However, the results of the study are not conclusive and cannot be generalized. The study proposes future studies to use case studies method and to include key business stakeholders into the focus group discussion.

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THE IMPROVEMENT OF EFFECTIVENESS OF LEARN ENGINEERING PHYSICS LABORATORY 2 BY COOPERATIVE LEARNING OF THE FIRST YEAR STUDENT FACULTY OF ENGINEERING PRINCESS OF NARADHIWAS UNIVERSITY

Mancharee Sukpet[1]
Safitree Nawae[1]
[1]Faculty of Science and Technology, Princess of Naradhiwas University, Narathiwat, 96000, Thailand

Abstract
This project aim to improve the effectiveness for learning engineering physics laboratory 2 by cooperative learning. The 8 lab practical exams and satisfaction questionnaires were tested by 40 students of the first year faculty of engineer Princess of Naradhiwas University. The study found that the good score, fair score and poor score were 74.70%, 82.50% and 17.50%, respectively.

INTRODUCTION

Education play importance role in the development of the country. Since the education is a tool for developing a better quality of life. National Education Act BE 2542 Section 22 establishes guidelines for management education requires that students adhere to the principle that all students are capable of learning and self-development. It is considered the highest priority class, so teachers and education must change its role from being a counselor which help to promote and support students in their pursuit of knowledge and learning resources from various media. And provide accurate information to students. For them to create their own knowledge. The teaching of science today is extremely important to define the role of the teacher as a mentor. Students should be involved in the learning activities. Learned from the experience it has found itself with a variety of learning resources and knowledge to create their own. And the application of knowledge to life by a master plan with the student. In this work we used lab practical exam for Engineering Physics Laboratory 2, the first semester of the academic year 2010 (05-004-207) curriculum of Princess of Naradhiwas University. In order to improve the teaching and learning science.

METHOD

Population and sample
The 1st year student faculty of engineering who registered the physics laboratory 2 Princess of Naradhiwas University. The 2nd semester the 2010 academic year.

 Engineering Physics Laboratory 2 (05-004-207)
 Experiment 1 Oscilloscope
 Experiment 2 DC circuits.
 Experiment 3 RC circuit.
 Experiment 4 Lens.
 Experiment 5 Wheatstone bridge.
 Experiment 6: Diffraction and interference of light.
 Experimental7 study of atomic spectra using grating.
 Experiment 8 the electrical resonance.

Duration
Semester 2, 2010

Parameter
 1. The operating parameters are available (Lab Practical Exam).
 2. Two. Dependent variable is the achievement of the students.

Tool
      1. The lab practical exam
      2. The student behavior observation
      3. The student satisfaction questionnaire after class

Data collection
The researcher taught following the course outline. The information collected by Lab Practical Exam in order to provide students with enthusiasm.

Data analysis.
The data from the student satisfaction questionnaire were analyzed in a statistical average and percentage. And to compare the achievement of students in engineering physics with the first course in the previous semester

RESULT AND DISCUSSION

Table 1 shown the level of satisfaction on learning by lab practical exam 74.70%. Table 2 shown the comparative of laboratory physics between Engineering 1 and Engineering 2 couse found that the score of Engineering Physics Laboratory 2 higher than the score one.

Table 1. The Level of student satisfaction with the outcomes of learning. Engineering Physics Laboratory 2. By increasing the operating rates of Lab Practical Exam of the 1st year students of the Faculty of Engineering, Princess of Naradhiwas University.

No.	Topic	Average	Percentage	Level
1	Numeracy skills	3.58	71.5	good
2	The skills to conduct experiments	3.65	73.0	good
3	The skills to record results	3.60	72.0	good
4	The skills in observation	3.80	76.0	good
5	The skill of planning process	3.75	75.0	good
6	The skill for asking reason and answer	3.73	74.5	good
7	The skill to analyze the experimental data	3.53	70.5	good
8	The skill to cooperation in the experimental group.	3.98	79.5	good
9	The good attitude about science	3.98	79.5	good
10	The final exam is the exam more than the Lab Practical Exam	3.80	76.0	good
11	Expected achievement (grades) better than the first engineering physics.	3.40	68.0	fair
12	To be eager to test themselves	4.05	81.0	good
	average	**3.74**	**74.7**	good

Table 2. Comparison of final grades the Engineering Physics Laboratory 1 and Engineering Physics Laboratory 2.

The mark	The engineering Physics Laboratory 1 (%)	The engineering Physics Laboratory 2.(%)
The maximum	60.00	92.50
The minimum	10.00	19.00
The average	39.42	56.78
The increased score	82.50	
The reduced score	17.50	

CONCLUSION

Development of the research on the achievement of students learning physics, engineering, operating two way learning partnership. By increasing the lab practical exam the 1st year students of the Faculty of Engineering, Princess of Naradhiwas University. The results shown that students with higher test scores. After learning by increasing the lab practical exam. It can be concluded that the cooperative learning students help each other. And contributes to the promotion of social skills and learn to adapt to coexist with good relations with each other. As a result, the level of student achievement increases.

ACKNOWLEDGMENT

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PART-TIME LIFELONG LEARNING PROGRAMMES AND THEIR EFFECT ON CAREER MOTIVATION AND ORGANISATIONAL SKILLS: A CASE STUDY ON UMCCed's PERFORMANCE

Mohd Zaki bin Mohd Yaacob
University of Malaya Centre for Continuing Education (UMCCed)
Level 3, Block A, University of Malaya City Campus, Jalan Tun Ismail, 50480, Kuala Lumpur. mzmy@um.edu.my

Abstract

Since its establishment on 1 April 1998, the University of Malaya Centre for Continuing Education (UMCCed) has been a strong advocate of Lifelong Learning. The importance of this concept for human capital development and its contributions towards the achievement of Vision 2020 was acknowledged by the Malaysian Ministry of Higher Education (MOHE) during the launch of the blueprint on Enculturation of Lifelong Learning on 14 November 2011. UMCCed has substantiated its support of continuing education by investigating the behaviour and activities of its students: this research observes the relationship between part-time studies and their impact on student motivation and job satisfaction. Respondents comprise students of various education backgrounds and experiences enrolled in the part-time Executive Diploma programmes in UMCCed. The objective of this study is to discover whether those who complete the programme exhibit motivation in their work and whether they receive job satisfaction while practicing the knowledge acquired. In order to obtain this data, the researcher utilises a questionnaire which consists of four parts: Part A (Information and background of Respondent); Part B (Effect of part time studies on work motivation); Part C (Effect of part time studies on organisational skills); and Part D (Effect of part time studies on time management). This paper also contains relevant suggestions based on the findings that will enhance the quality of UMCCed programmes.

Keywords: part-time lifelong learning, career motivation, organisational skills, performance, UMCCed

INTRODUCTION

Part-time learning provides both space and opportunity for working adults to continue their learning. As is known, the learning process in adults and children differ: adults tend to know what they are learning and what they want to learn compared to children who are fond of just accumulating as much knowledge as they can. This will influence their learning objectives and abilities.

According to Abd.Ghafar (2003), one's interest in studying is influenced by encouragement, motivation and one's own basic skills. The level of motivation becomes an important factor in moving, creating, maintaining and exercising control over one's interest. Meanwhile, basic skills would prepare one, especially an adult learner, to acquire new learning skills.

Adult learning can be divided into full time and part time learning. As adults generally have numerous responsibilities such as occupation and family, most are more comfortable with the latter (Lieb, 1991). Adult learning places greater emphasis on practical knowledge and skills that would be useful at the workplace. Such learning also enables personality enhancement, critical thinking, professionalism, and development of different disciplines in life, culture and lifestyles (Sufean, 1993).

PROBLEM STATEMENTS

Lieb (1991), states that motivational elements that exist in an individual are caused by several factors which comprise intentions to become an efficient and organised person in the workplace, obtain promotions, adaptability at a new work place and willingness to learn and seek new experiences.

Azura Azilah (2008) believed that motivation in work is also a product of new activities being introduced in an organisation. In her studies related to the implementation of ISO at University Malaya, she discovered that the implementation of the evaluative tool did not affect the motivation and work spirit of many academics; however,it did enable them to organise their time efficiently and enhanced their skills, especially in self-management and organisation.

Norlia, T.Subahan, Lilia and Kamisah (2006) found that adopting a proper and suitable learning style enabled students to achieve tremendous results while at the same time instilling in them the motivation to be

competitive. Within this context, learning full time gives opportunities for higher achievement since there is no other commitment. Even then, adult learners do face various obstacles and responsibilities which need to be considered.

Part-time students, on the other hand, have a responsibility to be dutiful workers during weekdays and play the role of students over the weekend, and this needs effective time-management. It is most important, therefore, that research be conducted among them (in this case, Executive Diploma students studying at UMCCed) in order to study the strength of part time studies, especially their impact on motivation and organisational skills.

RESEARCH OBJECTIVES

This research aimed to discover the impact of part-time learning on job motivation and organisational skills among UMCCed students. The research objectives were:

1. To identify whether part-time learning has a significant effect on students' motivation in their working environment
2. To identify whether part-time learning has a significant effect on organisational skills among students
3. To identify whether there is a relationship between the weekly time allocation to study and the students' achievements
4. To identify significant differences between male and female students' motivational levels
5. To identify the connection between learning frequencies in a week and students' marital status

RESEARCH QUESTIONS

The research questions below were designed to achieve the research objectives:
1. Does part time learning have a significant effect on students' motivation in their working environment?
2. Does part-time learning have a significant effect on organisational skills among students?
3. What is the relationship between the allocated studying times in a week and students' achievement?
4. What is the significant difference between male and female students' motivational levels?
5. What is the connection between studying frequency in a week and students' marital status?

RESEARCH METHODOLOGY

Population and study sample
Identifying the population which will provide feedback is important as it determines the problematic areas that need to be studied (Mohd. Majid, 2004). The population for this study comprised UMCCed students. 879 of them were contacted through meetings in classes to respond to the prepared questionnaires. These questionnaires were then given to each head of class to be distributed to the students in the morning. Later in the evening, the technician on patrol collected the questionnaires from the classes.

Research variables
The dependant variable in this study is organisational skill categorized into low, medium, and high based on the ten characteristics of this skill that has been indentified by the researcher. The independent variable is based on the background factors described in Section A and the 15 factors that contribute to student motivation in Section B.

Research instrument

This questionnaire is divided into four sections, namely:

Section A: Respondent's Profile
This section requests for information on aspects such as Programmes taken, Gender, Age, Race, Religion, Marital Status, Educational Level, Monthly Income, Job, Employment Status, Years in an Organization, Total Time Spent on Review of Education in a week and Achievement in Examinations.

Section B: The Effect of Part-Time Learning on Motivation Towards Work
   The items in this section are used to assess the motivation level of students. The 15 characteristics that contribute to motivation levels are listed and required to be graded using a 1 to 5 score.

Section C: The Effect of Part-Time Learning on Organisational Skills
   This section of the questionnaire is used to evaluate the organisational skills of students. The 10 characteristics that contribute to the organisational skills are listed and required to be grade using a score of 1 to 5.

Section D: The Effect of Part-Time Learning on Time Management
   This part of the questionnaire assesses how students use their time for studies during and after working hours. Based on five sets of opinions given, it is graded on a scale of 1 to 5.

For Sections B, C and D the following scale is used:

   1 - Strongly Disagree
   2 - Not Agree
   3 – Neutral
   4 – Agree
   5 - Strongly Agree

Respondents are required to fill in the blanks or tick [√] against the items appropriate responses in Section A and circle the most suitable numbers in Sections B, C, and D according to the perception of the respondents. There are altogether 30 statements which are listed in the following order: work motivation, organisational skills and time management.

DATA COLLECTION

Data collection was carried out during the weekends, that is, on Saturdays and Sundays because these were the only two days that classes were run part-time. Two main locations were chosen, namely Wisma R & D and City Campus, both institutions belonging to the University of Malaya. The data collection sessions were carried out in the evenings by the technician on duty for the week. The class leaders took two weeks to collect and compile the data. The role and function of the class leaders for this exercise were identified with the help of the programme coordinator. The forms that were collected were numbered for review purposes to ensure there were no irregularities.

DATA ANALYSIS

The collected data was then analysed using 'Statistical Package for Social Science' (SPSS) Version 11.5. Both descriptive and inferential statistical methods were used. For the former, frequencies, percentages and means were used to view the information related to Section A (Profile of Respondents). Mean scores were used to evaluate the students' motivation, time management, and organisational skills. The mean score range was between 1.00 to 5.00. For purposes of analysis, the different minimum and maximum ranges were divided into three levels: mean scores ranging from 1.00 to 2.33 were classified as low level, 2.34 to 3.67 as moderate and 3.68 to 5.00 as high (Mohd Majid, 2004).

For the inferential method, the 't-test' was used to determine the mean differences between males and females as regards their motivational and organisational skills. The 't-test' analysis was used to test the null hypothesis (Ho) with a significant level of $p \leq .05$ level of confidence.

The Pearson correlation method was further used to examine the relationship between time spent in a week on learning and students' achievement. The method was also used to determine the relationship between the students' age and their motivation level. This test was conducted on the confidence level of $p \leq .05$. The correlation strength was based on the Rowntree (1981) scale, that is:

Schedule A:
Strength Classification

Range (+ or -)	Strength
0.0 to 0.2	Very weak
0.2 to 0.4	Weak, low
0.4 to 0.7	Medium
0.7 to 0.9	Higher, stronger
0.9 to 1.0	Very high, very strong

Rowntree, D. (1981) Statistics without Tears: a Primer for Non-Mathematicians. London.

Next was the Chi-Square Test which was used to observe the dependence of time spent on review/revision in a week and the students' marital status as well as the dependence between the students' age and level of motivation. This test was conducted based on the confidence level scale of $p \leq .05$.

PILOT STUDY

A pilot study was conducted to test the reliability of the questionnaire. A total of 65 UMCCed students who were not involved in this study were selected. The reliability of the questionnaire was tested using the Cronbach Alpha coefficient test. According to Mohd. Najib (2003), the coefficient of reliability suitable for use in a survey tool should be greater than 0.60. The analysis is shown in Table 1 below.

Table 1 Cronbach Alpha Coefficient for Work Motivation and Organisational Skills

Item	Alpha (α)	Standard α	N
Work motivation	0.7599	0.7708	62
Organisational Skills	0.8765	0.8701	63

Table 1 shows that the coefficient for work motivation was 0.76 (n = 62) and that for organisational skills was 0.87 (n = 63). Thus this instrument could be used because the Cronbach Alpha coefficients for both variables exceeded 0.60.

ANALYSIS OF FINDINGS

Respondent selection
Respondents were selected based on the active classes conducted at the UMCCed from Disember 2011 to April 2012. The programmes and the number of students enrolled in each of them are as follows:

Table 2 List of Courses Offered and the Number of Students Enrolled in the Course

Programme/Course	Num. of students
Executive Diploma in Counselling	92
Executive Diploma in Shariah Studies	136
Executive Diploma Usuluddin Studies	109
Executive Diploma in Management	249
Executive Diploma in Manufacturing Management	29
Executive Diploma in Media Relations and Communications	27
Executive Diploma in Plantation Management	17
Executive Diploma in Human Resource Management	329
Executive Diploma in Accounting Administration	122
Executive Diploma in Information Technology	61
Executive Diploma in Business Management	152
Professional Diploma in Early Childhood Education	129
TOTAL	**1452**

Of the 12 programmes conducted, five were related to the management programme which had been selected at random. These are listed in Table 3 below.

Table 3 Percent of Respondents Profile Compared to Actual Number of Students

Program/Course	Abbreviation	Num.of students	Num. Of respondents	Percentage %
Executive Diploma in Management	EDM	249	110	44
Executive Diploma in Human Resource Management	EDHRM	329	232	71
Executive Diploma in Business Management	EDBM	152	75	49
Executive Diploma in Accounting Administration	EDAA	122	56	46
Executive Diploma in Media Relations and Communications	EDAAEDMRC	27	14	52
TOTAL		**879**	**487**	**55**

There are five programs that are offered on a part-time basis at the UMCCed: Executive Diploma in Management (EDIM), Executive Diploma in Human Resource Management (EDHRM), Executive Diploma in Business Management (EDBM), Executive Diploma in Accounting Administration (EDAA) and Executive Diploma in Media Relations and Communications (EDMRC). EDHRM accounted for almost half the respondents (232 or 47.60 per cent), followed by EDIM (110 or 22.60 per cent), EDBM (75 or 15.40 per cent), EDAA (56 or 11.50 per cent) and EDMRC (14 or 2.90). Almost three-fourths of the respondents (362 or 74.30 per cent) were females. In terms of age, most of the respondents (270 or 55.40 per cent) fell into the 40-49 age group; those between 30 and 39 comprised 41.30 per cent (201). The two other categories, namely the 20-29 and 50-59 age groups, accounted for 1.40 per cent (7) and 1.8 per cent (9), respectively. This shows that many of the respondents were still young. The large majority of the respondents who were pursuing the part-time programmes were Malays (372 or 76.40 per cent). Indians accounted for 3.10 per cent (64), Chinese 6.80 per cent (33), and others 3.70 per cent (18). In terms of religious persuasion, more than three-fourths (77 per cent or 375) of the respondents were Muslims, 10.9 per cent (53), Hindus, 6 per cent (29), Christians and 5.70 per cent (28), Buddhists. More than half the respondents (248 or 50.9 per cent) were married. 218 respondents (44.80 per cent) were single, 10 (2.10 per cent) were either separated or divorced and 5 (1 per cent) were widows or widowers.

With regard to educational qualifications, most of the respondents (285 or 58.50 per cent of 487) had an SPM equivalent, 16.80 per cent (82) had a Diploma, 9.70 per cent (47) were educated till STPM, 5.30 per cent (26) had a Degree, and 9.20 per cent (45) had other levels of educational qualifications. About a third of the respondents (165 or 33.90 per cent) earned more than RM 3001 per month while another third (163 or 33.5 per cent) earned RM 2001 to RM 3000). 143 respondents (29.40 per cent) earned RM1001 to RM2000, and a small percentage (2.70 per cent or 13) earned RM500 to RM1000. The majority of the respondents (248 or 50.90 per cent) worked as management staff, 150 (30.80%) served as support staff, and 79 (16.20%) held other positions. More than 90 per cent (93.20 per cent or 450) of the respondents have fixed positions while 3.30 per cent (16) of them have standard contract positions; 5 of them (1 per cent) work part-time.. In terms of work experience, 47.20 (230) of the respondents had worked from one to five years, 15.60 per cent (76), for six to 10 years and 13.60 per cent (66), for 11 to 15 years; only 7.6 per cent (37) and 5.10 per cent (25) had worked for 16 to 20 years and more than 21 years, respectively. 10.70 per cent (52) of the respondents had worked for just about a year.

FINDINGS

This study involved 15 activities which were related to work motivation. The findings reveal that less than half (40 per cent) of the respondents had motivation to work while pursuing their studies on a part-time basis; 53 per cent were moderately motivated and 7 per cent had low motivation. The highest mean is 4.23 for the item 'studies will still be completed even if the employer does not understand and cooperate' while the lowest (2.06) is for the item 'my education cost is funded by the employer'. The mean for the level of work motivation is 3.65 and; seven items have exceeded this. A comparison drawn for work motivation between male and female students showed that the mean for male students (mean = 3.669) is higher than the mean level of work motivation for female students (mean = 3.653). The results also show that the item 'I can apply self discipline'

recorded the highest percentage (85.22 per cent; n = 415), followed by the item 'studies will still be completed even if the employer does not understand and cooperate' (85.01 per cent; n = 414). 83.37 per cent (n = 406) of the respondents claimed that they were eager to attend training courses organized by the organization to enhance work performance, and 80.70 per cent (n = 393) stated that they felt happy to learn without having to stop working. Meanwhile, 78.85 per cent (n = 384) of the respondents agreed they had to motivate themselves to complete their studies. 69.40 per cent (n = 338) of the respondents agreed that promotion opportunities motivated them to study hard and 58.73 per cent (n = 286) felt that they had a good chance to get promotion and pay rise upon graduation. The same number of respondents agreed that co-workers often encouraged them to continue learning, and 52.16 per cent (n = 254) agreed that their co-workers fully understood the schedule and work activities of their studies. In fact, 56.26 per cent (n = 274) agreed that the management gave them encouragement and opportunities to enhance their knowledge and skills on a part-time basis. A total of 251 respondents (51.54 per cent) agreed that their work was more valued by the organization and colleagues, while 47.43 per cent (n = 231) were not sure about this. 232 respondents (47.64 per cent) stated that management encouraged them to continue their studies at a degree level upon completion of their studies. Last but not least 47.23 per cent (n = 230) of the respondents agreed that they would get a new job after graduation (only 19.30 per cent (n = 94) respondents had their education costs incurred by the employer). Apart from that, 47.02 per cent (n = 229) of the respondents agreed that they received attention and recognition from their employers upon completion of their studies.

This study involved 10 activities related to organisational skills. The findings revealed that the majority of respondents (80 per cent) indicated that part-time learning had a high impact on their organisational skills; only 20 per cent said it had a modest impact. The highest mean (4.07) is for the item 'I feel more confident to communicate with colleagues and customers', while the lowest mean (3.62) is for the items 'The management started to believe in me to complete the assigned tasks' and 'I am active in organisational improvement activities'. The overall mean is 3.85 and only five items exceeded this. In terms of different levels of organisational skills between male and female students, the results show that organisational skills for the former (mean = 3.949) were higher than the level of organisational skills for the latter (mean = 3.836). The results also show the item 'I would understand the authority and responsibility' recorded the highest percentage (84.20 per cent; n = 410) followed by 'I feel more confident to communicate with colleagues and customers', (82.80 per cent; n = 403). 78.40 per cent (n = 382) of the respondents stated they felt more responsible for achieving the mission and vision of the organization, and almost the same number of respondents (78.20 per cent; n = 381) said that their part-time learning experience improved their work performance within the organization. In addition, 71.50 per cent (n = 348) agreed that they acquired knowledge and skills in class to help them solve organisational problems, and 68.60 per cent (n = 334) agreed that they could help colleagues solve their problems; 68.00 per cent (n = 331) believed that they could affect the existence of a good spirit of cooperation within the organization. 299 respondents (61.40 per cent) believed that they were able to express their views in the conference, 267 (54.80 per cent) felt that their management began to believe in them to complete tasks and 261 (53.60 per cent) agreed that they were active in improving organisational activities.

The third objective of the study was to examine the relationship between the time allocated to learn in a week in accordance to the student's ability. Pearson's correlation analysis depicted that the time allocated to learn in a week and student achievement is about 0.022.

H0: There was no significant difference between the time allocated to learn in a week with student achievement.
H1: There are significant differences between the time allocated to learn in a week with student achievement.

The correlation between the time allocated to learn in a week with student achievement

Time allocated to learn in a week			Student achievement			
N	Mean	SD	Mean	SD	r	p
487	5.284	4.302	77.103	12.049	0.022*	>.621

* Correlation is significant at the .05 level

This indicates that there was no significant difference between the time allocated to learn in a week and student achievement, at r (487) = .022, p> .621

The fourth objective was to observe whether there was any significant difference in motivation between male and female students. To obtain these findings the researcher had to balance the number of male and female respondents. From the questionnaire it was found that the total number of male respondents was about a quarter (25.70 per cent; n = 125) of the total respondents. Thus the researcher selected an equal number (125) of female respondents at random from the remaining number of respondents. T-test analysis results show that p valuesobtained are 0.795 and the significant level is 0.05 (5 per cent).

> H0: There was no significant difference in student motivation between males and females.
> H1: There are significant differences in the students' motivation levels between males and females.

T-test for Student Motivation Levels by Gender

	Males (n=125)	Females (n=125)	t	p
Mean	3.669	3.653	0.259	.795
SD	0.468	0.506		

Therefore, the study shows no significant difference between the level of work motivation for male students (mean = 3.669, SD = 0.468) and work motivation for female students (mean = 3.653, SD = 0.506) with t (250) = 0.259, p> .05.

The T-test was also used to see if there was any significant difference between the organisational skills of male and female employees. The p value obtained was 0.077 and the significant level was 0.05 (5 per cent).

T-test for Organisational Skills Levels by Gender

	Males (n=125)	Females (n=125)	t	p
Mean	3.949	3.836	1.777	.077
SD	0.477	0.532		

This finding shows that there was no significant difference between the level of organisational skills for male students (mean = 3.949, SD = 0.477) and the level of organisational skills for female students (mean = 3.836, SD = 0.532) with t (250) = 1.777, p> .05

The study also shows that Pearson's correlation between a student's age and level of work motivation is 0.107.

> H0: There was no significant difference between age and the level of work motivation.
> H1: There are significant differences between the age and the level of work motivation.

Correlation between age and the level of work motivation

Age			Work Motuvation			
N	Mean	SD	Mean	SD	r	p
487	32.750	7.377	3.651	0.485	0.107*	.018

* Correlation is significant at the .05 level

This indicates that there are significant differences between students' age and their work motivation, r (487) = .107, p <.05

The fifth objective was to look at the significant dependence between frequency of study revision in a week and students' marital status. Chi square tests were conducted at a significant level set at $p \leq .05$ level of confidence, and in the analysis it was found the value of p was 0.239.

H0: There is no significant dependence between the frequency of study revision in a week and students' marital status.

H1: There are significant differences between the frequency of study revision in a week and students' marital status.

Significant dependence between frequency of study revision in a week and students' marital status.

Frequency of study revision in a week			Row (%)	Chi square	p
	Low	Medium	High			
Single	2 (2.3)	187 (188.8)	31 (28.9)	220 (100)	5.510	.239
Married	2 (2.6)	218 (216.3)	32 (33.1)	252 (100)		
Divorced	1 (0.2)	13 (12.9)	1 (2.0)	15 (100)		

Therefore, it was concluded that there was no significant dependence between the frequency of studying in a week and a person's marital status, with $\chi2$ (2, n = 487) = 5.510, p> .05

DISCUSSION

In general, the objectives of the research were achieved. The main limitation of the research for this study is that there was no research conducted to observe the students' work motivation level and organisational skills in continuing Executive Diploma Programmes. Much research has been conducted on students pursuing distance learning education. However, this cannot be considered to be equivalent to research on part-time learning. One of the main reasons is that the teaching/learning modes are different. UMCCed is offering the Executive Diploma programmes on the basis of face-to-face teaching and learning every week. This would enable and provide opportunities for students to spend at least eight hours a week with their lecturers. Of course, the learning motivation level will definitely differ whenever the teaching and learning mode changes.

The focus of this research is to measure the learning motivation level and organisational skills among students studying part-time at UMCCed. The results reveal that only 40 per cent of the respondents' exhibited a high level of learning motivation when they studied part time; 53 per cent exhibited an average level while seven per cent confessed to a rather low level. 85.22 per cent of the respondents admitted that they acquired self-discipline during their part-time studies. Without motivation and self-discipline they would not be able to perform well in their studies or at the work place. This might in turn lead to conflicts and uninvited situations.

Mostly, those attending part-time studies consist of experienced staff members. The research results show that the majority of the students' fall into the 30 – 49 age group. 85.01 per cent of the respondents agree to the fact that they manage to complete their studies though facing pressures from their employer, thus attesting to their strong determination. Determination and the spirit of learning definitely kindled the feel of excitement in their studies. This statement was strongly supported by 83.3 per cent of the respondents who admitted that they could continue their studies without leaving the present job. 80.7 per cent of the respondents agreed that they would have to work hard to gain motivation and achieve their purposes if the feeling of excitement diminished.

Only four factors reveal a high percentage of agreement in the current study, while 11 factors show results below 80 per cent. The research results prove that the majority of respondents, that is, 80 per cent, stated that studying part-time highly affected their organisational skills; only 20 per cent admitted that it had a moderate effect. This is supported by 84.2 per cent of the respondents claiming that they were able to understand their portfolios and duties at work after gaining knowledge from lectures which were in keeping with their needs.

Apart from the specific issues considered, there are other matters that have arisen from the research. The research findings reveal that there is no connection between the allocated study schedules per week and students' achievement. Students spending 2 or 20 hours per week appear to make no impact on their progress. So, what are the factors that contribute to students' achievement? From the researcher's point of view, there are 3 factors that affect students' achievement: the teaching/learning process, the examination process and the individual factor. Does the teaching and learning that is being practised at UMCCed for the past 13 years have a positive effect on students' achievement? Does UMCCed need to review the teaching/learning process? Are the learning outcomes and standards set on par with students' needs? Do they affect their achievement at the end of

the course? What is the actual role of lecturers apart from providing knowledge to students? Have the lecturers been trained and equipped with teaching techniques meant for adults? Do the lecturers understand the expected learning outcomes set by UMCCed at the end of each teaching/learning module?

The researcher, who had been in service at UMCCed for 7 years, discovered that adult teaching techniques were hardly used in the teaching/learning practices in UMCCed. Instead, students were provided with all the learning sources, encouraged to make note-based directed presentations, and not given opportunities to find new ideas. This is rather worrying as it hinders the expected knowledge development. It might also render the students too lazy to think if they are solely focused on the notes given and do not obtain additional inputs that can be accessed from other sources. The examination results are actually based on what the students have memorised and not on what they have understood. This means that their achievement can easily be predicted because it only replicates the notes provided earlier. Therefore, UMCCed should seriously look into this matter.

The second factor involves the examination process itself. Do the set of questions meet the standards of the Diploma level? Is there a committee responsible to inspect the questions provided based on the stated learning outcomes? Are the questions set based merely on the notes provided or taught in class? These matters should be monitored by UMCCed.

The final factor is the individual. It is undeniable that one cannot avoid extreme emotional feelings such as happiness, sadness, anger and other mixed feelings. Does this factor affect students' performance in examinations? Is this taken into consideration? Is the marking or evaluation genuinely based on the marking scheme or does sympathy, revenge, bias or any such aspect enter the picture? Does UMCCed employ lecturers based on student perceptions and whether they are good, kind and close to the students, or on the capability and qualifications of the lecturers? UMCCed should investigate this matter.

The findings also do not show the connection between revision frequencies per week and marital status. This result is supported by 85.22 per cent of the respondents who stated that they were able to discipline themselves during their part-time learning process. Therefore, family concerns did not appear to influence the total revision hours per week. The issues pertaining to unavailability of time for revision, tardiness in completing assignments and other factors related to domestic life did not deter one from continuing studies on a part-time basis.

CONCLUSION

Ministry of Higher Education Malaysia, through its Higher Educational National Strategic Plan, has emphasised the culture of lifelong education as one of the strategies in Higher Education Transformation in this country. The strategy stresses the recognition of collaborative learning experiences in The Malaysian Qualifications Framework (MQF) so as to increase adult participation in lifelong learning to prepare them to obtain an alternative passage and mobility within study programmes. UMCCed has begun its role in this initiative since its establishment in 1998, conducting several programmes which would help people to achieve the necessary competency levels.

Even though the existing Executive Diploma does not have the recognitioni of Malaysian Qualifications Agency (MQA), the study shows that the programme has had a big impact on the level of motivation and organisational skills of the participant. This proves that UMCCed has done well in maintaining the quality and standards of the programme. UMCCed has gone further to obtain recognition from the MQF for its Executive Diploma Programmes. Suggestions resulting from this study will provide grounds for UMCCed to solidify the development of the Executive Diploma Programme. This finding will give UMCCed the best opportunity to tighten and align its course provisions so they meet the requirements of the industry and work force. UMCCed will ensure its programmes remain the best in terms of teaching and learning, teaching staff and student management in order to produce graduates who possess adequate skills and knowledge that can be applied in their jobs.

Therefore, UMCCed had to maintain its flexibility in offering and organising programmes that fulfil the needs of the working community. UMCCed's mission is to provide training and education opportunities for working

adults thereby increasing their skills and knowledge and propelling them towards playing a more dominant role in contributing to the development of society and the nation.

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INTEGRATION OF THE RESEARCH INTO THE CLAKKROOM FOR THE SECOND YEAR AGRICULTURE STUDENT PRINCESS OF NARADHIWAS UNIVERSITY

Safitree Nawae[1]
Supath Srisawat[1]
[1]Faculty of Science and Technology, Princess of Naradhiwas University, Narathiwat, 96000, Thailand

Abstract

This research aims to develop the teaching and learning physics, increase the science process skill and enhance science attitude by integrating of research into classroom. The one group pretest-posttest was used for testes the 16 students of the second year faculty of agriculture of Princess of Naradhiwas University. This research found that the science process skill increased in good level 78.20% and good attitude level was 72.50%.

Keyword : Science process, science attitude, integrating of research into classroom

INTRODUCTION

Learning is a process of quality to expect. Provide students with quality. Learning and Teaching, it is important that teachers be made steadily. To meet the educational reforms aimed at developing the students. Individuals who have a significant role in the teaching and learning that will affect the student's teachers the Act. Studies in 2542 (B.E.) with a national focus for teachers knowledgeable in various fields. To improve teaching and learning is the provision of education. Activities that focus on student learning are important. The learning of new concepts in order to advance the quality of education, teachers must play a role as a researcher. The curriculum development to bring the results for improving teaching and learning. The developmental course will be conducted in a systematic process to find the problem since. The way to solve the problem. Laboratory experiments or developing solutions including the summary and report to confirm the action. The process is that the research itself. To find innovative solutions to problems or to improve student learning. The researcher focus of the action research. Because of The faculty of science and technology Princess of Naradhiwas University agencies to develop knowledge base on scientific quality. That is the responsible for teaching courses in physics and physics laboratory, faculty of agriculture students. This is a subject that requires skill of audition process and thinking and implementation process is related from easy to difficult. The result from the former class indicated that the first semester of the 2010 academic year didn't understand of scientific principles although the solution to test students in physics courses already operating. This is due to lack of skills, ideas and experimental procedures in a systematic manner. To the achievement of the students' science process skills to be more complete. The researcher received research funding from the National Research Council of Thailand (NRCT) on the subject. "Preparation and Characterization of Cellulose/Chitosan Composite Membranes for Separation Proteins of Wastewater from industry" is a good idea to get students to take action. This will give students the ability to think logically and scientifically.

METHOD

1. The scope of the research
Population and samples used in this study
Samples used in this study were undergraduate students. The second year faculty of agriculture of Princess of Naradhiwas University. The second semester of the 2010 academic year.

The topic
The topic was used in the experiment is a part of the research. "Preparation and Characterization of Cellulose/Chitosan Composite Membranes for Separation Proteins of Wastewater from industry" combined with the contents in physics (10-044-101) topics in agricultural engineering and fluid mechanics. Curriculum of Princess of Naradhiwas University

The variables studied
Independent variables was the laboratory method.
Dependent Variables, including the various scientific process skills of students.

Participants
The second year faculty of Agriculture of Princess of Naradhiwas University divided into four groups.

2. Experimental
The procedure of membrane preparation
Cultivation of bacteria *Acetobacter xylinum*
- 4% (w/v) sucrose
- 0.5%(w/v) peptone .
- 0.5%(w/v) yeast extract
- 0.033%(w/v) Na_2HPO_4
- 0.0115%(w/v) citric acid

Adjust the pH until reached to pH 4 with HCl, NaOH or KOH. Then steam sterilization at 115 pounds per square inch pressure 121 ^{O}C for 15 minutes. Let it cool. Pour the 50 ml culture medium in a glass dish (petridish) diameter 90 mm which had been sterilized. Put on the table; wipe with alcohol use bacteria Acetobacter xylinum 5% of the volume of food helps Antichrist culture. (In this volume, 2.5 ml) cells cultured for 3-5 days at room temperature (about 30 ^{O}C).
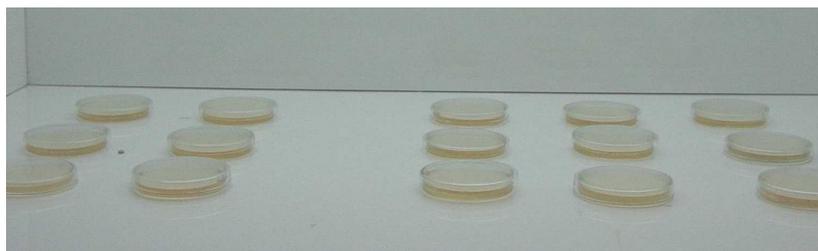
Figure 1. shown the plates of cultured microorganisms in petridish

Membrane Preparation
The bacterial cellulose was killed by boiling in distilled water at 90 ^{O}C. Then immersed in a solution of NaOH 1.5 N for 48 hours at 27 ^{O}C for removing the cell in the cellulose. After the cellulose sheets were washed in distilled water until the pH equal of the water. After that soak in HCl 1.94 N for 1 hr for pretreatment of cellulose sheets. Washed with distilled water again. Then the dried cellulose plates at 37 ^{O}C for 48 hrs.

RESULT AND DISCUSSION

Table 1. Satisfaction level of students before - after the integration of research into the classroom.

No	Topic	Before the integration of research into the classroom		After the integration of research into the classroom	
		Average	Percentage	Average	Percentage
1	Skill to identify and control variables in the scientific process	3.06	61.25	3.81	76.25
2	Numeracy skill	3.31	66.25	3.56	71.25
3	Skill assumptions.	3.38	67.5	4.00	80.00
4	Skill in experimental design	3.31	66.25	3.81	76.25
5	Skill for conducting experiments	3.31	66.25	4.00	80.00
6	Skill to record results	3.25	65.00	3.75	75.00
7	Skill in observation.	3.19	63.75	4.00	80.00
8	Skill to analyze the experimental data	3.31	66.25	3.75	75.00
9	Are interested in learning more	3.50	70.00	4.13	82.50
10	Skill in planning process	3.13	62.5	4.06	81.25
11	As preparation tools	3.50	70.00	4.06	81.25
12	Skill in asked for reasons and answers.	3.44	68.75	3.88	77.50
13	Good attitude about science	3.38	67.50	3.88	77.50

Recommendation of the students after the integration of research into the classroom.
- Before this experimental, I don't know anything. After that, I have tested this in such a moderate increase skills.
- I have been trying for more. To guide further research and want some outside research more.
- The experiments were made me know about the experimental.
- Like this experiment and continue it.
- I like to know more. May have more tutorials for understanding more.
- I have to try this again.
- I have performed this experiment several times because of this increased knowledge and experience.
- I know how to operate the device and have more computational skills. The experimental data can be analyzed further.

CONCLUSION

This research found that the science process skill and good attitude level were increased 78.20% and 72.50% respectively. It can be see that the most student prefer experimental more than demonstration and learning by themself.

ACKNOWLEDGMENT

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SUSTAINABLE WORKPLACE LEADER DEVELOPMENT THAT INITIATES AND RECIPROCATES CHANGE IN THE WORLD

Terence J Sullivan
Universiti Brunei Darussalam, Jalan Tungku Link, Gadong, Bandar Seri Begawan, BE1410, Brunei Darussalam
terence.sullivan@ubd.edu.bn

Abstract

The objective of this research was to report a workplace strategy for sustaining the development of leaders and their communities that initiates and reciprocates quality of life for all within its influence. Because leaders' social actions affect the lives of many, they have a moral imperative to foster the growth of themselves and those around them (Zembylas, 2010).

The purposeful and continuous method of action, reflection, learning and sharing (Marsick, 2002) was used within a social space to sustain leader and follower personal and professional development. Leaders transformed people and themselves and in return, people transformed leaders and themselves in a process of sustained iterative coevolution.

One major outcome was a sustained moral and ethical change in leader action focused on career-long and lifelong engagement of followers as a learning community of shared learner leadership, thus raising the level of authenticity in society.
The implication is that once people have the mindset and opportunity to choose and participate in decisions that affect their lives, they become empowered rather than marginalised. They are more likely to make decisions that distribute the benefits equitably.

At the national policy level, such leader relationships more readily promote a just society of shared resources that provide opportunities for citizens to compete and cooperate with the world community.

Keywords: action reflection learning, workplace leader development, sustainability

INTRODUCTION

Leadership is born not only of a set of innate abilities and capacities to lead but also of qualitative life experiences. These life experiences inspire powerful desires to achieve a certain vision by triggering values and beliefs that are significant to the leader. The vision emerges out of the leader's unique self-awareness and the awareness of events and others. The desire can be so strong that the leader is ready to sacrifice aspects of his or her personal and professional life in order to achieve that goal.

Their vision develops through three manifestations. It begins with inspiration, which is a flooding of awareness from the environmental context. Inspiration transforms into ideation of how to achieve desirable and viable solutions to a current problematic context. Finally, its implementation initiates strategies or pathways toward achieving these solutions.

Thus, leaders emerge with a vision that has developed over time. Most visions are born of rigor and discipline in the face of problematic circumstances. They are the products of prolonged self-reflection on experiences followed by periods of analysis and synthesis that lead to new insight and direction. Such critical reflection demands that leaders observe and experience the world in order to discover recurring patterns and opportunities for advancement of goals.

Leaders' goals are solutions to real-world problems and incorporate what they consider the most effective pathway through a maze of constraints. Altuistic, rather than egocentric, leaders can help formulate followers' feelings and ideas into similar desires and verbalise how together, leaders and followers might achieve their desired goals. Leaders bring to fruition the desirability and viability of followers' ideals.

Potential followers more readily accept a leader's goals if they can concur from personal experience why a leader's explanation of their values and beliefs and experiences generated such desired goals. Potential followers more readily accept a leader's direction if they can see viability in a leader's explanation of how to achieve such desired goals. A clear rationale and practical strategy frame the vision.

PURPOSE OF THE STUDY

Initially through their graduate studies in leadership, a group of 10 leaders of whole school and local communities were introduced to a process of workplace learning known as "action reflection learning" (Marsick, 2002 and Marsick, Watkins, & Lovin, 2011). The 10 leaders experienced and practiced action reflection learning within a highly moral and ethical professional context with a strong emphasis on internalising leadership for the common good of the community by holistically focusing their work on community improvement with the school as hub, and so stimulating sustained personal and professional growth. Leadership theory has shifted focus from leaders and followers to a more communal understanding of the dynamics contained in leadership relationships. In leader development, this shift from the individual to the professional learning community has opened up opportunities to study sustainable distributed workplace leader development. Through its collaborative nature, leaders and followers who are actively involved in such self-renewing leadership relationships base their actions on achieving the common good.

This study aimed to describe the way in which this group of 10 leaders used their mastered experiential personal and professional learning strategies, after their return to the workplace, to achieve common good within their workplace; and to sustain their development and their actions in developing others within their influence through self-renewing interactions and interrelationships.

THEORETICAL FRAMEWORK

1. A method of instigating social change and development

Theory of informal and incidental workplace learning is supported by scholarship and practice and centred in concepts such as learning from experience and self-directed learning. Learning from practice requires not only an understanding of what and why a person acts in a particular way but also understanding how the context influences that action. The learning process emerges from self, others and the context and occurs as a result of awareness of events that the person interprets as providing significant relevant insight into aspects of their personal and professional development.

The learner can then categorise and thematise issues within the event and compare currently held theories with newly experienced insights. In this way previous theories are confirmed, discarded or transformed in order to maintain theoretical alignment with current practice.

Understanding of self, others and the context of a particular event and globally relating that to similar events requires a collaborative approach involving professional dialogue. These events can be thought of as social and organisational learning spaces in which people critically discuss their experiences of a significant situation. It is a learning community mind-set that develops through mentoring and coaching and structuring the communication processes within an organisation in order to enhance the probability of awareness and dialogue occuring after an incident that is percieved as being significant. The many different perspectives give some assurance of validity and reliability of interpretation.

One of the basic concepts of variation theory (Ling and Marton, 2012) is that learning occurs because of a change in the way the learner sees an object of learning, (phenomenon or certain aspect of reality or critical incident). Learning requires the learner to experience variations corresponding to the critical aspects of a learning object. This awareness comes about due to the recognition of variance and invariance in the person's conceptions of being a leader in relation to the current incident context and the person's previous knowledge and experiences in previous contexts (Marton and Booth, 1997).

When these experiences are situated in a leadership context, the new or modified leadership knowledge, attitudes, values and skills that are conceptualised from analysing these variations and invariations become the lived object of learning. Experience, awareness of variations between other experiences and so learning as described in variation theory, is also the learning dynamic within the process of workplace learning.

The current use of critical incident technique, as formulated by Flanagan (1954), is the act of carrying out a planned process of identifying critical incidents, analysing critical aspects of similarities and differences between the current experience and that of previous experiences in similar contexts within these incidents and deriving conclusions about a particular problematic phenomenon. In such learning processes, there is an experience or action; awareness from reflection; the drawing of conclusions or solutions and, if the conditions facilitate, further corrected action.

The act of initiating and reciprocating change in the world is an act carried out by a leader, whereby the thinking leader envisions a desired reality and acts to implement that desired reality with others. The awareness of such changes or variations in the workplace is an act of workplace learning or development. Both dynamics are interwoven and coevolving.

The next step involves further reflection and dialogue with peers and the international community through related literature to verify the accuracy of one's conceptualisation about the aspects of leadership identified in the critical incident. At this point the learner is comparing personal theories with generally accepted theories. Group learning occurs when learners enter critical dialogue with others, about their interpretations of a particular event and its context in relation to an aspect of leadership (Marsick, 2002). After such deliberation, the leader can then act on one's new learning by deciding on an effective strategy for strenthening these particular highlighted leadership skills and capabilities within one's repertoire.

This action-reflection-learn-share process epitomises personal and professional development in the workplace because it is a source of new insight for individuals as well as groups. It is the basis of acquiring and sharing new insights and initiating desired strategies to achieve a vision. It develops the cognitive, emotional and physical capacities needed to initiate organisational actions and relations in order to achieve chosen goals. It supports leaders to continually develop new mind-sets, attitudes and behaviors and enables them to face new challenges.

For leaders, the process involves experiencing everyday workplace leadership situations, and then alternating such action with reflection as a strategy to discern which of these everyday experiences epitomise the personal and professional needs, interests and reality of the leader. This notion of significance comes about through considering one's leadership strengths and weaknesses displayed within the particular context.
When considering one's leadership strengths and weaknesses in a particular situation, the leader reflects on the precursors to actions taken in an attempt to discover what leader practices influenced the outcomes of a certain event (Hettlage & Steinlin, 2006). The leader collects direct observations of human behaviour and uses this information to understand the dynamics of the situation.

An incident is categorised as significant and therefore as a potential critical learning incident by reflecting on the particular leadership themes that are present within that incident. The leader contextualises leadership theories and so adds further meaning to those theories with every new incident (Marsick, Watkins, & Lovin, 2011).

During the learning process, new variations, based on initiating and experiencing a change in behaviour, continually revise a person's knowledge. Learning is characterised as a process of becoming aware of new perceptions of a phenomenon and then increasing one's knowledge and skills to achieve a more powerful way of affecting future practice (Booth, 2008). Conversely, the leader's act of initiating and experiencing a change in a particular context is an act of learning. In other words, leader action sustains leader learning and vice-versa, leader learning sustains leader action.

2. Sustainable authentic change in the world as a moral imperative

Learner leaders' subjects of study are their reflections of lived experiences of being leaders in the world. Through reflection, these lived experiences become catalysts for the emergence of the leaders' own learning or leader development. One way leaders sustain their personal and professional development in the workplace is by studying the significant experiences of initiating their vision or goals and further extrapolating to discover and analyse the complexity of reciprocating influences that are present because of their actions.

The leader's practice of action reflection learning and the awareness and interpretation of variation in the leader's world sustain workplace leader development and simultaneously initiate and reciprocate change in the world.

According to Saljo (1979) and Wood (2006), there are six hierarchically related conceptions of learning. They are; (a) the development of one's knowledge; (b) the ability to memorise and reproduce new knowledge and skills; (c) the ability to apply and utilise knowledge and skills; (d) understanding the meaning of what is learned; (e) understanding reality differently and so changing one's previous concepts of reality; and (f) changing as a person in a particular context.

Changing as a person and changing others is of particular importance for leaders and followers. Leaders directly and indirectly affect the lives of many. Leaders therefore, have a moral obligation to change in the world for the common good. The very nature of key leadership critical incidents creates a moral imperative for the work of leaders in the world.

History demonstrates that at any given moment, in any occupation, there will be gifted and talented leaders, average leaders and in-effectual leaders, leaders correctly directed to the welfare of society and leaders who are mis-directed. Some leaders' images will be collapsing whilst others will be expanding. Clearly and sensibly, sustainable workplace leader development that initiates and reciprocates change in the world needs should affect the common good.

Therefore, it is essential that leaders experience quality of life contextual variations and can reflect and learn from such differentiations and go on to form aligned authentic value-laden goals. To experience such morally appropriate quality of life contextual variations, these same leaders need to have connected during their formative periods with people whose values, beliefs and desires are morally appropriate.

Authenticity has its own set of universal moral obligations, which exist regardless of race, gender and culture. Once leaders are aware of the differences and inequalities surrounding them, these leaders are able to design sustainable scenarios of practice directed at the welfare of the environment and people.

Behavior is authentic if it results from personal understanding and approval of its drives and origins, rather than merely from conformity to standing temporal social mores. Authenticity is a positive outcome of enlightened and informed motivation. Authenticity is the unimpeded operations of one's core self in one's daily enterprise. Authenticity refers to the truthfulness of origins, attributions, commitments, sincerity, devotion, and intentions. Authentic leaders deal with their external world by being faithful to internal rather than external ideas. Such leaders have internalised a certain perception of the world and initiate change in the world based on their internalised views. They act from within and remain true to themselves and their understanding of their context. Authentic leadership is the focusing of the self's purpose, to make changes in accordance with one's understanding of the context. If the leader and followers become aware of themselves and their context and desire a similar pathway of evolution, then the leader emerges to a point where the self becomes the voice of the world and the world recognises the voice as a mirror of itself.

Followers recognise the voice of the leader as a vehicle to follow in order to achieve their goals. The leader expresses the voice and desires of the followers and so leader and followers are in a unified relationship. The leaders are authentic to their selves and to their followers and the followers are authentic to themselves and their leaders.

In a world of change, the leader, the context and the interpretations of the leader and context are evolving concepts. Sustained growth or development of leaders, followers and their context are necessary to maintain alignment. The leadership relationship bond needs continual renewal in order to sustain a functional alignment of values, beliefs and vision. Sustainability and quality are key development and change stimuli in the continuing attempt to achieve perfection in an ongoing leadership relationship (Daft, 2008).

Authentic leaders pursue goals that are intrinsic to how the leader and followers interpret the "good life" for themselves (Zembylas, 2010). Powerful sustained leader development for both leaders and followers can

achieve a depth of learning as described by Wood (2006) that changes people and their lives. Sustainable authentic workplace leader development is the act of initiating and reciprocating a change in the world whereby the change has been internalised by all stakeholders in relationship with the leader. The degree of authenticity is an indication of the degree that all stakeholders are acting in unison because they have internalised the same meanings about a particular reality (Barber, Whelan, & Clark, 2010).

RESEARCH APPROACH

This study used a phenomenographical approach to document the cases of 10 school leaders who practiced the action, reflection, learn and share process using various workplace incidents as the stimuli for their learning about the nature of being a leader. Their workplace leader development was a result of their acting in their world initiating and reciprocating the continuous change occurring about as part of their leadership actions.

The focus of the data gathering was on how the leaders' actions and the actions of others influenced what and how the school leaders learnt and how they developed personally and professionally, and whether or not they developed a moral imperative to change their world for the better as a result of their sharing of their reflections about leadership and the context in which they functioned.

The researcher noted and analysed interview responses, observations, general informal discussions and each subject's personal and professional learning documentation such as reflective diaries and research exercises, to record the school leaders' perceptions of their workplace leader development. The focus of such analyses was on the nature of the moral, ethical and technical aspects of their developing leadership style; the type learning processes and level of learning taking place; and the nature of their leader action and its outcomes in their organisational contexts.

FINDINGS

1. **What and how the school leaders learnt and to what level did they develop personally and professionally?**

The self-perception of Leader1 changed to the point where she understood herself as a different person. No longer was she the only leader in her organisation. Now, she understands herself as a "leader amongst leaders". Her personal and professional relationships had changed along with her conception of her role and responsibility priorities. A particular understanding of distributed leadership had formed at the psychological and social level of values and beliefs and was being enacted at the organisational structural level. This deep concept of distributed leadership of learning leaders forming a learning leadership community that is sustained by its interacting dynamics is described in the following reflection:

"Yes. Teacher and parent support is very important for us to sustain aspects of a good school. I said to a colleague, "It is not only the work of the leader to make the school a good school. It is better for the teachers to make a school good". However, she replied back, "It is best of the leaders. If the leader cannot lead the teachers, the school cannot be at the top". I said, "Yes, the teachers and leaders have to work together, but the teachers' support is very important in sustaining any culture in the school community. They are our background and our backbone in the system. That is why caring leadership is very important."

Learner2 uses a face to face form of 360 degree feedback to learn about herself and how she is changing in the perceptions of her followers. At the same time, this 360 degree strategy offers her insight into the state of her followers and the levels and directions in which they are personally and professionally developing. Together, by understanding the organisational members, Leader2 develops an understanding of the state of her organisation and knows when and how she can transform and improve it in such a way that all members are aligned as a professional community:

"During my research exercise, I used a learning process in which I was working with an administrative team, like a person giving advice, and all learning together. I use this in school now gathering my administrative team and they even have the right to talk and complain about me if they want - even if they think I am not up to their standard. The staff really, really likes it. We do it every 2 weeks and if I am busy once a month."

"Do you believe that after this learning process you have changed as person?"

"Yes, yes. It is in my mind that now I will be able to change people and bring improvement in my organisation. (Personally) I believe I can and have become very confident"… (Professionally) I know how

deal with people, I do not order people; I do not believe I am superior to others; I was like that before now I am changed."

"We (the group who finished the masters programme together) become the person to be referred to be sent to any management courses, because we are the most eligible person that to attend this course. I feel that the higher officers have more confidence in us now, and also more hope. They trust us and want to upgrade us more. I believe professionally my standard is high and people believe in us more. I am the leader of a group of headmasters and headmistresses in my zone. Everything it will point to us, three of us (again referring to 3 who finished the same learning programme) everything will be like you do it and we do not have any problem in that now we say why not. Before we hid from things like presentations, but now we just apply whatever is in our mind because of the knowledge we gained especially from the articles that we read. There were so many during our research."

Leader3 explains how she has become a different person who has gained a sense of confident awareness. No longer does she impulsively react to situations but now stops, reflects and becomes more fully aware of situations and so can act more decisively as an effective leader:

"Now I am brave enough to face obstacles and talk to my seniors, and my staff. I learn to learn myself by reflecting on what happens. It is very helpful. When problems occur in the school I go back to my office and reflect. I do not act immediately or do not get angry. I am calmer and have learnt to think and act. This is a very good thing for me. I can see how issues happen and how I can overcome them. There is much change in me through learning, but most is my confidence."

2. How the leaders developed a moral imperative to change their world for the better and technically improve their leadership capacities?

Leader1 noted that after reflecting upon the changes taking place in her educational context, she now felt a moral imperative as a leader to develop the personal and professional leadership capacities of others to work together to transform and improve education and society:

"Because we are dealing with education we have to be very instructional and transformational… What I learned from my graduate leader studies actually helped me. It gave me guidelines on how to lead in proper ways. You have to look at the people that you have as teachers, how they will contribute, how they will help you in many ways; - the pupils, the parents, community and even the non-teaching staff."

Leader1 is continually nurturing community members to become leaders in their own right:

"During our visit to houses in the community, I am not the leader. I am one of the committee. I said to one teacher, "What job you are going to give me?" The teacher replied, "Is it ok?" I said, "Yes. I am not your leader. You are my leader here." So they assigned me with a job. I was just training them to accept that it was ok to give me jobs. From this, I make my own notes: "Is this person capable to be a leader or not, and which area has to be improved?" … Now he has courage. He said, "Now I am more confident with you and talking with other people. I also tell him to talk with others during meetings with the community. He protests but I say, "Yes, you have to try". He is a male teacher. He has the potential only he doesn't have the confidence. We have help the teachers see their strengths and then work on their weaknesses. That is what I do as a leader. Sometime they feel like they cannot do it. I say, "No, I will support you". So we work together."

Leader2 explains her rationale for wanting to learn and develop as a leader. In so doing, Leader2 demonstrates a strongly developed moral imperative to change her world for the better and to technically improve her leadership capacities. She talks of community by using the plural "we" and "our organisation". Her moral imperative appears so strong that it has become her main motivational drive every day:

"I want to learn a lot more, especially how to deal with parents and how to motivate them and make them understand what happens in the school; I am also learning how to make people in our organisation more committed and to sustain them to keep on improving rather than being in competition. I felt that when I came to this school there were things that I needed to change change change. I wish that people were not so reluctant regarding changes and so to deal with this I have to learn and learn. People feel so comfortable in their comfort zone.

I realise that I have areas to improve, my weaknesses, like my communication. I still believe I need lot more knowledge in that area and that I have to improve because I want show to people that what I am saying is really what we should do I want prove that, and for that I need to make myself strong. I want to make myself a leader that people can follow so I need to learn a lot. I want to become a better leader every day and for

that I learn every day.

That is the most important thing that I want achieve actually. The desire to learn is always there in me and to gain more knowledge, to become responsible leader, and to be more accepted. What you say you do it. I don't want people to say, "You also do it". That's why I have to set a good example, even though you have so many problems you cannot show it. To manage ourselves like that, we also need knowledge. We have to be perfect in front of others, no matter what. We also have to know how to act."

Leader4 explained that after developing the "action reflection learn" habit, she became more empathically more aware of her followers and others in her environment. She felt morally obligated to their welfare:

"When I become a leader, (after the programme) I started to really care about people, even my non-teaching staff, some of them are quite old already. I care because they are old people, that is something which is really personal, I show my love to them because they respect me as a leader and I also respect them as elder people."

In another statement, Leader4 expresses her desire to change not only herself but her world around her through specifically teaching the same personal and professional development strategies of sustainable workplace leader development to her assistants so that they will become more effective leaders. She is initiating and reciprocating change in her world. She develops her staff and in turn a more effective staff makes her leadership role easier:

"It (sustainable workplace leader development) helps me now also, you know why, because I have already asked my senior teachers to do it (action reflection learning) as well. I tell them that one day you will be better than me, because you have a chance to practice it from now, before you go to deputy and before you become head teacher. But during my time I had no chance to experience this, so once you practice it, from now you will become a better person now."

DISCUSSION

1. Nature of learning processes and levels of learning taking place

Studying what leaders do and how and why they develop is essential to understanding a context-based design of leader development. The state of being a leader in the world is located at a key emerging dynamic that both initiates and reciprocates an infinite array of interacting and interrelating real-world influences.

Leaders learn when they reflect on their experiences in such a way as to compare their previous and current experiences and then compare their experiences to other people's experiences through critical dialogue. Learning occurs with the dawning of awareness of variance and invariance amongst practices and the discernment of effective practices.

Such learning is a naturalistic form of workplace personal and professional development that occurs inside the fabric of organisational interactions and relationships. Because of each person's unique perspective in an organisation, such learning initiates a learning sequence that is unique and relevant to each organisational member.

When people engage in critical dialogue about their experiences of significant incidents with others, their individualised self-learning expands to become a professionally networked communal learning space.

Sustainable workplace leader development creates a nexus between theory and practice. The learning is action oriented. Shared discussion and individual reflection sessions allow leaders and followers to enhance their knowledge and capabilities of what it means to be a leader or a follower in ways that are entirely relevant to their personal and professional lives.

The usefulness and frequency of the action reflection learning process depends on the commitment and ability of the leader and followers to remain focused on personal and professional development in the midst of dealing with their organisational life. To facilitate this focusing, members of the community of practice act as mentors for each other with the aim to facilitate, teach and coach each other's development by immersing them in an action reflection learning process. They do this by helping each other re-interpret their workplace as a place of research.

By discussing particular aspects of each others' work, the members of the community facilitate each other in realising critical learning incidents that emerge from day-to-day work. They analyse their strengths and

weaknesses and become aware of specific aspects that they would like to transform and thus utilise their knowledge and capabilities. When individuals understand a greater deeper meaning of their world, they interact differently with each other and their context and so change as a person as a result of their learning.

Through a learning community process, conclusions are continually drawn about best practices that are relevant to specific cultural contexts. Knowledge is accumulated about these specific contexts and the people and events that make up those specific contexts. Eventually a communal vision of the context emerges that creates a platform for unified change that is sustainable in itself and so able to sustain leader and follower growth and development. When the community understands a greater deeper meaning of its world, the community interacts differently with its context and so changes as a community.

2. **Nature of leader action and its moral and technical outcomes**

A leader's particular organised knowledge, culture, values, beliefs and behaviours interact and interrelate within and without their target followers' contextual environment. Leaders, followers and their contextual environments coevolve and this is the nature of growth and change (Laszlo & Krippner, 1998). Conversely, change sustains leader development.

Fullan (2010) encourages all organisational members to be responsible for seeking new knowledge on a continuous basis as well as contributing to the knowledge of others by sharing what they know. Such a culture of shared learning generates virtuous teaching cycles (Tichy, 2002) in which leaders and members of the learning community create new knowledge and interpretations of leadership dynamics and organisational context by continuously problem solving and improving interactions within the leader relationship. Further on-going constructive interactions generate more learning, more teaching and the creation of new knowledge.
The more imbedded a person is in the fabric of the organisation, the more he or she will be involved in the learning that takes place. Leaders are pervasive in organisations and so they are particularly favoured as beneficiaries of this form of workplace learning.

Their pervasiveness morally obligates them to sustain communication networks that facilitate distribution of all components of organisational culture in such a way that members become and stay aligned and own the organisational dynamics. In other words, the leader facilitates members to initiate and own the organisational dynamics and thus empower themselves to the level of a distributed leadership that is the foundation for a continually renewing common good in line with the organisation's continually changing context.

Such leadership behavior incorporates and so facilitates active participation by the whole community of practice and so sustains the growth of innovative organisations that embody an experience culture in which all members of the community of practice are design thinkers. That is to say, their reflections on their actions and experiences continually focus on designing new improved actions and experiences that morally in favour of the common good.

Innovative organisational processes distribute leadership throughout the organisation to a point where all members personally experience the act of leadership within their own specialisation and role position and so personally and professionally grow from the experience. This process creates the opportunity for all to empower themselves by being aware of and acting upon opportunities to lead and change.
The leader utilises his or her specialised role position by designing the interaction of the organisational members by relocating the human, physical and knowledge resources to significant people's positions to facilitate the creation of new solutions whilst simultaneously building the organisational members' capacities and potentials. This type of interaction designing by the leader has the goal of physical and human organisational development. Thus, it becomes a pathway for sustaining quality change in the world.

LIMITATIONS

Ethical workplace leader development that initiates and reciprocates change in the world is only effective and sustainable when leaders continue to conceive their work as methodically designing their reality and the reality of others around them for the welfare of all. Such morally infused learner leaders conceive change as a learning

experience whose outcome is leader personal and professional development as well as change in the world.

The quality of learning and eventually the quality of leader and follower development are dependent on the effectiveness of the learning in the workplace environment. High level development only takes place in high impact communicative learning spaces.

The leaders' abilities to accurately reflect and interpret rich impressions of practice and to relate this practice to the strengths and weaknesses of their knowledge, skills and leadership theories, is another limitation to producing high quality development.

Leaders and followers must practice and develop their abilities to critically self-reflect on their own practices and to identify related critical learning incidents from which they can improve their practices in order to bring about higher quality and more sustainable future practices. In other words, they must understand how to learn from reflecting and interpreting their practice in terms of their held theories and so further develop and expand their theories of leadership and acting in the world.

CONCLUSIONS
The current rapidly iterating changes in global society impact and gain leverage to varying degrees across all areas of personal and group life and personal and group lives affect global society. With such fast and focused iterations, leaders of such groups must develop as proactive creators of new directions. However, such proactivity must be filtered and so biased with values and experiences that are appropriate for the sustained welfare of the global environment and its people's needs.

Whenever the leadership force cannot sustain the welfare of the global environment and its people's needs, others in the leader relationship feel as if their leader can not live up to their expectations (Fullan, 2010). Lack of confidence and reluctance to follow, erodes the relationship and in effect immobilises the leader.

Immobilisation causes the leader to feel ineffective. Consequently, the leader becomes incapable of making innovative decisions that meet with follower approval. This lessening of understanding of what to do and how to act, gives way to poor judgment calls and begins the downfall of many leaders and their organisations.

Degenerative dynamics amongst unsustainable leaders and organisational members can emerge anytime when instead of constructively learning from experiences, people choose to ignore events until situations deteriorate past their expectations and practices. This institutionalised denial eventually signals the collapse of the ties that enable the leader to remain firmly grounded in the context of the organisation.

In order to understand what it means to be a sustainable leader and to continue to function effectively within an organisation, leaders must continually reflect on their leadership experiences in order to discern what personal and professional growth areas are wanting in them at any given point in time and in all leadership contexts. When leaders identify aspects of their leadership as being amiss, they create an opportunity to re-design what they do and how they do it. They can also consider why they act a certain way in specific situations in order to re-interpret their understanding of what it means to be a leader. When this happens, relevant personal and professional development of their leadership theories and sustainable best practice take place.

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CULTURAL LITERACY AND STUDENT ENGANEMENT : THE CASE OF HONG KONG PROFESSIONAL AND VOCATION EDUCATION (PVE)

Sammy King Fai HUI
Department of Curriculum and Instruction The Hong Kong Institute of Education, Hong Kong.
E-mail: skfhui@ied.edu.hk
Tel.: (852) 2948-7550
Fax: (852) 2948-7563

Abstract
The goal of Hong Kong Professional and Vocational Education (PVE), in response to a knowledge-based economy, has been extended to empower students to face future work and life challenges and to learn in a lifelong manner (UGC, 2010). A recent study (Hui, 2012) – adopted a broader definition of student learning outcomes and assessed the extent to which PVE students are "culturally literate" – has challenged the curriculum intention of these PVE programmes to help students to meet the lifelong learning goal. A critical question remains: How could PVE institutes better prepare and engage students to achieve such an intended goal? Through modifying the well known National Survey of Student Engagement (NSSE), this study sets out to explore the relationship between the five benchmarks of effective educational practice and students' cultural literacy and self-reported academic performance. Results of a survey study of 238 Hong Kong PVE students indicated some of the benchmarks could predict to a strong and moderate degree these two important outcomes (R2 of 0.411 and 0.138 respectively). It is argued that a proper planning and facilitation of educationally purposive activities could enhance both their learning and development. This paper will contribute to the discussion of how to advance PVE students' learning performance.

Keywords: cultural literacy/ National Survey of Student Engagement (NSSE)/ Hong Kong/ Professional and Vocational Education (PVE)/ regression

INTRODUCTION

In response to the changing economic structure of Hong Kong which heading to a knowledge-based economy, the early education reform document *Learning through life: Reform proposals for the education system in Hong Kong* (Education Commission, 2000) proposed a change in the education system, to provide more diverse learning opportunities for students at the senior secondary level and beyond, the Professional and Vocational Education (PVE) in particular. Such a change is evident in the huge expansion of accredited, self-financing post-secondary programmes (including Higher Diploma, Associate Degree and Degree programmes) offered by both local and non-local PVE providers over the last decade. According to the Government statistics (http://www.ipass.gov.hk/eng/stat.aspx), the number of full-time enrolments of these accredited, self-financing post-secondary programmes expanded from a total of 9,163 in 2001/02 to 70,976 in 2011/12. The curriculum intention underlying these PVE programmes, in a sentence, is to enhance the knowledge and skills of students in a specific professional and/or vocational context, to equip them to face future work challenges and to continue their studies, and to learn in a lifelong manner. However, such an ideal is under severe challenge.

The University Grants Committee (2010), after a macro analysis looking at the ability of post-secondary education in Hong Kong to meet the demographic decline in the 17-20 age group to enhance their career prospects and to develop their potential at different life stages, questioned whether they can help students develop a path to upgrade their knowledge, skills and experience for the workplace and to allow them to be flexible and adaptable in order to respond to the rapid pace of change.[1] Thereafter, the Committee recommended "a comprehensive review of the future provision and distribution of lifelong learning opportunities throughout the post-secondary system" (p. 48). Following this recommendation, Hui (2012) adopted a broader definition of student learning outcomes and assessed the extent to which PVE students are "culturally literate". Results of this survey with 214 Hong Kong PVE students indicated, while students agreed the different constructs of cultural literacy were important learning outcomes, they were not performing them

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[1] The University Grants Committee (UGC) is a non-statutory advisory body appointed by the Chief Executive of The Government of the Hong Kong Special Administrative Region to advise on the development and funding of higher education and to administer public grants to the eight higher education institutions. It also plays a major role in quality assurance and in promoting research, and comprises local and non-local academics, professionals and community leaders. For details, please visit http://www.ugc.edu.hk/eng/ugc/index.htm.

well. One of its suggestions was to urge PVE institutes to design the curriculum in a generic way to facilitate a content-specific environment for students to practise and perform the different sets of knowledge and skills for being culturally literate. This study is pioneer in assessing students' performance in relation to the socio-political context in which the curriculum takes place, and what they should be learning in a knowledge-based economy in particular. However, a critical question remains: How could PVE institutes better prepare and engage students to achieve such an intended goal?

One important research paradigm to improve student learning has been focused on the role and effort of teachers and administrators to create a facilitative learning environment for students (see, for example, Kuh *et al.*, 2010; Lizzio & Wilson, 2006; Moran & Gonyea, 2003; Reason, Terenzini & Domingo, 2006). The work associated with "student engagement" in particular has drawn considerable attention, mainly because of its value to open up academic conversations about how positive outcomes of student success and development could correlate with their involvement in a subset of "educationally purposive activities". As Kuh (2001 & 2003) demonstrates, "what students bring to higher education, or where they study, matters less to their success and development than what they do during their time as a student" (Trowler, 2010, p. 2). Thus, student engagement is an important area which PVE institutes, teachers and administrators should look more closely into in order to excel students' learning performance.

The purpose of this study is to explore in the Hong Kong PVE context the relationship between student engagement and their learning outcomes, to what extend could students' cultural literacy and self-reported academic performance be explained by their engagement in the five benchmarks of effective educational practice. This study will have important implications to local PVE institutes of how to excel student learning and to achieve the ideal of lifelong learning by means of effective planning and facilitation of educationally purposive activities.

LITERATURE REVIEW

Cultural literacy: An outcome of lifelong learning

The concept of "cultural literacy" was first introduced by E. D. Hirsch Jr. (1987), which refers to the goal of developing a specific set of knowledge for expressing and understanding complex ideas and references that constitute people's culture. Although the term "culture" is used and which aroused the movement of "what someone needs to know", there has not been any attempt to make everyone the same or destroy democracy in education. Hirsch clarified his position in an interview (Education Sector, 2006):

> [The book] *Cultural Literacy* made the claim that literacy required cultural literacy, which is actually true, but it was very unfortunate that the term "culture" happened to be used there. It would be much better if I said communication within a speech community requires unspoken shared knowledge, knowledge of conventions, knowledge of shared things.

Following this explanation, cultural literacy could simply be understood as a kind of knowledge that allows a person to pick up a newspaper and comprehend what he or she is reading. Hirsch believes "all human communities are founded upon specific shared information, and the basic goal of education in a human community is acculturation – the transmission to children of the specific information shared by the adults of the group or polis" (Hirsch, 1987, pp. xv-xvi). Therefore, cultural literacy refers to the basic information one needs to know to carry on a reasonable conversation and to communicate or work with most people. In a sentence, the more culturally literate one is, the more conversations he or she is able to participate in and the more base knowledge he or she is able to acquire for interacting with others in an intelligent and rational fashion.

Based on this definition and the idea of Information and Communication Technology (ICT) literacy (Lemke *et al.*, 2003), Hui (2012) developed an 8-construct, 24-item scale to measure the concept. These eight constructs include: (i) multicultural literacy; (ii) global awareness; (iii) self-direction; (iv) higher-order thinking and sound reasoning; (v) teaming and collaboration; (vi) interpersonal skills; (vii) personal responsibility; and (viii) social and civic responsibility. They are generic in nature to represent most work and life situations, in which individuals are required to put forth the corresponding knowledge and skills to communicate (or carry on a reasonable conversation) and work with others. Thus, cultural literacy is an important outcome for students to demonstrate whether they have developed the attributes to become lifelong learners – critical thinkers, self-

directed learners, active investigators, and problem solvers (etools4Education, n.d.). Hui (2012) highlights that cultural literacy is a broader measure for PVE curriculum goal in equipping youth to face future work challenges, to continue their studies and to engage in lifelong learning.

Student engagement: Benchmarking effective educational practice

Research on student engagement, as a measure of quality in higher education, has been carried out in the North America by the Center for Postsecondary Research at Indiana University since 2000. Modeled as the National Survey of Student Engagement (NSSE), it collects information from university and college students on an annual basis about their participation in different "educationally purposeful activities". Student engagement has been defined as "participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes" (Harper & Quaye, 2009, p. 2). Student engagement is considered as an important indicator in determining student learning and personal development because it indicates both the time a student spends in those productive activities and how involving an institution is for its students (Kuh *et al.*, 2007). As summarized by Trowler (2010, p. 3):

> Student engagement is concerned with the interaction between the time, effort and other relevant resources invested by both students and their institutions intended to optimize the student experience and enhance the learning outcomes and development of students and the performance, and reputation of the institution.

The NSSE creates five benchmarks of effective educational practice; they are: (i) level of academic challenge (LAC), (ii) active and collaborative learning (ACL), (iii) student-faculty interaction (SFI), (iv) enriching educational experiences (EEE), and (v) supportive campus environment (SCE) (NSSE, 2011). These benchmarks describe and reflect the wide range of academic and non-academic interactions that students have with their institution. The more involved the students have with these interactions, the higher learning outcomes they would have achieved.

Although a huge body of literature has documented the positive correlation between student engagement in educationally purposeful activities and their important educational outcomes (see, for example, Kuh *et al.*, 2008; McClenney, Marti & Adkins, 2012; Pascarella, Seifert & Blaich, 2010), there have also been criticisms on the use of the NSSE. The most critical ones include a critique of the abstractness of the term "student engagement" and its insufficient diagnostic and explanatory power for improvement actions (see, for example, Axelson & Flick, 2011; Pike, 2010) and a doubt of the psychometric properties of the five benchmarks of effective educational practice (see, for example, Esquivel, 2011; Lutz & Culver, 2010). Nevertheless, what we know for sure is that it is better for students to be engaged than not to be and it is the responsibility of higher education institutes to create and sustain high levels of student engagement. Therefore, any research attempt to explore the relationship between student engagement and learning performance is deemed to be important.

METHODS

A survey research method was used for this study (Fink, 1995; Munn & Drever, 1999), as it allowed access to a comparatively large sample of cases within a short period of time, the collection of information was generally anonymous and a high return rate was possible.

A research inventory was developed and there included three sets of questions. The first set of questions was the 24-item cultural literacy scale (Hui, 2012) which measures the extent to which students perform well (in 4-point Likert scale) for each of the indicators. The second set of questions included another 37 items that measure (also in 4-point Likert scale) student engagement. They were extracted from the NSSE benchmarks (NSSE, 2011) and a recent development and translation of the items specifically for students in a Chinese context (Ross, Cen & Zhou, 2011). Among those 37 items, one was for cross-checking the cognitive level of outcomes of students' studying curriculum (memorizing vs. analyzing/ synthesizing/ making judgment/ applying). The third set of questions asked students to report their academic performance (most of the grades in this academic year) and personal information (year of birth, gender, programme and year of study, etc.). Table 1 & 2 show the items of the cultural literacy and student engagement scales.

Questionnaires were distributed through a cohort of PVE teachers, who were second year students of the part-time Postgraduate Diploma in Education (PVE) programme at The Hong Kong Institute of Education.[2] It was a purposive sample. A total of 9 teachers who were teaching accredited, self-financing post-secondary programmes took part; each was asked to distribute a total of 30 questionnaires to any one of their classes in the second semester of the academic year 2011/12. There were 238 questionnaires returned, representing a response rate of 88.1%.

Questionnaire data were entered into the software Statistical Package for Social Sciences (SPSS) for analysis and several different techniques were employed (Norušis, 2000). Reliability analysis was used to measure the internal consistency of the indicators in representing the concepts. To show the distributions and variations of the concepts and the indicators, mean and standard deviation were reported. Wilcoxon signed ranks test was used to compare difference between the non-parametric paired samples. Pearson product-moment correlation coefficient was used to indicate the linear dependence of variables. Stepwise regression was used to test the predictive power of a list of factors on a given variable.

Sample statistics indicated respondents were from nine different Hong Kong PVE institutes.[3] There were 63.1% males and 36.9% females. Their mean year of birth was 1989 with an inter-quartile range between 1988 and 1992; the youngest respondents were born in 1995 while the oldest were born in 1973. A large majority of the respondents (66.8%) were studying Higher Diploma or Diploma programmes, while the rest were studying Degree (20.9%), Associate Degree (9.5%) and Higher Certificate or Certificate programmes (2.8%).

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[2] Information about this 2-year part-time Postgraduate Diploma in Education (Professional and Vocational Education) programme can be retrieved from http://www.ied.edu.hk/acadprog/pgde/PVE.htm.

[3] These PVE institutes included the following: (i) The Open University of Hong Kong; (ii) Hong Kong Community College, Hong Kong Polytechnic University; (iii) School of Professional Education and Executive Development, Hong Kong Polytechnic University; (iv) Clothing Industry Training Authority; (v) Hong Kong Institute of Vocational Education (Morrison Hill), Vocational Training Council; (vi) Hong Kong Institute of Vocational Education (Haking Wong), Vocational Training Council; (vii) Hong Kong Institute of Vocational Education (Tsing Yi), Vocational Training Council; and (viii) Hong Kong Universal Education.

Construct	Corresponding Indicators
Multicultural literacy	• Aware of how cultural beliefs, values, and sensibilities affect the way they and others think and behave. • Appreciate and accept similarities and differences in beliefs, appearances, and lifestyles. • Sensitive to issues of bias, racism, prejudge, and stereotyping.
Global awareness	• Knowledgeable about the connectedness of the nations of the world historically, politically, economically, technologically, socially, linguistically and ecologically. • Understand the role of China and Hong Kong in international polices and international relations. • Recognize, analyze and evaluate major trends in global relations and the interconnections of these trends with both their local and national communities.
Self-direction	• Set goals, plan strategically, and believe in their abilities. • Work to reach goals, focus and maintain their attention, constantly teach themselves, monitor their own performance, and seek help when needed. • Evaluate their work, understand that hard work and perseverance breed success, and have positive self-images of themselves as learners.
Higher-order thinking and sound reasoning	• Construct relationships between the essential elements of a problem in order to provide insight into it, and extract implications and conclusions from facts, premises, or data. • Create and apply criteria to gauge the strengths, limitations, and value of information, data, and solutions in productive ways. • Build new solutions through novel combinations of existing information.
Teaming and collaboration	• Willing and able to take on different roles and tasks within the group to accomplish shared ends. • Apply collaborative skills to a variety of situations. • Reflect on group interactions after collaborative activities, and use experiences to make future collaboration more productive.
Interpersonal skills	• Aware of and able to manage their own behaviour and emotions during social interactions. • Understand and positively manage the emotions of others and be empathetic in a face-to-face environment. • Use effective communication strategies to constructively influence the behaviour of others and to manage conflict effectively by devising win-win solutions.
Personal responsibility	• Set, prioritize, and meet personal as well as civic, family, and work-related goals. • Maintain a focus on important goals in spite of obstacles. • Balance personal, civic, family, and work demands.
Social and civic responsibility	• Pursue public policy that promotes ethical behaviour. • Actively engage in public discourse and raise public awareness on ethical issues. • Promote positive changes that advance the public good.

Table 2.
The 37-item student engagement scale

Benchmark	Corresponding Items
Level of academic challenge (LAC) (10 itmes)	• Worked harder than you thought you could to meet an instructor's standards or expectations. • Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities). • Spending significant amounts of time studying and on academic work. • Prepared two or more drafts of a paper or assignment before turning it in. • Worked on a paper or project that required integrating ideas or information from various sources. • **Memorizing** facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form. • **Analyzing** the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components. • **Synthesizing** and organizing ideas, information, or experiences into new, more complex interpretations and relationships. • **Making judgments** about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions. • **Applying** theories or concepts to practical problems or in new situations.
Active and collaborative learning (ACL) (7 items)	• Asked questions in class or contributed to class discussions. • Made a class presentation. • Worked with other students on projects during class. • Worked with classmates outside of class to prepare class assignments. • Tutored or taught other students. • Participated in a community-based project (e.g., service learning) as part of a regular course. • Discussed ideas from your readings or classes with others outside of class.
Student-faculty interaction (SFI) (7 items)	• Discussed grades or assignments with an instructor. • Discussed ideas from your readings or classes with faculty members outside of class. • Talked about career plans with a faculty member. • Received prompt written or oral feedback from faculty on your academic performance. • Worked with faculty members on activities other than coursework (committees, orientation, etc.). • Work on a research project with a faculty member outside of course or program requirements. • Talked about life purpose and goal with a faculty member.
Enriching educational experiences (EEE) (7 items)	• Had serious conversations with students of a different race or ethnicity than your own. • Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values. • Participating in co-curricular activities (campus publications, student organizations, intercollegiate or intramural sports, etc.). • Used an electronic medium (BBS, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment. • Attended practicum or internship. • Attended community service or volunteer work. • Attended an art exhibit, drama, play, dance, music performance, etc..
Supportive campus environment (SCE) (6 itmes)	• Providing the support you need to help you succeed academically. • Helping you cope with your relationship with others and those of opposite sex. • Guiding and helping you manage your future development (work, family, etc.). • Relationship with other students: Friendly/ Supportive/ Sense of belonging. • Relationships with faculty members: Available/ Helpful/ Sympathetic. • Relationships with administrative personnel and offices: Helpful/ Considerate.

RESULTS

Reliability analysis was conducted for the sets of indicators that corresponding to each of the eight constructs of cultural literacy and each of the five benchmarks of effective educational practice of student engagement. High values of Cronbach's alpha coefficient (ranging from 0.758 to 0.819 for cultural literacy and ranging from 0.782 to 0.877 for student engagement) suggested these indicators are of high internal consistency. Mean values were computed for each sets of indicators. Table 3 indicates the mean (and standard deviation) of the cultural literacy scale, and it is found that the PVE students in this sample could "sometimes" to "often" perform the eight constructs for being culturally literate. For self-reported academic performance, they got most of a mean grade of B to B+ in the academic year 2011/12 with an inter-quartile range between B- and A-; 23.1% of them got an A or A+ and 1.3% got a C- or below.

Table 3.
Mean (and standard deviation) of cultural literacy scale

Cultural literacy	Mean (SD)
Multicultural literacy	2.37 (0.59)[#]
Global awareness	2.21 (0.61)[#]
Self-direction	2.49 (0.56)[#]
Higher-order thinking and sound reasoning	2.40 (0.56)[#]
Teaming and collaboration	2.48 (0.58)[#]
Interpersonal skills	2.45 (0.60)[#]
Personal responsibility	2.45 (0.56)[#]
Social and civic responsibility	2.27 (0.62)[#]
Total	2.39 (0.46)[#]

[#] When computing the mean, 1 = Never; 2 = Sometimes; 3 = Often; 4 = Very Often

Table 4 indicates the mean (and standard deviation) of the student engagement scale. For the listed sets of activities, students in general engaged more often in those specify a high "level of academic challenge (LAC)" (mean = 2.47) and "active and collaborative learning (ACL)" (mean = 2.38) than those relating to "student-faculty interaction (SFI)" (mean = 1.97) and "enriching educational experiences (EEE)" (mean = 1.88). Also, they found their institutes tend to emphasize to some extent a "supportive campus environment (SCE)" (mean = 2.14). Wilcoxon signed ranks tests were conducted to compare different cognitive levels of outcomes of students' studying curriculum. Results indicated that students found their studying curriculum tend to emphasize more in "analyzing", "synthesizing", "making judgment" and "applying" than "memorizing" ($Z >$ 3.166; $p = 0.000$).

Table 4.
Mean (and standard deviation) of student engagement scale

Student engagement	Mean (SD)
Level of academic challenge (LAC)	2.47 (0.51)
Various activities	2.38 (0.57)[#]
Emphasis of studying curriculum	2.58 (0.65)[*]
Active and collaborative learning (ACL)	2.38 (0.50)[#]
Student-faculty interaction (SFI)	1.97 (0.54)[#]
Enriching educational experiences (EEE)	1.88 (0.55)[#]
Supportive campus environment (SCE)	2.14 (0.63)[*]

[#] When computing the mean, 1 = Never; 2 = Sometimes; 3 = Often; 4 = Very often
[*] When computing the mean, 1 = None at all; 2 = Some; 3 = Quite a bit; 4 = Very much

Table 5 shows the correlation between the five benchmarks of effective educational practice and students' cultural literacy and their self-reported academic performance. These benchmarks correlated weakly to students' self-reported academic performance ($r^2 < 0.1$) but they correlate moderately to their cultural literacy ($0.1 < r^2 < 0.4$). On the other hand, the correlation between students' cultural literacy and their self-reported academic performance was weak ($r = 0.274$).

Table 5.
Pearson product-moment correlation coefficient (r) between the five benchmarks of effective educational practice and students' cultural literacy and their self-reported academic performance

Student engagement	Cultural literacy	Self-reported academic performance
Level of academic challenge (LAC)	0.548[**]	0.334[**]
Active and collaborative learning (ACL)	0.536[**]	0.233[**]
Student-faculty interaction (SFI)	0.387[**]	0.232[**]
Enriching educational experiences (EEE)	0.403[**]	0.193[**]
Supportive campus environment (SCE)	0.410[**]	0.304[**]

[**] $p < 0.01$

Table 6 and Table 7 show the summary of the stepwise regression models of students' cultural literacy and their self-reported academic performance, using the five benchmarks as predictors. It is found that cultural literacy could be explained strongly ($r^2 = 0.411$, $F = 49.172$, $p = 0.000$) by "level of academic challenge (LAC)", "enriching educational experiences (EEE)" and "active and collaborative learning (ACL)" (with standardized beta weights of 0.376, 0.256 and 0.179 respectively). Students' self-reported academic performance could be explained moderately ($r^2 = 0.138$, $F = 16.918$, $p = 0.000$) by "level of academic challenge (LAC)" and "supportive campus environment (SCE)" (with standardized beta weights of 0.249 and 0.188 respectively).

Table 6.
Summary of stepwise regression model of students' cultural literacy by the five benchmarks of effective educational practice

Dependent variable: Cultural literacy (Model statistics: $r^2 = 0.411$, $F = 49.172$, $p = 0.000$)[#]	Standardized β	t	p
Level of academic challenge (LAC)	0.376	5.490	0.000
Enriching educational experiences (EEE)	0.256	4.326	0.000
Active and collaborative learning (ACL)	0.179	2.407	0.017

[#] Variables not included in the model: "student-faculty interaction (SFI)" and "supportive campus environment (SCE)"

Table 7.

Summary of stepwise regression model of students' self-reported academic performance by the five benchmarks of effective educational practice

Dependent variable: Self-reported academic performance (Model statistics: $r^2 = 0.138$, $F = 16.918$, $p = 0.000$)[#]	Standardized β	t	p
Level of academic challenge (LAC)	0.249	3.517	0.000
Supportive campus environment (SCE)	0.188	2.655	0.009

[#] Variables not included in the model: "active and collaborative learning (ACL)", "student-faculty interaction (SFI)" and "enriching educational experiences (EEE)"

DISCUSSION

With the wave of rising quality Professional and Vocational Education in Hong Kong, which meets the global education reform agenda of lifelong learning (Medel-Añonuevo, Ohsako & Mauch, 2001; UNESCO, 2010), there are already discussions of what students should be learning and how PVE institutes could maximize such learning. Apart from what we value as professional and job-specific knowledge and skills, there are also attitude and personal qualities which help students to face an increasingly challenging world. Cultural literacy, as a comprehensive measure of these attitude and personal qualities, could reveal more concretely whether students are being prepared for future work and life situations and lifelong learn. In contract to a comparatively satisfactory academic performance (1.3% got a C- or below), the PVE students in this sample should have performed better the eight constructs for being culturally literate (mean = 2.39). To set priorities, PVE institutes should facilitate more their students to "recognize, analyze and evaluate major trends in global relations and the interconnections of these trends with both their local and national communities" (global awareness; mean = 2.21) and "actively engage in public discourse and raise public awareness on ethical issues" (social and civic responsibility; mean = 2.27). It is important to note that any institutional effort to nurture students' cultural literacy needs not be at the expense of their academic performance because these two important outcomes, as evident in this sample, are weakly correlated to each other ($r = 0.274$). Put it this way, if education emphasizes outcomes, then the "desired results of education" (Killen, 2000) in the Hong Kong PVE context will be both a satisfactory academic performance and a high level of cultural literacy. According to Hui (2012), this is indeed a quality enhancement issue for PVE institutes to demonstrate their continuous commitment of quality education to meet the lifelong learning needs of students.

Student engagement, as an assessment tool for quality education, not only correlates stronger but also explains more this sample's variance of cultural literacy than academic performance. "Level of academic challenge (LAC)" appears to be critical to both outcomes (standardized beta weights of 0.376 and 0.249 respectively). It is therefore necessary for PVE institutes to set up more appropriate, specific and challenging curriculum tasks for students to exercise a high level of cognitive knowledge and skills and to motivate them to self-regulate themselves for a deep (vs. surface) approach of learning – that is a strong intention to understand and an active interest in learning (Biggs, 1999). One possible approach, according to Bowers (2006), is to design the PVE curriculum in a way to facilitate an environment where students are empowered to think for themselves. Such a design should not be limited to any pre-set curriculum goal and objectives but extended to the practice of teaching/ learning and assessment.

A wide range of educational experiences and an active and collaborative mode of learning, as evident in this sample, help the development of students' cultural literacy (standardized beta weights of 0.256 and 0.179 respectively), while a supportive campus environment is useful to excel their academic performance (standardized beta weight of 0.188). Since learning to a great extent is "experiential" in nature (see, for example, Kolb, 1984), it is therefore important for PVE institutes to provide students with more opportunities to integrate and extend their academic studies with co-curricular learning, such as service learning, voluntary work, and work-related internship. The essence again is to motivate them to participate autonomously, without

any coercion, irrational agreement, or miscommunication of the underlying curriculum aims. Teachers are central to students' active, collaborative and course-specific learning both inside and outside the classrooms, and therefore more resources should have been placed in PVE teacher training, making sure all instructions are student-centred and learning-oriented. Also, in order to excel students' academic performance, it is important for PVE institutes to demonstrate their continuous commitment to plan and implement different support service to students in order to meet their diverse learning needs.

CONCLUSION

This paper attempts to explore the relationship between student engagement and two important student learning outcomes – cultural literacy and academic performance – in the Hong Kong PVE context. Results of 238 PVE students indicated: (i) less satisfactory performance of cultural literacy and (ii) weightings of different educationally purposive activities for improving the two outcomes. Although only self-reported academic performance was collected, this study is methodical in assessing the current situation and in offering diagnosis and improvement actions.

"A college is an institution that exists to produce learning." (Barr & Tagg, 1995, p. 13) PVE institutes should take the lead to assess whether their intended curriculum goal of equipping our youth for future work and life challenges and learn in lifelong manner been met. The concepts and measure of "cultural literacy" and "student engagement" are therefore useful for PVE teachers and administrators to ease the task.

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A STUDY OF A PROCESS OF GAINING IDEA FOR GRAPHIC DESIGN IN THAILAND

Thawatchai Kansrirat[1]
Paiboon Kiattikomol[2]
[1]Ph.D. Candidate, Learning Innovation in Technology Program (53501805@st.kmutt.ac.th)
[2]Executive Project of Media Arts and Media Technology Curriculum (paiboon.kia@kmutt.ac.th)
[1, 2] Faculty of Industrial Education and Technology
King Mongkut's University of Technology Thonburi, Bangkok, Thailand

Abstract

As the great graphic works are considered from the creativity of the designer, the gaining idea is an important aspect in graphic design. Thus the aim of this study was to find a process of gaining idea for graphic design in Thailand. This study used an interview as a research method to investigate the perspectives of 11 professionals in graphic design on the idea acquisition.

The results were summarized that the process of gaining idea for graphic design consisted of seven steps: 1. Problem Identification 2. Analysis; 2.1 Objective 2.2 Target group 2.3 Key point of the problem 2.4 Conclusion 3. Data collection; collecting all related data from the conclusion 4.Pre-design; using synthesized data to define the concept of graphic design 5. Design; sketching the graphic covering of all aspects 6. Presentation; representing the origin of the designed graphic 7. Evaluation; assessing the quality of the graphic whether the design meet the requirements.The information from this study was considered for the further development of training model for graphic design.

Keywords: Ideas for Graphic Design, Gaining Idea

INTRODUCTION

Our daily life in this digital age is filled with graphic design (Nanthawatcharawibun , 2002). Graphic design is everywhere, touching everything we do, everything we see, everything we buy: we see it (Jessica Helfand, 2001). Graphic design is a creative process that combines art and technology to communicate ideas. The designer works with a variety of communication tools in order to convey a message from a client to a particular audience. The main tools are image and typography (Sharon,1993). For many beginning graphic design courses students, when facing a design problem or project, coming up with various design ideas can be very difficult in the beginning. A lot of time, the ideas the graphic design student comes up with can be questionable or even not appropriate for the design problem. So, how does beginning graphic design courses student generate ideas and good ideas (Graphic Design Courses Training School, 2012). Graphic Design ideas can be generated from the combination of two or more highly professional graphics together with your specific needs and taste, to come up with many kinds of graphic designs project ideas that meet your specifications. There are ways of generating graphic designs (Uchenna , 2012) ideas that the design will represent and anything else important that the designer needs to know to create the design (Elly, 2009).
As the idea is a heart of graphic design, this study will indicate the process of gaining idea to support the core competency of graphic designer.

OBJECTIVE

To find the process of gaining idea for graphic design

METHODOLOGY

Population and Samples
The people who work and have experiences in graphic design over 10 years were considered as the research population.

The samples used in this study were from purposive sampling. As most of professionals in graphic design have worked in business sector, it was necessary for researcher to consider for the samples which were willing to be interviewed and to provide significant information for the study. 11 professionals in graphic design who worked in higher education institutes, computer schools, and business sectors were invited as the samples in this study.

Research Instruments

Interviews were used as research instruments and they were administered for two rounds to collect data.

For first round-interview, open-ended questions were provided to ask the professionals' perspective in the process of creating graphic design.

For second round-interview, open-ended questions were provided to ask the professionals' perspective in the process of gaining idea for graphic design.

Data Collections

For first-round of data collection, researcher has initially contacted the professionals by e-mail or telephone to invite for an interview in the process of creating graphic design. Researcher has focused to interview the samples in person. If the samples were inconvenience, the interview via telephone or e-mail were administered as a second plan.

For second-round of data collection, researcher has initially contacted the professionals by e-mail or telephone to invite for an interview in the process of gaining idea for graphic design. Researcher has focused to interview the samples in person. If the samples were inconvenience, the interview via telephone or e-mail were administered as a second plan.

RESULTS

The findings from interviews with 11 professionals in graphic design were summarized as the following:

4.1 First-round interview: The process of creating graphic design

The obtained data from the first-round interview was classified by the same and different perspectives. Researcher has synthesized the existing information by related theories and found that the process of creating graphic design consisted of 3 parts: 1) Knowledge of basic of arts 2) Knowledge of using program in graphic design 3) Idea for graphic design (See *Figure 1*)
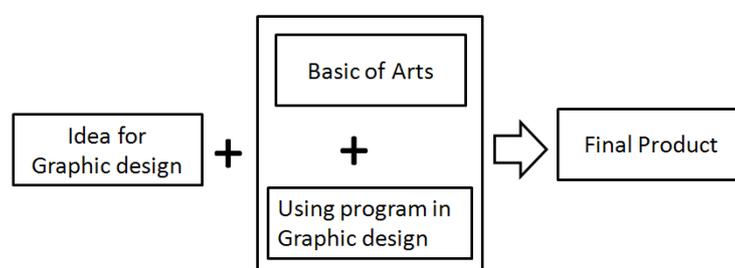
Figure 1: The process of creating graphic design

Figure 1 shows that the idea is the first essential step toward the process of creating graphic design. Therefore, in the second-round interview, the professionals were asked for their perspectives in the process of gaining idea for graphic design.

4.2 Second-round interview: The process of gaining for graphic design

The obtained data from the second-round interview was classified by the same and different perspectives. Researcher has synthesized the existing information by related theories and found that the process of gaining idea for graphic design consisted of 7 steps: 1. Problem Identification 2. Analysis 3. Data collection 4. Pre-design 5. Design 6. Presentation 7. Evaluation (See *Figure 2*)
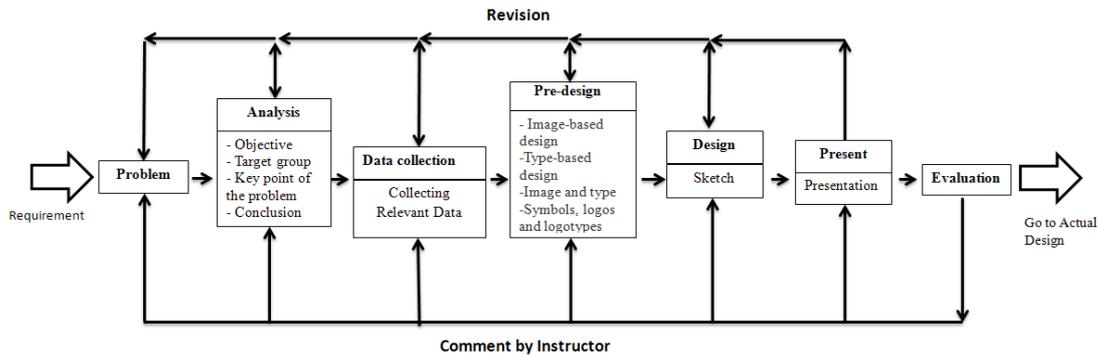
Figure 2: The process of gaining idea for graphic design

4.2.1 Problem Identification
     To be assigned the topic for graphic design
4.2.2 Analysis
     4.2.2.1 Objective - To define the main purpose of graphic design
     4.2.2.2 Target group - To define the target group of graphic design such as teenage group or working age group
     4.2.2.3 Key point of the problem – To define the main requirements from the assigned topic and then interpret all components into graphic
     4.2.2.4 Conclusion – To provide an overview of the graphic work with the main elements to meet the objectives, target groups and to cover all key issues.
4.2.3 Data Collection
     To search and collect all related information for pre-design
4.2.4 Pre-design
     The synthesized data is used to define the concept of graphic design with images and alphabets as pre-design. In this study we will follow the types of graphic design as Sharon (1993) has defined them into 4 types: "1) Image-based design 2) Type-based design 3) Image and type 4) Symbols, logos, and logotypes".
4.2.5 Design
     Design is the step to sketch the graphic representing the ideas of designer. The sketching needs to cover all aspects and to convey all messages to the consumer.
4.2.6 Presentation
     Graphic designer must be able to represent the origin of the sketch.
4.2.6 Evaluation
     Evaluation is the step to assess the quality of the graphic and to determine whether the design meets the requirements.
     The information from this study was considered for the further development of training model for graphic design.

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WORKPLACE LITERRACY PROGRAMMES: SATISFYING A DUAL AGENDA FOR POLICY-MAKERS

John Benseman
Department of Education, Unitec Institute of Technology
PB 92025, Auckland, New Zealand
jbenseman@unitec.ac.nz

Abstract
Workplace literacy and numeracy programmes have gained prominence in countries such as New Zealand for their ability to contribute to a dual agenda of improving productivity and providing educational opportunity for non-traditional learners. This paper will report on the findings of a large workplace literacy and numeracy project involving 18 course evaluations and over 1000 interviews and assessments during a three year period. The results show that the programmes can achieve positive outcomes not only for the course participants, but also the companies that host the courses.

INTRODUCTION – The productivity debate

Even before the recent Global Financial Crisis (GFC), New Zealand government and its agencies had been investigating ways to improve economic productivity both at company-level and nationally (Department of Labour, 2009). New Zealand currently stands 24th in the World Competitiveness Yearbook (http://www.imd.org/research/publications/wcy/upload/scoreboard.pdf), well behind our traditional rivals such as Canada (6th), Australia (15th) and Ireland (20th). Like many economic debates, there is little agreement as to what productivity is, let alone how to improve it. In New Zealand, there are two significant documents that have endeavoured to identify the key factors, especially with a long-term aspiration of becoming a knowledge economy, which is the inevitable aspiration of most modern economies. The government Treasury (Harvey & Harris, 2008) identified:

- Innovation
- Skills
- Investment
- Access to natural resources.

While their counterparts at the Department of Labour identified:

- Building leadership and management capability
- Creating productive workplace cultures
- Encouraging innovation and the use of technology
- Investing in people and skills
- Organising work
- Networking and collaboration
- Measuring what matters.

The argument for including 'Investing in people and skills' is justified because it enables innovation, makes workers more capable with new technology, reduces mistakes and inefficiency, workers require less supervision by accepting more responsibility, they communicate better and companies are able to pay higher wages, leading to lower staff turnover (Harvey & Harris, 2008, p. 16). All of which are seen as important in contributing to greater productivity within companies and cumulatively, the country.

Most analysts agree that the paramount factor for better productivity is greater investment, but also that skills are a necessary, but not sufficient condition in the mix (Keep, Mayhew, & Payne, 2006; Leitch, 2006; Mayhew & Neely, 2006). Furthermore, they argue that there is a distinct lack of rigorous research on the topic, especially at the micro level of what happens in companies. Even so, some writers (Keep et al., 2006; Leitch, 2006) still caution that 'skills deficits' are an easy scapegoat in these debates and are often seen as an easy policy lever for policy makers, especially in comparison with other factors such as increasing capital investment.

Some of the need for higher skills is satisfied in the longer term by improving the schooling system and post-school qualifications, but there is still the question of how the current workforce (and especially those in semi- and unskilled jobs) moves on to higher levels of skill. New skilled immigrants can go some way towards solving

the issue, although their utilisation is not straightforward, especially with those whose languages do not match that of the host country. Inevitably therefore, the challenge is predominantly to upskill workers currently working and to a lesser extent (in terms of numbers) those not in employment.

Few dispute whose skills should be upgraded, but identifying the skills to be taught is less straightforward. For while there is strong support for including skills development in efforts to improve productivity, it is interesting to note that few writers spend much time addressing the question of 'which skills?' Even in major documents such as the OECD's *Towards an OECD Skills Strategy* (2011), scant attention is given to specifically identifying skills beyond an initial definition: "the bundle of knowledge, attributes and capacities that enables an individual to successfully and consistently perform an activity or task, whether broadly or narrowly conceived, and can be built upon and extended through learning" (p. 7). Implicit in many of these documents is a two-way differentiation between:
1. Specialised technical skills such as operating machinery or instruments
2. Broader, generic skills such as communication or literacy and numeracy.

While it is obvious that learning new technical skills (e.g. using a new piece of machinery) are necessary in economies that are increasingly mechanised and automated, the arguments to include literacy and numeracy are less obvious because their impact may well be less apparent and immediate. Furthermore, work issues that are related to literacy issues are not necessarily identified as such by employers or supervisors; rather, these issues are seen as being related to general incompetence or the result of personal traits such as laziness (Schick, 2005). While government activity around improving productivity was in progress around this time, there was also a parallel debate underway in educational circles that came to be aligned with the productivity debate.

INTRODUCTION – The adult literacy debate

Prior to 1996, there was very little systematic knowledge about the incidence of literacy skills in the New Zealand adult population. Anecdotes abounded, but the research on this issue had been very limited in number, quality and coverage – with very limited funding, most had relied on self-report and used small samples of specific populations such as prisoners (Mudford, 1993), unemployed (Irwin, 1988), and specific industry groups (Moore & Benseman, 1993). This lack of authoritative proof about literacy and numeracy levels in the national adult population undoubtedly hindered the recognition of the issue by government and its various agencies at this point.

The country's participation in the second round of the International Adult Literacy Survey (IALS) sponsored by the OECD (1997) proved to be a significant turning point for literacy advocates, practitioners and the learners concerned (Benseman, 2008). A random national sample of 4,223 adults aged 16 to 65 took part in this initial survey. The results showed that approximately one fifth of New Zealand adults scored at the lowest levels across all three domains; this proportion amounts to approximately 536,000 in the total population (Culligan, Arnold, Sligo, & Noble, 2005). A further third of the sample scored at Level 2, equating to 800,000 of the total adult population. Sub-groups shown to have disproportionately higher representation in Levels 1 and 2 included: non-native English speakers (the test was done in English), Pasifika, Maori, unemployed and low-skilled workers, older adults and low-income people. New Zealand's results broadly matched those of comparable countries such as Australia and the United States.

While there was some challenging of the survey's results in the media (Elley, 1999), these were insubstantial and short-lived. In government circles, there was considerable interest shown, which eventually resulted in a number of policy documents and other responses, which are discussed below. A second national survey in 2006 (Satherley & Lawes, 2009) showed similar results, albeit with a small reduction of those at the two bottom levels and the top (Level 5).

The results of these two national surveys were significant for a number of reasons:
- The findings challenged the assumption that because New Zealand had achieved very well in child-based studies such as PISA, it would also have a low incidence of adult literacy problems in the adult population

- The survey helped break down the traditional dichotomy of literate/illiterate by assessing literacy and numeracy skills along a continuum
- It also showed literacy and numeracy skills across three domains, underlining the variable nature of literacy and numeracy demands
- While it showed some groups to be disproportionately represented among those with low literacy and numeracy skills, it also showed representation of adults from all groupings in the lowest levels – in other words, literacy and numeracy skills are an issue for all sectors of society, though to varying degrees
- The findings helped make sense of some public controversies such as academics periodically criticising the academic literacy skills of tertiary students.
-

These studies subsequently spawned several key policy documents to address the adult literacy issues that had been reported: *More than words* (Ministry of Education, 2001), subsequent Tertiary Education Strategies (Ministry of Education, 2005, 2007), including the lower levels of the tertiary system (TEC, 2009; Tertiary Education Commission, 2009, 2010). Alongside these policies, attention also turned to addressing literacy issues in the workforce (Tertiary Education Commission, 2008), especially in 'research-informed' ways.

EVALUATING WORKPLACE LITERACY PROGRAMMERS

In order to develop workplace literacy and numeracy provision based on research, a literature review was firstly carried out (Gray, 2006) that showed a dearth of rigorous research. Based on these findings, a large-scale evaluation programme of 18 workplace courses was run with 15 companies throughout New Zealand. Each of these courses was evaluated and the results cumulated in an overall evaluation report (Department of Labour, 2010). This paper reports the findings from these 18 evaluations and provides some general conclusions about the meeting of the twin agendas of improving productivity and raising adult literacy and numeracy skills in the workplace context.

In brief, the evaluations aimed to answer two broad questions:
- What impact do workplace literacy and numeracy programmes achieve for the learners and the companies they work for?
- What is the most effective way to organise and run workplace literacy and numeracy programmes?

The courses being evaluated were diverse in terms of the industries involved, company size, geographical location, programme formats, duration and types of learners. While the courses varied in approach and length, all had been tailored to the needs of the company. A third of them were block courses and the others were run for one to two hours weekly. There was a mix of small group and one-to-one tutoring.

METHODOLOGY

A comprehensive, multi-method evaluation programme was carried out over a three-year period. The evaluations sought a wide range of both quantitative and qualitative data to identify outcomes for the course participants, their workplace practices, the companies they work for and their lives outside work. Data sources included:
- company literacy needs analyses (undertaken by the course providers)
- course planning documents
- interviews (pre- and post-course) with course participants, supervisors, managers, provider managers, tutors
- learner assessments for literacy and numeracy skills (pre- and post-course)
- observation of teaching sessions
- supervisor assessments (pre- and post-course)
- provider records (e.g. attendance and periodic reports), resources (e.g. course manuals) and evaluations.

Reading and writing skills were assessed using Go!, an assessment tool developed by the National Foundation for Education Research in the UK. The results were moderated within the research team and by an external literacy expert. Overall, a total of 491 course participants were interviewed and assessed pre-course and 343

(69.8%) of these participants were also interviewed and assessed post-course; most of those who missed the post-course interviews had left their companies in the period following the initial interviews.

FINDINGS

Reading
Of the 278 participants who were re-tested for reading at the end of their course, 86% showed an improvement in their reading scores, while the reading scores for 4% remained the same and decreased for 10%. Average reading scaled scores increased by 10.1 points out of 100. There was variation in changes in reading scores across courses from zero to 16 points, with 5 courses achieving an average improvement of less than 8 points, and 5 courses achieving an improvement of 12-16 points. Greater gains in reading score were made by women, participants with higher qualifications 1 compared to those with no qualifications and participants taught by providers with high levels of literacy and workplace training experience.

The relationship between teaching hours and reading gain was not statistically significant; the reason for this finding is not immediately clear. A limitation of the study is that while it was possible in most cases to find out how many total teaching hours were received by each course participant, it was not always possible to measure the number of hours of learning that focused specifically on reading skills or the quality of the teaching.

When the Go! scores are transferred to the UK literacy levels, excluding those assessed at UK level 2 (ALL Level 3) in the pre-course assessments:
- 44.1% of the participants increased their literacy level
- 54.8% of the participants stayed at the same literacy level
- 1.1% of the participants decreased their literacy level.

When the reading scores are related to the ALL levels, 30.6% of the participants moved up a level, 69.1% of the participants stayed at the same level and 0.4% of the participants went down a level.

When asked how much the course had improved their reading skills, 23% of participants said their reading skills had improved 'a lot' as a result of the course, 36.1% said 'a bit' and 40.9% said 'not at all'. The participants who had received more hours of teaching thought that they had improved the most.
> Spec[ification] forms—I used to be hesitant and make mistakes as I didn't read the specs right. Now, I've got a better understanding of the specs and confidence to ask.
> Oh, reading blueprints is a whole lot easier. I look at it and go ahead with it. It was great when I clicked on to it, it all seemed so obvious.

Participants' average self-assessed reading score increased slightly from 4.3 to 4.5.on a 1-6 scale. Without being reminded of their pre-course ratings, 34.9% of participants rated their reading skills more highly after the course, 45.7% rated their reading skills the same and 19.4% rated their reading skills less highly. There was no association between actual improvement in reading score and self-assessed improvement.

Writing
The Go! assessment was also used for writing. Around two-thirds (66.1%) of participants made gains in their writing score. Overall the participants increased their scores from 15.6 to 18.1 out of 29. Increase in writing scores varied significantly by course. There was no statistical relationship between hours of learning and degree of improvement in writing scores. Changes in reading and writing scores were weakly related with writing scores tending to increase as reading scores increase.
> How to fill in Incident Forms. I do them properly now. Rather than just writing 'broke toe', I give them the full details and a photo too! With the Incident Forms, I fill them in properly and I'm able to help the new guys now.

Numeracy
There was a limited amount of numeracy teaching in Upskilling. Twelve of the 18 courses taught no or little numeracy; five taught some and only one a lot of numeracy. Where numeracy was taught on a course it was not necessarily to all of the participants and focused on very particular numeracy skills required for worker's jobs.

All course participants (343) were asked to self-assess their maths skills, pre- and post-course. Their average rating increased from 3.6 to 4.1 on a six point scale.

> I'm now working out the volume of concrete. The engineers used to come out, now they just double-check it.

> I've got a clearer idea of plans, survey pegs and a whole pile of those sorts of things; it nailed it home really. I use correct terminology now and I'm a whole lot more efficient now.

Due to the limited amount of numeracy taught and difficulties identifying these learners at the beginning of programmes, only seven numeracy learners completed pre- and post- course numeracy assessments. Results from the Mathematics Competency Test (Vernon, Miller, & Izard, 1996) showed that these seven learners increased their average score from 12.1 to 15.3 out of 46. This means that before the course most of the seven were below average and after the course most were above average.

Speaking and listening

Course participants were asked, pre-course and post-course, to rate their confidence on a 1-6 scale (1 = low) in speaking to a workmate or supervisor one-to-one; a small group; a large group; and someone they don't know, such as a new customer. There were small but consistent increases across all four workplace speaking contexts, especially in speaking one-to-one to people they don't know. Around three-quarters of participants (73.1%) reported that their speaking skills had improved as a result of the course, and 77% said their listening skills had done so.

> Oh, communicating—being able to talk to customers. Knowing what I'm doing fully—not just pretending! Speaking up now and then at [company meeting], I never used to speak up at all.

Managers identified speaking and reading as the two skills where most progress was made, followed by listening. Providers identified speaking as the area of greatest improvement, followed by reading, writing and listening.

IMPACT ON WORKPLACE PRATICES

The course participants' view

Overall, 80% of course participants reported doing their job better as a result of the course with most of them providing examples of the sorts of things they were doing better. Examples of these changes included reading blueprints, learning company policies, reading maps and street signs, doing paperwork such as hazard reports and accident reports. Those who said they were more confident about doing their job were more likely to report they were doing their job better and those who said their literacy skills had improved were more likely to report they were doing their job better. There was a positive statistical relationship between improved reading scores and improvement in self-assessed job performance.

Ninety-seven percent of the comments made about the course were positive. Participants gave many examples of the positive impact of their course on their workplace practices. Most frequently, they reported that the course had had a favourable impact on work tasks requiring reading and writing. Improved oral communication skills for those with English as an additional language was the second most frequently mentioned theme and improved communication skills for those with English as their first language was the third most common theme.

> Yes, I look at it a different way. I didn't understand instructions before, I feel a lot easier. I can do maps now and street signs, I can work them out.

The supervisors' perspective

In 12 of the 18 courses, supervisors rated the course participants across a range of elements covering their daily work practices (attitude towards work, ability to use initiative and work without supervision, willingness to attempt tasks, ability to work as part of a team, and completion of paperwork) on a 1–10 scale (1 = low) both before and after the course. Around 60% of all supervisor ratings of the participants increased. The greatest increase in average ratings was for completion of paperwork.

There was no statistical relationship between participants' improvement in reading or writing scores and improvement in their supervisors' ratings – those whose reading and writing scores improved the least

experienced the same improvement in supervisor ratings, as those whose scores improved the most. It may be that the improvement in supervisors' ratings happened as a result of the new workplace knowledge and skills rather than the literacy and numeracy skills. There was some relationship between participants' self-assessed speaking and listening skills and their supervisors' ratings.

Employers' and providers' perspectives
From a list of possible outcomes given to them, employers and providers were asked to rate the impact of a range of outcomes for the participants. Providers reported that the most notable outcomes for their course participants were increases in personal confidence and job confidence, improved communication with other workers and a greater interest in training. These four outcomes were also in the top five outcomes reported by managers most of whom also commented that communication between management and workers had improved. Another important outcome identified by providers was improved speaking skills for those with English as a second language.

When reflecting on the impact of their course on the literacy and numeracy skills of the course participants, both providers and employers judged that their course had had most impact on speaking, listening, reading and writing skills. Providers reported that the greatest impact was on speaking and employers on speaking and reading.

Course providers tended to report more positive outcomes than the employers, with more providers reporting a greater impact on skills than employers did. The discrepancy between their views is most marked for writing and ESOL. This is probably because providers had worked closely with participants from the early diagnostic assessments through to end of course assessments.

CONCLUSION

These workplace courses had a strong impact on participants' reading skills, with 86% of them making gains in their reading score. Overall, 44% of participants moved up a UK reading level and 30.6% an ALL level. Participants at lower skill levels made the most improvement in reading. Improvements in writing were not as great as those in reading. Around two-thirds (66.1%) of participants made gains in their writing scores. These improvements are important given the priority of improving workers' paperwork.

Participants reported that the courses also had an impact on how they do their work. Assessment of qualitative evidence collected from participants shows the courses had a high work impact on 45.5% of the participants, a medium work impact on 35% and a low work impact on 19.5%. It also showed that courses had a high personal impact on 30% of participants, a medium impact on 46%, and a low impact on 24%.

To understand how workplace literacy and numeracy courses can contribute towards labour productivity, it is necessary to be able to show the improvements in employees'' skills and changes in their work practices back on the job. The evaluation found that workers' skills had mainly increased and that these courses had had a largely positive impact on workplace practices. The contribution that the skills developed through workplace literacy and numeracy courses make to productivity occur in small ways that include:
- more accurate completion of forms such as incident reports and timesheets
- improvements in specific literacy and numeracy skills such as measuring
- better following of policies and procedures
- improved oral communication
- increased confidence in work roles, and in taking initiative
- less frustration with workmates and supervisors.
-

The courses have been successful in reaching workers with low literacy and numeracy skills who often do not have access to other forms of training, or would not otherwise usually participate in adult learning provision such as men, those with limited schooling, those with no qualifications and Pasifika. This form of workplace training has given workers with low literacy and numeracy skills the opportunity to develop skills and knowledge that allow them to perform their jobs more effectively, efficiently and independently, and in turn has improved both the quantity and quality of their work.

Research has shown that workers need not only the necessary skills and knowledge, but also the motivation to work well and opportunities to exercise their improved skills (Benseman, 2010). This last change, the opportunity to practise skills, has implications for employers and managers. They need to ensure that they create environments that are open to the use of their new skills.

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CURRENT PRACTICE IN A CLASSROOM AND RELATIONSHIP WITH FUTURE POSSIBILITIES: ACADEMIC ACHIEVEMENT AND FUTURE JOB/STUDY

Shuib Husin[1]
Tengku Faekah Tengku Arifin[2]
[1]Mechanical Department, Universiti Kuala Lumpur, Malaysian Spanish Institute
Kulim Hi-Tech Park, 09000 Kulim, Kedah, Malaysia
shuib@msi.unikl.edu.my
[2]College of Art and Science, University Utara Malaysia
06010 UUM Sintok, Kedah, Malaysia
faekah@uum.edu.my

Abstract
A survey has been conducted with students at higher technical institutions which aimed to understand the inter-correlation amongst attitudinal-variables, motivational models, behaviour in a classroom in the context of seating preference and academic achievement. The results show a positive correlation between current practices of positive attitudinal-variables investment in a classroom and future possibilities.

Keywords: attitudinal-variables, motivational models, current practice in classroom, future possibility, academic achievement.

INTRODUCTION

'Lifelong learning' is a new term and famously used in this decade instead of 'continuing learning in life' or 'opportunity in life-learning'. It is also called "whole-life learning possibilities and opportunities". With the advancements in information technology, the term implies learning is not confined to the specific space and time in which to acquire knowledge. It is contradictory to conventional educational psychology where the learning stage is divided along with the age; e.g. toddler, adolescence and post-school/university (Slavin (2003). Adolescence/adult learning is associated with the classroom and adheres to a school's time table for the process of the acquisition of formal qualification and knowledge. Undeniably, adolescence/adult learning within formal schooling is a part of lifelong learning in particular of self-voluntary, attitude and self-motivation. In this paper, the approaches (e.g. attitude, behaviour and motivation) taken by the students in a classroom is termed as "current practice" investment. It was studied to give an indication for future possibilities. An indication can be seen as something that takes place on an on-going basis in a classroom, e.g. attitude, behaviour, and motivational orientation adopted in the current learning process. In this paper, future possibilities are specifically seen for further study and future good job opportunities.

Lifelong learning is defined as "lifewide, voluntary and self-motivated", in order to learn with the aim of fulfilling learning outcomes. It involves learning how to recognize learning strategies/self-regulation, monitor and evaluate learning where all these are the pre-condition for lifelong learning. These processes are also known as "metacognition" commonly referred to as higher order thinking in active control over the cognitive processes in learning (Schraw and Moshman, 1995). Metacognition is the awareness of one's own thought processes and learning behaviour in order to determine self-regulation for the updating of thinking processes, and regulating and assessing learning. Metacognition determines the adopted self-learning styles and self-regulatory for learning process. Metacognition is also deemed to be the first step in developing lifelong learning (Worrall and Bell, 2007).

The significances of lifelong learning are seen in personal development, to stay competitive in gaining and applying knowledge and employability as a result of the acquired knowledge (see Figure 1). Lifelong learning is associated with continuous learning for continuous improvement in life from the aspect of knowledge acquisition and from its benefits from past and current practices. An awareness of the investments for current process or practice is of paramount importance in lifelong learning in ensuring bright future possibilities. Opportunities for lifelong learning are open for everybody. These opportunities will be seized by people who want to stay competitive and have relevance to current needs for employability, based on current demand knowledge and for personal development/career advancement. The purpose is to collect knowledge from the past and present and lay it down for the future according to individual's aims and needs.
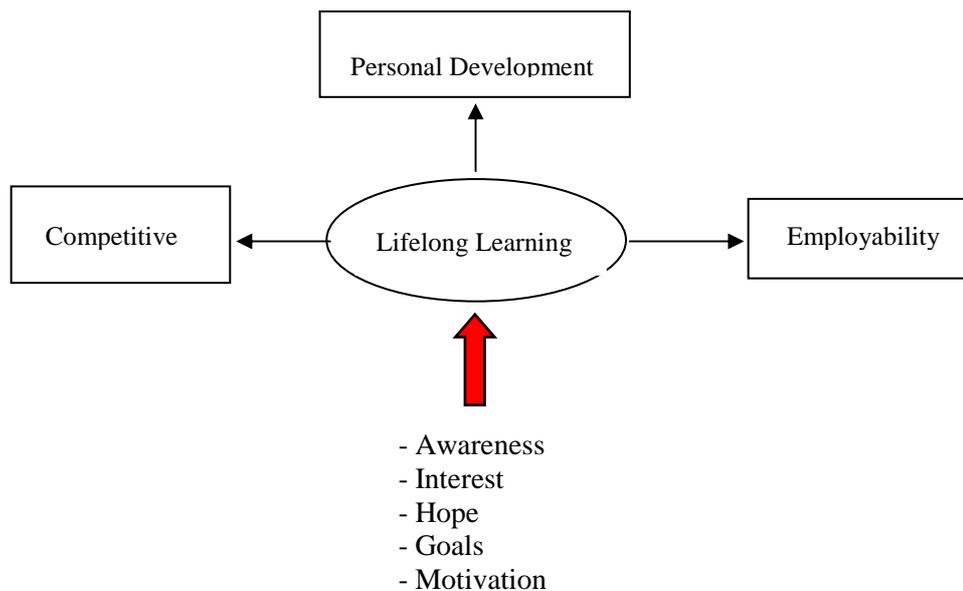
Fig 1: Benefits of Lifelong learning

This study was performed to understand the relationship between attitudinal and motivational factors for lifelong learning which focused on future possibilities; i.e. further study in the future and obtained a good job in future. The trend of good performance in students is observed in the study. This study aims to show the relationship between current practice investment in a classroom and future possibilities. Specifically, to show relationship between attitudes adopted through classroom learning and lifelong learning awareness. In this paper, attitudinal variables are goal orientation, effort & efficacy, standards being set, interest in and aims for future employment.

OPERATIONAL DEFINITION

In this paper, the seating choice is defined as seating preference or selection of seat by students when they entered a classroom. Attitude is defined as a way of thinking which drives students' behavior. Goal Orientation is defined as students' orientation for their learning, either giving priority for performance/results orientation or mastery of a goal orientation (skill).

Effort is defined as the use of physical or mental energy, determined attempt and force exerted to achieve the aims. Self efficacy is synonymous with "effort" which is the production of the desired effect. Slavin (2003) defined self-efficacy as the degree to which students feel their own efforts are attributable to the success in their learning.

The standard to be achieved in the study is a product of current practices in the classroom and future possibilities. Some students set high targets of achievement during their studies before examinations, and some students will be satisfied with only a low target in their studies. In this paper, the term used for the variable of such a phenomenon is "standard being set" for their achievement in their studies.

Interest can be indicated by students' excitement in the classroom, by giving full attention to the teacher's instruction and their own learning. Perception on future job of the course undergo can be explained as students' awareness of the benefits of their current course to their future job or employment possibilities.

Motivation is influenced by the internal forces that drive students to achieve their target. Slavin (2003) defined motivation as the influence of needs and desires on the intensity and direction of behavior.

In this study, the achievement of students was referred to the CGPA (Cumulative Grade Point Average).
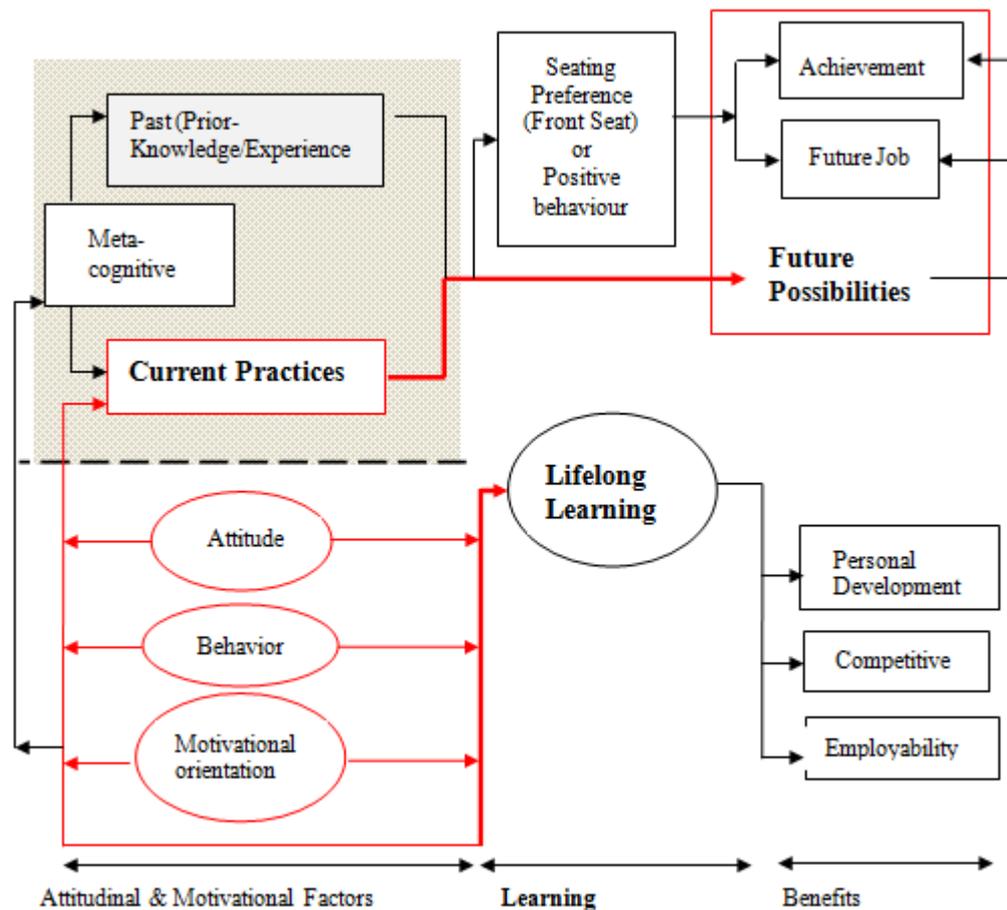
Fig 2: Attitudinal and motivational factors in current practice contribute to future possibilities and stimulate the lifelong learning

LITERATURE

Students with high motivation would always sit at the front seats, but students who have low motivation would always sit at the back or at an angle which blocked eye contact with the teacher (Philpott, 1993). This statement shows the relationship between students' effort, motivation and desire to excell in their studies (future possibility). Elliott et al. (1999) found high effort to be associated with high achievement. They also demonstrated that perception of high academic status (achievement) gives a better chance of securing employment. The attribution of effort to success should be correlated with behavioral measure of such effort (Hall et al., 1986). The behavioural measure in the context of learning in the classroom, for instance seating choice (front seat), needs effort to be invested as a learning strategy or self-regulation in classroom. Positive attitudes towards good grades should be correlated with classroom learning behaviour (Hall et al., 1986). Attitudinal factors can drive motivation which can be stimulated either intrinsically or extrinsically (Elliott et al., 1999).

Waugh (2002) has associated attitude and behaviour in the measurement of motivation. Motivation is the product of interdependence between and amongst many variables. This is in agreement with Reeve (1996) who gives a comprehensive definition "Motivation involves the internal processes that give behavior its energy and direction. Motivation originates from a variety of sources such as needs, cognitions, and emotions, these internal processes energize behavior in multiple ways such as starting, sustaining, intensifying, focusing and stopping it" (p.2).

Achievement goals have been used for specific measures of motivational orientation where they would be stronger predictors of academic success (Harackiewicz et al., 2002). Goal theory postulates a causal relationship

between a person's goal orientation and behavioural responses in an academic setting; there are two types of goals: learning (mastery) goals and performance goals (Snyder et al., 2002; Harackiewicz et al., 2002). Learning (mastery) goals reflect a desire to learn new skills and to master new tasks (Snyder et al., 2002). They would predict interest over the course during the students' academic career, whilst Performance approach goals predict higher grades (Harackiewicz et al., 2002). Hope leads to learning (mastery) goals (Snyder et al., 2002). Goal theorists propose that learning goals favor deep-level, strategic processing, which leads to increased academic achievement (Covington, 2000).

There is evidence that the relationship between achievement motivation and grades may be obtained even though ability variables are controlled (Harackiewicz et al., 2002). Motivational variables are significant in predicting future success (Harackiewicz et al., 2002). Self-efficacy is related to academic performance. Pietsch et al., (2003) demonstrated that the influence of efficacy beliefs is a significant predictor of academic performance. They also state that self-efficacy is the beliefs in one's capabilities to organize and execute the action required to achieve performance outcomes. Self-efficacy beliefs are more related to specific tasks and are therefore more likely to be related to future performance on those tasks (Pietsch et al., 2003). This shows possible relationships between effort and self-efficacy and perception of future employment. Self-efficacy mediates learning behaviour and achievement (Douglas et al., 1995). The inter-correlation amongst self-efficacy, learning strategy, effort and academic achievement could be developed in order to understand the concept of attitude, motivation, learning and achievement. Higher self-efficacy was often associated with greater effort and, henceforth, achievement. Theory of perceived self-efficacy says that judgments which people make about their capabilities can lead to success and can affect the amount of effort that they are prepared to invest in order to achieve that success (Douglas et. al., 1995).

Hope is defined as "the process of thinking about one's goals, and the way to achieve those goals" (Snyder, 1995, p. 355). Hope enables students to approach problems with a focus on success, thereby increasing the probability that they will attain their goals (Snyder et al., 2002). Hope theory integrates the conceptualization of goals, along with the strategies to achieve those goals and the motivation to pursue them (Snyder et al., 2002).

Future success is associated with the theory of attribution. Internal factors such as effort are always seen to create success (Zaleski, 1988). Goal-setting theory can be used in understanding how personal and environmental factors influence the anticipation and attainment of future outcomes. Goal expectations have a regulatory power over behaviour. Setting specific goals leads to improved performance.

Zaleski (1988) noted that goals influence action in four ways: i) by directing attention, ii) by fostering strategy development, iii) by mobilizing effort, and iv) by increasing persistence. He revealed that internal attributions of success correlated positively with self-reported actual effort, with persistence and with expectancy. Referring to his paper, "*Directing attention*" could be linked with "interest", "*fostering strategy*" could be associated with the "seating selection" in the classroom phenomenon as a strategy of self-regulation for learning effectiveness, "*effort*" is an energy invested in order to obtain the outcomes and "*persistence*" could be referred to as "motivation" in order to achieve goals. He also found that effort mediates between a goal and future performance. Goal expectancy from making an effort and persistence are correlated positively with the internal attributions of success (Zaleski, 1988).

RESULT AND DISCUSSION

From the results, as summarized in Diagrams 1 and 2, the authors found that the relationships between variables were statistically significant. The findings of this study indicated that the relationship between seating choice (front seat) and academic achievement was statistically significant. This proves that seating choice (front seat) is attributed to academic achievement. Students who sit in the front seats are good academic achievers. This finding is in agreement with Blatchford et al., (2001). Students are attentive to the lesson when they occupy front seats in the classroom. Based on the result of their study, the authors confirm that seating choice is an approach for student's self regulation or strategy of learning in the classroom.

Significant relationship was found for the seating variable and effort variable. This confirms that students who adopt learning orientation (mastery orientation) and believe effort attributes to the success in their study, would choose the front seats as an effort for their learning strategy (self-regulation learning strategy). The significant results from the correlation between effort-achievement, seating choice-achievement, effort-seating choice provide evidence that seating choice (front seat) mediates the effort for academic achievement. The authors conclude that seating choice, as one of the behaviour of learning in the classroom, is an observable variable to determine success. Therefore, in this study, effort can be mirrored by seating choice.

With a controlled variable for the third element (effort, standard being set, perception of future job, goal orientation) present in the existing relationship, the authors found that the relationship between seating position and effort was a true correlation which means that the presence of a third element (other elements controlled) did not affect the relationship. The results as summarized in Table 1 shows that the $r_{partial} < r_{corr}$, demonstrated a strong relationship even though there was the presence of other factors.

A statistically significant, positive relationship was found for standard being set and seating choice (front seats). In this study, it is observed that students' attitude, in terms of effort and desire in achieving a high standard of performance in their studies, has a link with the selection of seat in the classroom.

Academic self-concept is actually a strategy adopted, for example, standard being set for academic achievement which is related to the investment of effort. Seating choice could be referred to as one of approaches to studying. Indirectly it has interrelations amongst the variables mentioned: standard being set, effort, seating choice, and achievement. In self-regulatory theory, seating choice is deemed as a strategy in classroom learning by situating students in the classroom with the aim of obtaining effective learning. The findings of this study are in line with Waugh (2002); students who think that they can succeed (normally they have high self-efficacy and will follow up with effort and have a target on the standard being set for achievement) will obtain higher academic achievement. The results show evidence that seating choice mediates students' attitudes (effort, standard being set in study, interest and perception of future job) to achieving higher grades or performance.
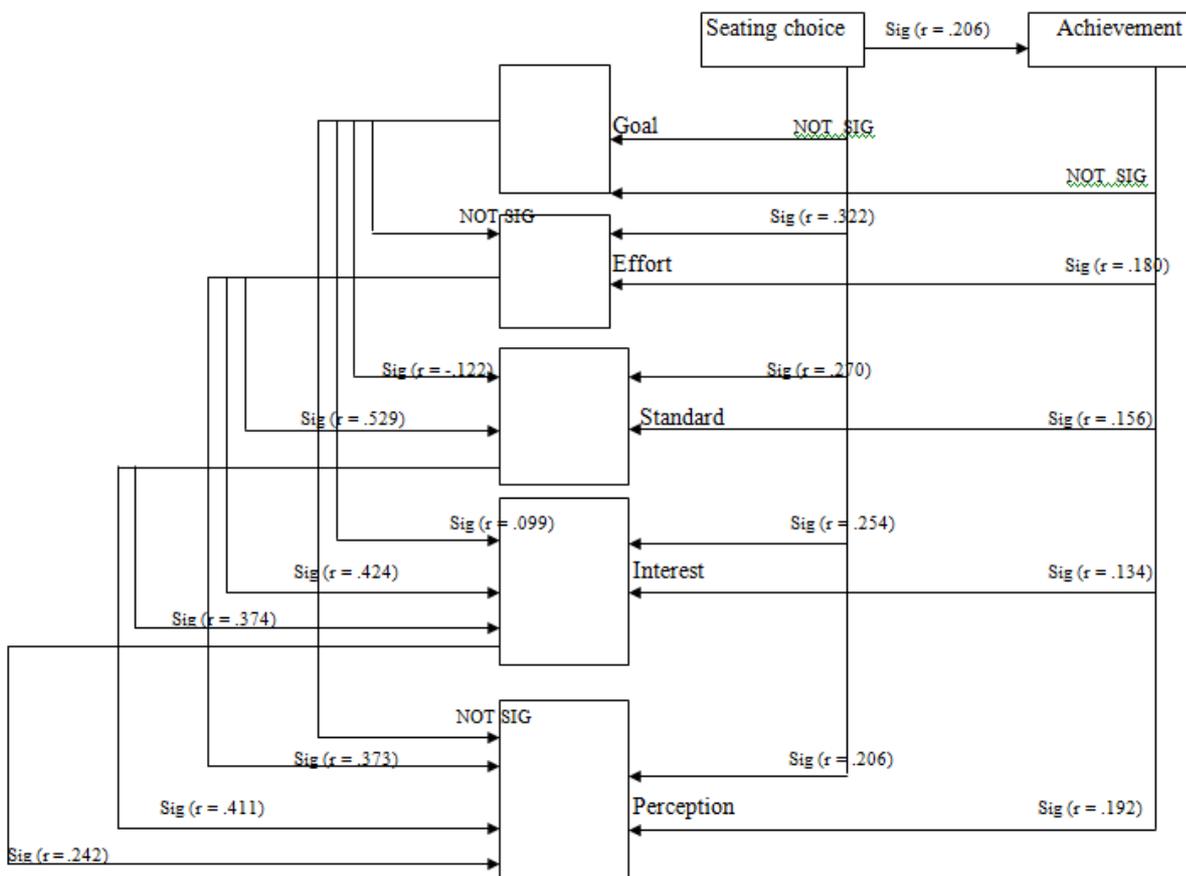
Diagram 1: Coefficient of Correlation
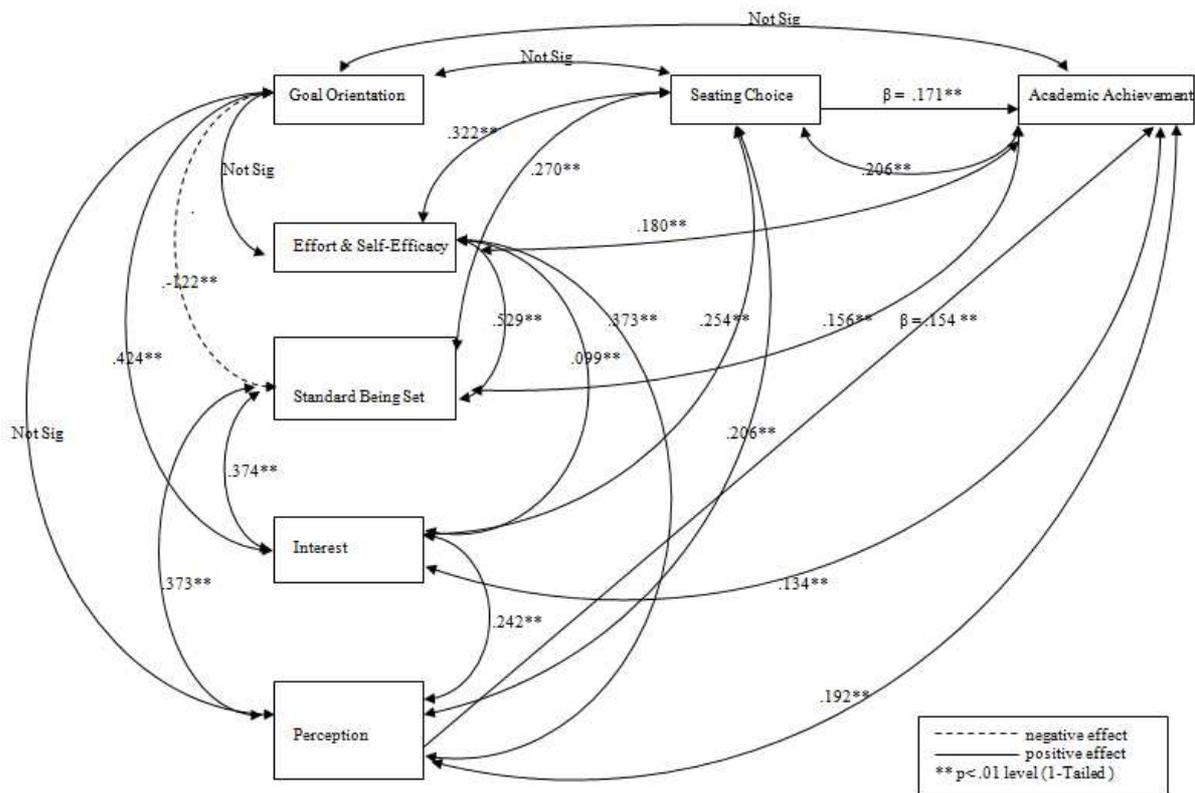
Diagram 2: Correlation and Regression results

From the results, as tabled in Diagram 1, the authors concluded that the presence of goal orientation variables would increase the strength of correlation between seating choice and standard being set. Other variables (effort, perception of future job, interest) did not affect the existing relationship.

A positive direction of relationship between seating choice (front seat) and students' interest was found. Hence, the authors conclude that students who have an interest in their studies would choose front seats in the classroom.

Students' seating choice is influenced by their perception of future jobs. This was proved by a true relationship between perception and seating choice (front seats) that was found in this study. This means that students who have a high perception that the current (undertaken) course would benefit them for future employment would choose front seats in the classroom. They have the desire to study further, to a higher level in the future and high achievement in their academic career is their aim. In relation to the choice of front seats, the students who have a perception of their future from the aspect of employment and further study would choose the front seat as their self-regulatory strategy in learning and obviously show good performance.

No correlation was found between seating choice (front seat) and goal orientation (focus on mastery goals as shown in the questionnaire). The instrument (questionnaire) was not oriented to differentiate the goal orientations either for mastery or performance approach learning. The items asked in the questionnaire were on the direction of mastery goals, not performance-approach goals; theoretically mastery goals not focused on performance but competence. In the study, the authors found that goal orientation (mastery goals) was not significant with academic achievement. This finding was similar with a large amount of the literature, as discussed.

The easiest self-control in determining academic achievement is self-effort. Effort is also deemed as one of the strongest factors for intrinsic motivation. In this study the authors found that effort and academic achievement have correlation. The results indicate that effort is one of the attitudinal variables which attribute to academic achievement. This finding is consistent with Hall et al., (1986), and is a significant positive relationship. In other words, effort is attributed to higher performance or achievement. The findings of this study were in agreement with the findings of a large amount of the literature in the aspect of effort and its correlation with other variables, e.g. self-concept, academic self-efficacy, learning behaviour are linked through correlation techniques (Waugh, 2002).

Effort is closely related to academic self-efficacy as stated in Waugh (2002) which was understood as students' beliefs in their capabilities to organize and implement courses of action to achieve what they want. The findings of this study are in

agreement with literature the aforementioned literature; self-efficacy causes the effort to invest in studying and the relationship between effort and academic achievement was statistically significant.

The correlation between targeting the academic standard to be attained and academic achievement, was found significant. Students who have high targets in their study for achievement would attain high academic achievement. This study demonstrated that the student who attains high academic achievement would have high self-efficacy and specific standards to be achieved in their study.

The study found that relationship between the variables of interest and achievement is positively significant; higher interest is associated with higher academic achievement. Enthusiasm in the study course is associated with extra effort such as extra reading on the topic being studied is seen as a factor of "interest" and is associated with high academic achievement. This finding is consistent with Khamis (1986), that a positive attitude is obviously associated with interest in academic achievement.

This study revealed that the correlation between academic achievement and perception on future job was significance. Students who noted the objectives of learning and understood that it would help them in obtaining employment in the future will always targeted to achieve high performance in their academic career.

This study also revealed that the seating choice variable was the best predictor from all independent variables (goal orientation, effort, standard being set, interest, perception of future job, and seating choice) towards academic achievement. Standard coefficient Beta (β) of seating choice variable from the regression analysis confirmed the highest value ($\beta = .143$) compared with others (see Diagram 3). From all variables tested in the regression analysis, only the seating position was found to be significant. The finding was congruent with Hall et al. (1986) who found that classroom behaviour is the most valid indicator of student motivation. The second best predictor of academic achievement was the perception of future job.
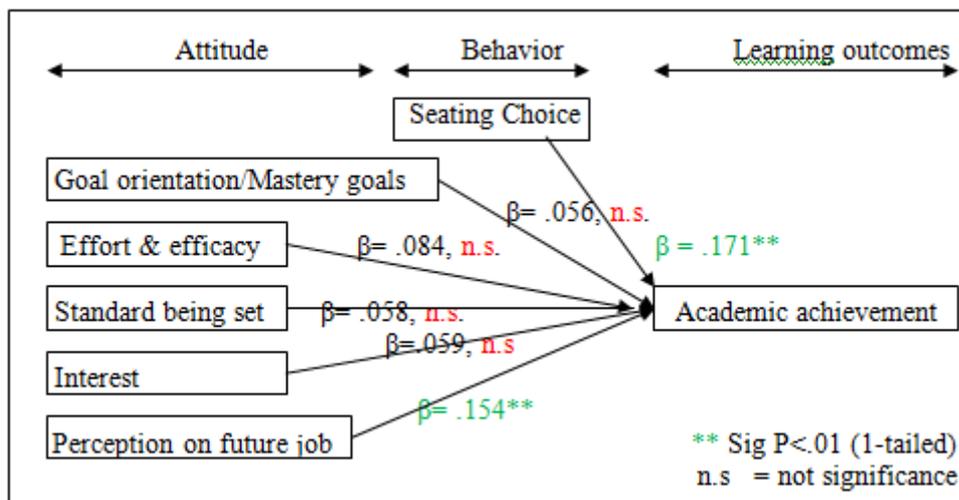
Diagram 3: Standardized beta coefficients for the prediction of academic achievement

CONCLUSION

Current practice, irrespective of place and time, is a valuable investment for future possibilities. Current practice in the learning process with the considerations of a positive attitude and behaviour investment is a valuable contributor for the attainment of bright future results or possibilities. Motivation orientations are of paramount importance and influence the behaviour and strategy of self-regulation adopted in learning. The current opportunity can never come twice; therefore current practice and investment in learning should be materialized for better future possibilities of students.

Past and current practices are the processes in human life learning or lifelong learning. Metacognitive thinking is a process which evaluates past experience, knowledge and skills before adjustments and decisions are being made to complement the knowledge that will be obtained or materialized from the current practice. This level of thinking needs to be taken into consideration for attitude and behaviour investment in lifelong learning. In this study, current practice in the classroom is focused on the positive attitudinal effect and behavioural investment

in terms of seating preference towards the dependence variable, academic achievement. Seating choice (front seats) has been found to have correlation with positive attitude investment, motivation and is the strongest predictor of observable variables of current practice in the classroom for higher academic achievement.

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APPENDIX

Appendix 1 : Summary of the results (Correlations & Partial Correlations)

No		Bivariate Correlation	Controlled effort	Controlled standard being set	Controlled perception on future job	Controlled goal orientation	Controlled interest	Controlled achievement	Controlled Seating position
1	Seating position / Achievement	Sig (r = .206)	Sig (r = .159)	Sig (r = .172)	Sig (r = .170)	Sig (r = .206)	Sig (r = .179)	z	z
2	Seating position / Effort	Sig (r = .322)	z	Sig (r = .219)	Sig (r = .263)	Sig (r = .323)	Sig (r = .245)	Sig (r = .296)	z
3	Seating position / Standard being set	Sig (r = .270)	Sig (r = .124)	z	Sig (r = .200)	Sig (r = .272)	Sig (r = .195)	Sig (r = .246)	z
4	Seating position / Interest	Sig (r = .254)	Sig (r = .137)	Sig (r = .171)	Sig (r = .211)	Sig (r = .256)	z	Sig (r = .233)	z
5	Seating position / Perception on future job	Sig (r = .226)	Sig (r = .121)	Sig (r = .131)	z	Sig (r = .226)	Sig (r = .175)	Sig (r = .194)	z
6	Seating position / Goal orientation	NOT SIG (r = -.004)	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG
7	Achievement / Goal orientation	NOT SIG (r = .056)	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG	NOT SIG
8	Achievement / Effort	Sig (r = .180)	z	Sig (r = .116)	Sig (r = .119)	Sig (r = .185)	Sig (r = .137)	z	Sig (r = .123)
9	Achievement / Standard being set	Sig (r = .156)	NOT SIG (r = .073)	z	NOT SIG (r = .086)	Sig (r = .164)	Sig (r = .115)	z	Sig (r = .106)
10	Achievement / Interest	Sig (r = .134)	NOT SIG (r = .065)	NOT SIG (r = .082)	Sig (r = .092)	Sig (r = .129)	z	z	NOT SIG (r = .086)
11	Achievement / Perception on future job	Sig (r = .192)	Sig (r = .137)	Sig (r = .142)	z	Sig (r = .192)	Sig (r = .166)	z	Sig (r = .153)
12	Effort / Standard being set	Sig (r = .529)	z	z	Sig (r = .444)	Sig (r = .525)	Sig (r = .441)	Sig (r = .515)	Sig (r = .485)
13	Effort / Interest	Sig (r = .424)	z	Sig (r = .288)	Sig (r = .371)	Sig (r = .436)	z	Sig (r = .411)	Sig (r = .374)
14	Effort / perception on future job	Sig (r = .373)	z	Sig (r = .201)	z	Sig (r = .374)	Sig (r = .307)	Sig (r = .350)	Sig (r = .325)
15	Standard being set / Interest	Sig (r = .374)	Sig (r = .195)	z	Sig (r = .310)	Sig (r = .391)	z	Sig (r = .361)	Sig (r = .328)
16	Standard being set / Perception on future job	Sig (r = .411)	Sig (r = .272)	z	z	Sig (r = .415)	Sig (r = .357)	Sig (r = .394)	Sig (r = .374)
17	Perception on future job / Interest	Sig (r = .242)	Sig (r = .100)	Sig (r = .104)	z	Sig (r = .243)	z	Sig (r = .222)	Sig (r = .196)
18	Goal orientation / Interest	Sig (r = .099)	Sig (r = .146)	Sig (r = .158)	Sig (r = .101)	z	z	Sig (r = .093)	Sig (r = .104)
19	Goal orientation / Standard being set	Sig (r = -.122)	Sig (r = -.096)	z	Sig (r = -.137)	z	Sig (r = -.173)	Sig (r = -.133)	Sig (r = -.126)
20	Goal orientation / Effort	NOT SIG (r = -.077)	z	NOT SIG	NOT SIG	z	NOT SIG	NOT SIG	NOT SIG
21	Goal orientation / Effort	NOT SIG (r = -.005)	NOT SIG	z	NOT SIG	z	NOT SIG	NOT SIG	NOT SIG

STATES OF KNOWLEDGE MANGEMENT FOR QUALITY ASSURANCE IN EDUCATION IN PRINCESS OF NARADHIWAS UNIVERSITY

Tippayawan Niltaya
Saritpong Limpisthira
Annop Jeenawat

Abstract

Princess of Naradhiwas University (PNU) is one of the two educational institutes in Thailand established by merging local educational institutes into one. Under the new structure, PNU has faced some difficulties due to the different organizational culture and a long distance between the two former institutes. This is why PNU needs to develop its management system for faster services and for more suitable implementation to serve the local needs of specialized-border areas in the southern part of the country. To learn the new system and to create one vision among the staffs from different backgrounds, the university views the systematic exchange of knowledge is an essential tool for the achievement of the university's missions.

The objectives of this research were to 1) study the states of quality assurance management in education 2) study the states of knowledge management for education quality assurance and 3) study the knowledge management model for quality assurance in education of PNU. The research methodology was documentary analysis. Statistics used for data analysis were percentage, mean and standard deviation.

The research findings were as follows:
1) The states of quality assurance management in education comprised 4 stages: planning, doing, checking and auctioning.
2) the states of knowledge management for education quality assurance comprised four factors: 1) human factor including chief knowledge officer, knowledge facilitator, knowledge practitioner and network manager, 2) process factors including knowledge vision, knowledge sharing in quality assurance and knowledge assets and 3) PNU's models of knowledge management were created and classified into three models according to the development of education quality assurance. Such models were 1) knowledge management model which was implemented within the Knowledge Management Framework of the Office of the Higher Education Commission (mean 2.56) 2) participation model - participated by the KM leaders (1:3:3:1) (mean 2.50) and integration model – the activities were performed in integrated manners by every institution under PNU. These integrated activities were implemented based on 9 factors and the criteria set by OHEC (mean 2.49).

Key word: model of knowledge management, educational quality assurance, Princess of Naradhiwas University

INTRODUCTION

Like other universities in Thailand, PNU's fundamental missions are to produce manpower, conduct the research, provide academic knowledge to the society and preserve the local culture. At present, PNU has to achieve its mission in the midst of various changes and challenges: 1) regulation and rules – quality education is a major concern of Thai education system. This can be clearly seen from many components related to regulations and rules identified in the laws: the National Education Act 1999 (Revised 2002) stipulates that all educational institutions shall conduct the process of educational quality assurance to ensure the improvement of educational quality and standards at all levels. This is a way to make sure that the educational institutions can produce qualified manpower for both the national development and for the global competition. With this regards, higher educational institutions have to provide education based on the two frameworks including the National Standard Framework of the Ministry of Education (MOE) and **the National Framework Qualification Standards in Higher Education** of the Office of Higher Education Commission (OHEC). 2) Public participation - a mechanism that gives an opportunity to the people and the stakeholders to promote and inspect education management both quantitatively and qualitatively 3) readiness preparation for ASEAN Community in 2015. To cope with these challenges, knowledge management (KM) is one of the tools used to achieve the university's missions and goals especially to ensure the quality of education. A long way of conducting KM for quality assurance in PNU needed information that could give the answer about the states of KM for quality. As a staff of this university and a researcher, I came up with the questions "What are the present states of quality assurance in PNU?" and "What are the present states of knowledge management for quality assurance in PNU?" These are why this research was undertaken to find out the answers in systematic way.

OBJECTIVES

The objectives of this research were to:
1 study the present states of quality assurance management in education in PNU
2 study the present states of knowledge management for education quality assurance in PNU and
3) study the knowledge management models for quality assurance in education of PNU.

CONCEPTUAL FRAMEWORK

The MOE's National Standard Frameworks 2010 and **the National Framework Qualification Standards in Higher Education** of OHEC were used to identify research content and PDCA - a concept of quality assurance was used for studying and analyzing the processes of knowledge management for quality assurance in PNU. Step 1: Plan **-** covered projects/plans or programs that identified the targets, objectives and key performance indicators, Step 2: Do - projects/plans or programs were implemented effectively and efficiently, Step 3: Check – the process of controlling, monitoring, auditing, and measurement and evaluation of work performance and Step 4: Act – a review of work process and work performance for further improvement. Mackerel Model[1] was used for studying and analyzing the knowledge management model of PNU. This model covered three aspects of study: 1) **Knowledge Vision** (head) 2) **Knowledge Sharing** (body) and **3) Knowledge Assets** (tail). The factors affecting knowledge management were examined in three aspects (Namtip Pawin: 1994, Teerapong Kaen- in 2011) including 1) human – as a source and user of the knowledge, 2) process – management of knowledge in terms of transmitting knowledge to the users bringing about the improvement of knowledge and innovation and 3) information technology – a tool that could not only be used for seeking, storing and sharing knowledge but also for easier accessing and using knowledge faster.

RESEARCH METHODOLODY

This descriptive research was conducted to serve step 1 of the development of knowledge management for quality assurance of PNU. The research was undertaken through the following methods.
1. Studying and analyzing essential contents related to the quality assurance and knowledge management in quality assurance of PNU and from other sources of information
2. Studying the present states of quality assurance and knowledge management in quality assurance of PNU
3. Analyzing knowledge management model for quality assurance of PNU
4. Synthesizing knowledge management model for quality assurance of PNU

Samples
Thirty-three samples were drawn from the PNU's administrators, lectures and supporting personnel who involved in knowledge management for the university's quality assurance

Data Analysis
1.Percentage was used for an analysis of general information of the questionnaire respondents, states of quality assurance, states of knowledge management for quality assurance and factors affecting knowledge management for quality assurance
2.Mean and standard deviation were used for analyzing the model of knowledge management for quality assurance

RESEARCH RUSULTS AND DISCUSSION

1. The States of Quality Assurance in Education in PNU
The findings that served the first objective of the research could be presented in table 1

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[1] Designed by Prof. Dr, Wicharn Panit from the Institute for Social Management

Table 1 : The States of Quality Assurance in Education in PNU

States of Quality Assurance in Education	Percentage of Implementation
1. Plan	**87**
- Identifying objectives	84
- Setting targets	97
- Setting procedures	84
- Setting timeframe	87
- Allocating necessary resources	84
2. Do	**82**
- Building understanding	81
- Implementing the plan	84
3. Check	**79**
- Checking work progress	90
- Checking and comparing real outputs with the plan targets	90
- Checking all procedures	57
4. Act	**69**
- Improving appropriate procedures	78
- Setting standards for further step of implementation	63
- Improving procedures for further implementation if necessary	66

Table 1 represented that the quality assurance in education in PNU was implemented in planning, doing, checking and acting steps accounted for 87 , 82, 79 and 69 percent respectively.

2. The States of Knowledge Management for Quality Assurance in PNU

The findings that served the second objective of the research could be presented in table 2.

Table 2 : States of Knowledge Management for Quality Assurance in \Education of PNU

Knowledge Management	Percentage of Implementation
1. Human factor for an operation of PDCA cycle	
- Chief Knowledge Officer : CKO	75
- Knowledge Facilitator: KF	72
- Knowledge Practitioner: KP	68
- Network Manager	68
2. Process factor	
2.1 Knowledge Vision	
- Participation of everybody involved	81
- Perception of everybody involved	81
- Organizing public relation	57
2.2 Knowledge Sharing	
- Story Telling	54
- Yellow Pages	24
- Knowledge Base	36
- Community of Practice (CoP)	57
- Mentoring System	21
- Job Rotation	24
- Knowledge Forum	57
- Peer Assist	51
2.3 Knowledge Assess	
- Extracting knowledge	84
- Recording the knowledge	75
- Using knowledge	60
3.Information Technology Factor	
- Facebook available for Education Quality Assurance	57
- E-mail available for Education Quality Assurance	54
- Website available for Education Quality Assurance	66

Table 2 represented that the three factors affecting the states of knowledge management for quality assurance in education were : 1) human factor, 2) process factor and 3) information technology facto. As for the human factor, it included chief knowledge officer, knowledge facilitator, knowledge practitioner and network manager who performed their duties based on Demming's PDCA cycle. In terms of process factor , it included knowledge vision, knowledge sharing and knowledge assess. Among these three factors, knowledge vision was mostly implemented whereas the participation of everybody involved and perception of everybody involved were equally implemented (81 percent) Knowledge sharing was implemented as a minor priority whereas the community of practice (CoP) and knowledge forum were mostly and equally implemented (75 percent). As for the information technology factor, implementation through website was the most popular method (66 percent).

3. Quality Assurance Model

Model 1 : The Role of Quality Assurance Unit in supporting and giving advice on quality assurance

Quality assurance unit played its role in supporting and giving advice on quality assurance to the others. The front leaders of quality assurance transmitted the indicators to the responsible agencies according to the guidelines of OHEC. They also conducted knowledge management in three aspects : knowledge vision, knowledge sharing and knowledge access. Additionally, they shared and transmitted these knowledge to the

central leaders of quality assurance. The central leaders further transmitted the knowledge on quality assurance to the implementing units. Small units at the implementation level shared the knowledge among their staff and show their good practices. An overall average of this model was 2.50 (S.D 0.43)

Model 2 : The Role of Quality Assurance Unit in Conducting Knowledge Management Based on PNU's Strategies

Quality assurance unit played its role in conducting knowledge management based on PNU's strategies by surveying the name lists of key persons from every agency for further collaboration. It also played a role in establishing the people for Community of Practice according to the OHEC's criteria. In addition, it gave the floors to the staff to express their opinion on knowledge vision and share their knowledge. Additionally, it monitored the work progress and checked implementation activities at every step. Other activities were performed in terms of study visits, peer assist both within and outside an organization. The space was given to display good practices. An overall average of this model was 2.49 (S.D 0.46)

Model 3 : The Role of PNU in Conducting knowledge Management according to the its Strategies

PNU conducted the knowledge management according to the its strategies. It held the meetings to conduct the knowledge management according to OHEC's criteria. The knowledge was derived from teaching and learning process, research process and knowledge sharing by cross – institutional evaluators. An overall average of this model was 2.57 (S.D 0.46)

SUMMARY OF RESEARCH RUSULTS

The research results were summarized as follows:
1)The states of quality assurance management in education.
Quality assurance activities were performed by PNU covering 4 areas of PDCA cycle : planning, doing, checking and improving. "Planning" process covered the identifications of targets, objectives, key performance indicators, setting working process and timeframe and budgeting. "Doing" process was the process for building understanding among the people involved and effectively implementing plans or programs. "Checking" process was the process of controlling, monitoring, auditing, and measurement and evaluation of work performance. "Acting" process was to review work process and to set standards for further improvement of work performance.

2) the states of knowledge management for education quality assurance comprised three factors : 1) human factor including chief knowledge officer, knowledge facilitator, knowledge practitioner and network manager, 2 process factor including knowledge vision whereas the staff from every unit worked closely for building shared vision in quality assurance, sharing their knowledge, disseminating their knowledge through Story Telling, Community of Practice, Knowledge Forum and Peer Assist and 3) knowledge access was managed through knowledge extraction, knowledge note – taking and application of knowledge.

3) PNU's model of knowledge management was created and classified into three types according to the development of education quality assurance including 1) knowledge management model which was implemented within the Knowledge Management Framework of OHEC 2) participation model whereas knowledge management was transmitted and driven into practices by KM leaders and 3) integration model – the activities were performed in integrated manners by every institution under PNU. These integrated activities were implemented based on 9 factors and the criteria set by OHEC. and 3) knowledge management by individual unit according to OHEC's criteria focusing on the knowledge derived from teaching and learning process and research process.

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DEVELOPING LIFELONG LEARNING SKILLS THROUGH THE IMPLEMENTATION OF THE MULTILITERACIES APPROACH

Fariza Puteh-Behak
Islamic Sciences University of Malaysia, University of Southern Queensland
fariza_pb@yahoo.com

Abstract

Lifelong learning knowledge and skills are valuable skills in the 21st century. The 21st century requires learners to be equipped with essential lifelong learning knowledge and skills to work functionally in diverse areas such as work, economy and social areas that are characterized by globalisations and advent of technology. To reflect this new reality and encourage lifelong learning in Malaysian education scene, the Malaysian Ministry of Higher Education (MOHE) introduced several documents such as Soft Skills Model (2006) and Blueprint for the Enculturation of Lifelong Learning for Malaysia (2011) to ensure that lifelong learning skills are included in the current local educational stream. This paper discusses whether these policies are being realized in classroom practices. It will then discuss how lifelong learning knowledge and skills were developed in an English as a Second Language (ESL) classroom in Malaysia through multiliteracies (New London Group, 1996, 2000) learning activities. This paper draws on data from qualitative means such as classroom observations, interviews, informal conversations and classroom artefacts in exploring the students' learning experiences. Data suggested that the multiliteracies approach was an effective approach in developing lifelong learning skills amongst the students.

INTRODUCTION

Lifelong learning has been the most popular area of discussion in the current education setting. The European Communities (ESAE, 2007) defined lifelong learning as 'all learning activities undertaken throughout life, with the aim of improving knowledge, skills and competence, within a personal, civic, social and/or employment related perspective" (p.1). To further elaborates this definition, lifelong learning is a concept of learning that goes beyond formal learning in the classroom, it is about equipping students with necessary knowledge , skills and abilities to appropriately function in diverse areas such as personal, academic , economic, employment and social settings.

Developing lifelong learners is also one of the major aims of the education scene in Malaysia. In 2006, the Ministry of Higher Education (MOHE) introduced a Soft Skills Model as a guideline to incorporate lifelong learning skills such as language and communication, information and technology, teamwork and entrepreneurial skills in the formal curriculum of Malaysian public universities. In 2011, MOHE published a blueprint called Malaysia's Blueprint of the Enculturation of Lifelong Learning for Malaysia (2011-2020). The blueprint described Malaysia's commitment in developing lifelong learning through the following criteria:

a. Belief in the idea of lifetime human potential and the possibility of its realisation;
b. Efforts to facilitate achievement of skills, knowledge and aptitudes necessary for a successful lives;
c. Recognition that learning takes place in many modes and places, including formal educational institutions and non formal experiences such as employment, military service, civic participation and informal self-initiated activity, and
d. The need to provide integrated supportive systems adapted to individual differences that encourage and facilitate individuals to achieve mastery and self-direction. Society should make these systems available to learners with flexibility and diversity (p.5-6)

It has been established that lifelong learning is one of the major focus of policy makers in Malaysia. The question is how far those policies such as the above mentioned criteria are being realized in classroom practices. The next question is how can these lifelong learning skills and knowledge be incorporated in classroom practices using the multiliteracies approach? This paper attempts to address both questions through data and findings of a research project that I have conducted as part of my doctoral study. First, this paper will briefly describe the objectives, background, contexts and methodology of the study. Then, it discusses how lifelong learning skills were incorporated in the formal learning of an English language as a Second Language (ESL) classroom in a Malaysian higher education institution.

THE RESEARCH PROJECT

The study was a participatory action research project that investigated teachers' and students' experiences in learning ESL using a multiliteracies approach (New London Group, 1996, 2000). This project was initiated by the notion of developing necessary lifelong learning knowledge and skills for learners to undertake the challenges and transformations of the 21st century. The study focused on using the multiliteracies approach introduced by a group of academicians who called themselves the New London Group (1996, 2000). The multiliteracies approach discussed the issue of equipping learners with necessary skills needed to undertake the challenges and transformations of the 21st century in terms of economic, academic, personal and public lives. The issue was traditional curriculum and classroom practices did not seem to be enabling students to achieve the requirements that are regarded as necessary for the 21st century. Learners are not connected to the real world, but they are confined to the conventional learning in the classroom instead. In the real world, global economy and rapid technological changes are calling for a transformation of knowledge and skills of the future workforce, where they are required to possess multiple literacy skills (Gee, 2000, The New London Group, 1996, 2000). Learners now need to make sense of the various media types and technologies, as well as the multimodal meaning making required by those media types and technologies (Kalantzis & Cope, 2008). In other words, the new era requires a new set of learning tools and knowledge (Cope & Kalantzis, 2009).

To achieve the above mentioned notion, I collaborated with two teachers as co-researchers in implementing a multiliteracies approach (New London Group, 1999, 2000) in an English as a Second Language (ESL) classroom in a Malaysian university. In particular, the project investigated students' learning experiences in learning ESL using the multiliteracies approach. The project was conducted at Bakti Polytechnic (pseudonym) one of the higher education institutions in Malaysia. The participants were 28 students from the Diploma of Civil Engineering program. They were in their first year of study and were taking the ESL course as part of the polytechnic academic requirement. The study was conducted in two cycles within eight weeks. Data was collected through qualitative means such as classroom observations, informal conversations, professional discussions and classroom artefacts. Data were then analysed using critical reflective analysis by the research team consisting of two teachers and myself in a series of professional discussions.

DISCUSSION

A. Are the Malaysian government's policies on lifelong learning such as the above mentioned criteria (refer to page 1) being realized in classroom practices?

Teachers' pedagogical practice

Both teachers, Siti and Arfah (pseudonyms), had just graduated from a local university in Bachelor of Education specializing in Teaching English as a Second Language (TESL). They had yet to teach in any classes in Bakti Polytechnic because they had just started work for two weeks. Before entering the polytechnic, they had a three-month supervised teaching experiences in Malaysian secondary schools as part of the requirements of their degree.

Based on the three months experience, both teachers were involved in teaching and learning situations that centred on the success of examinations. To ensure success in examinations, teachers often teach students based on the format of the examination and as a result, most teaching and learning situations focus on the traditional print-based reading and writing exercises. In an interview, Siti commented (24 November 2010) *"umm...actually I was asked by my mentor to teach writing skills more, rather than other skills such as listening and speaking"*. It seemed that the over emphasis of reading and writing skills in an examination-based teaching would result on the deterioration of the students' communication skills. The teachers stated that almost all of their students at that time were able to write a good essay in the examination however a majority were not able to use the language in practice such as to communicate using the English language in real life situations, a much valued skills in the 21st century.

> Siti: I think that Malaysian students are shy to speak, so when we do more writing activities, they are not using the language with another person. They are less shy when they are writing, but when they do speaking activities, that's where they face the real problem; they were not able to use the language.

Arfah: When I first got the students to speak, it was really different from their writings. They could write but they couldn't speak. Their essays were quite good, it was comprehensible, but when they speak, I didn't know what they were talking about.
Fariza: So, to sum up, our students are weak in communication skills because reading and writing skills are stressed on in the exam-based school system?
Siti: Yes!
Arfah: Indeed.

(Interview, 24 November 2010)

In addition, it appears that it was also important in an examination-based learning context for teachers to complete the syllabus or curriculum set by the responsible organizations such as the Malaysian Ministry of Education (MoE) or the Malaysian Ministry of Higher Education (MOHE). Arfah mentioned that her mentor did not prioritize the completion of the syllabus because she had completed the syllabus of the writing component herself (Interview, 24 November 2010).

"As for me, it was more like... I got to plan my own activities freely, because my mentor did not mind about following the syllabus that much. Basically, I engaged the students in communicative skills, less on writing, because the previous teacher (the mentor) had covered all the writing components herself".

In terms of teaching materials that were commonly used in their teaching, both teachers were still using traditional materials that focused on the use of print-based materials such as printed handouts and some pictures and words printed by hand on a piece of mah-jong paper. Arfah stated that:

Arfah: yeah. So, every time I go into class, I would bring my own mah-jong paper and write the notes and paste it on the board to save time, you know, rather than write it on the board during class time.
Siti: yeah.

(Interview, 24 November 2010)

The only form of technology that they had used in their lessons in the past was a radio and a PowerPoint presentation. They stated:

Fariza: What type of technology that you have ever used in your lessons?
Arfah: the radio ((laughs)) in my case; I have to bring my own radio. We listened to songs and fill in the blanks.
Siti: In my case, it was a Powerpoint presentation. That's all.

(Interview, 24 November 2010)

Both teachers seldom used technological resources in their lessons because of limited resources of technology in their schools. In addition, the access to computer laboratories was restricted and procedural that they had difficulties in accessing the computer laboratory. As recorded in my research journal (24 November 2010), I noted that; "*Both teachers felt that it is difficult to gain access to technology in their teachings. Institutions often have the facilities however it is limited. They described that the procedures to use the facilities as a 'hassle' and 'almost impossible'*". Even though the teachers seldom utilized technological devices in their teaching, they were very much interested to use technologies in their lessons, provided that they had a more uncomplicated access to the facilities such as the computer laboratories (Interview, 24 November 2010).

Fariza: So, what do you think about using technology in your teaching?
Siti: ((laughs)) I think it is a good idea, but
Arfah: but ((laughs))
Siti: The problem is the facilities! That's all. If the schools are equipped with the facilities, we can carry out activities using technologies. If not... then you are back to using chalk, talk, mah-jong papers, and all that((laughs))
Arfah: yeah, mah-jong papers ((laughs)). My school was also the same... it was an old school and they don't have much facilities. They won't let the teachers to use the computer labs unless you are a computer teacher.
Siti: Yes!! It is really impossible.
Arfah: Yeah. So, every time I go into class, I would bring my own mah-jong paper and write the notes and paste it on the board to save time, you know, rather than write it on the board during class time.
Siti: Yeah.

Students' previous learning experiences

Data shows that most of the students came from a background where learning for examination success was stressed upon. The students commented (Classroom artefact, 8 December 2010):

> *S1: The student just have to do exercises and do a lot of readings. Other than that, the teacher teach based on textbooks and exam oriented.*
> *S14: In secondary school, I studied English language through English textbook. But, I still do composition and summary. Before examination came, my teacher gave a lot of exercises.*

When asked to describe their English language learning experience, most students stated that their learning were quite teacher-centred. In most cases, the teachers became a primary source of information and the students were passive participants. A few students confirmed this point through a written classroom document (8 December 2010).

> *S1: The usual English classroom scenario are the teacher provide all the information needed.*
> *S5: Teacher teaching in front and I listen and sometimes my teacher ask anyone she want.*
> *S10: My usual classroom before this are the teacher gives all the information and answering skills to excel in examination.*
> *S15: When my teacher starting teaching us, all of people sitting quietly and hearing (listening to) what my teacher speak.*

Not only were the teachers teaching based on the examination, the student too were learning for examination success. In an informal conversation (20 December 2010) a student (S10) described that he too thought that learning for the examination was crucial in the process of teaching and learning itself.

> *Fariza: So, basically, you come to class learning what is important to pass the examination?*
> *S10: Yes.*
> *Fariza : Just focus on the exams?*
> *S10: Yes. I think that's the point, for the exam.*

In addition, the students were not familiar with the use of technology in their learning because when asked about the important elements that they need in their learning, only two students stated that they needed technology to be incorporated in the learning activities (Classroom artefact, 8 December 2010). Moreover, the students came from a learning background where monomodality was a custom practice. In a classroom document, where the students were asked to share their views on their own learning via writing, a few students pointed out that their teachers used to teach directly from the texts book.

> *S12: The teacher is just teaching according to the text book.*
> *S10: ...other than that, the teacher teach based on textbook.*
> *S14: In secondary school, I studied English language through English textbook.*

Apart from text books, teachers usually use print-based reading and writing approach in their lessons. Usually, teachers would distribute handouts that contain a few reading passages and several comprehension questions based on the passages. At this point, learning focus on answering comprehension questions because this structure is the major question structure in the national examination. In an informal conversation (20 December 2010), S10 confirmed this point.

> *Fariza: Usually, what does the teacher bring to the class?*
> *S10: Handouts.*
> *Fariza: What kind of handouts?*
> *S10: The teacher bring sample questions of the SPM (the national examination for high school students).*
> *Fariza: So, they give you passages and then you answer questions based on the passages?*
> *S10: Yes*
> *Fariza : Everyday?*
> *S10: When there is an English class.*

Based on the data on the teachers' previous pedagogical practices and students' previous learning experiences, it appeared that the classroom practices were still bounded to using traditional approaches in teaching. Classroom practices were still predominantly examination-oriented where the focus was put on reading and writing, two

popular genres in the examination. In addition, teachers were focused on completing the syllabus in order to prepare the students for the examinations. The teaching process was also teacher-centred, where teachers played central roles of providing information and teaching new knowledge and skills, while students became passive participants. The commonly used classroom materials were of print-based such as text books and exercise handouts. The teachers and students had minimal experiences in using technological resources in the teaching and learning processes.

Data from the current research project indicated that it seemed that the classroom practices did not translate the lifelong learning policy set by the policy makers. Developing lifelong learning knowledge and skills were not emphasized due to the culture of emphasizing on examination success. This point was also noted in a few studies on Malaysian classroom practices. Nadzrah (2005) who conducted a study on the use of computers in Malaysian classrooms noted that the teachers were focussed on completing the syllabus in order to ensure the students' success in the examinations.

B. How lifelong learning skills can be developed through using the multiliteracies approach?

Multiliteracies learning activities provides the link from classroom learning to practical knowledge
The MOHE Blueprint for Enculturation of Lifelong Learning for Malaysia (2011) stated that lifelong learning should take place in many modes and places and this concept was realized by the research project. Through this research project, learning was not limited to formal learning in the classroom. Data indicated that using the multiliteracies approach was able to construct a missing link between classroom learning and practical knowledge, an important element in developing lifelong learning. Learning using the multiliteracies approach, the students were involved in a few multiliteracies activities outside the formal classroom learning. In this case, they had the opportunity to conduct two out-of-the-classroom projects. These multiliteracies projects provided a bridge between classroom learning and practical knowledge. The students acknowledged the interconnectedness in the following conversation excerpt;

> *Fariza: Do you think that our exercises in the classroom helped you to carry out the multiliteracies project? For example, the survey we did in the classroom.*
> *S12: umm... yup. The part where we learnt about creating survey questions has helped a lot in carrying out the assignment.*
> *S10: Our learning in the classroom helped a lot in completing our outdoor assignment.*
> *S11: It (classroom learning) has a lot of relations to assignment 2.*
> *S10: It (classroom learning) helped a lot.*
> *S12: Our classroom activities were like a theory class and a workshop. After we learn the theories in the classroom, we have a workshop, which was Assignment 2.*
> *S11: Yes. Theory and workshop.*
> *Fariza: So, you are saying that in the classroom, we learn all the theories and then Assignment 2 was the practical aspect?*
> *All students: yes*
> *Fariza: Do you like that kind of learning, where theories will be followed by practical work?*
> *S10: They (theories and practical work) are all interconnected.*
> *S12: Yeah, interconnected.*
> *S10: It was easier to understand.*
> *S11: Yes, the tasks (in assignment 2) were not difficult as we have understood the concept earlier (through classroom learning).*

(Informal conversation, 22 January 2011)

In the above conversation excerpt, S12 gave an analogy of theory-workshop learning approach he experienced as a civil engineering student. Usually, in their engineering courses they have two approaches towards learning, which was learning the theories in the classroom and then practicing the theories in the workshop. I found that this was an interesting analogy that really described the process of learning through our personalized multiliteracies approach. This approach is often employed in teaching scientific subjects such as engineering courses, but less emphasized in learning the English language. In the case of our research project, the students described how their classroom learning prepared them with adequate background knowledge for them to apply

the knowledge in practical situations. According to them, this link between theory and practice aided their understanding of the subject matter.

In another conversation with another group of students (Informal conversation, 22 January 2011), the students also described that the classroom learning provided them with necessary skills and knowledge for them to apply in the completion of the multiliteracies project. They gave an example of one of the classroom activity focusing on creating survey questions had helped them to form their own survey questions for their mini researches for their documentaries.

> Fariza: Do you think our exercises in our classroom, for example we conducted a mini survey on mobile phone use among teenagers, helped to boost your learning?
> S6: hmmm
> S6 and S1: the lessons in the classroom were helpful.
> Fariza: How?
> S1: For example, in the classroom we learnt how to make questions. From that we knew how to form questions for our interview in the video.
> S2: When we learnt how to analyse data in the classroom, we used that knowledge as well to complete our project.
> S6: Yes, the lesson helped a lot.

The students also stated that the interconnectedness between theory and practical knowledge enhanced their learning. In the following excerpt (Informal conversation, 22 January 2012), the students described that activities that connected classroom theories to practical knowledge such as the outdoor activities conducted during the implementation of our multiliteracies module, enhanced their learning as compared to a learning experience in traditional examination-based learning context, where they sit and listen to the teachers most of the times. They described these activities as a platform for them to apply all the theories that they learnt in the classroom. They noted that the opportunity to meet community members and interviewing real people, rather than the usual in-class role play activities, provided them with a wider scope of learning. This way, it could be concluded that the learning experience was more authentic and contributed more to learning, therefore motivating the students to learn. This phenomenon was concurrent to Vygotsky's (1978, 2005) sociocultural theories as well as the concepts of multiliteracies pedagogy (The New London Group, 1999, 2000), where these theories suggest that learning occurs best when students negotiate learning through interaction with their sociocultural surroundings.

> S6: I think the outdoor activity supports our learning in the classroom.
> S1: It is a balance
> Fariza: So you would like to have a balance of outdoor activities and classroom learning?
> S6 and S1: yes..
> S6: I don't want to learn just in the classroom.
> S1: Yes, not in the classroom only.
> Fariza: Why?
> S2: In the classroom we would sit and listen to the teachers all day. If we go outside, we get to do a lot of things.
> S6: We get to do activities and we get to move around
> S2: Yes..then we would not feel sleepy.
> S6: If we learn outside the classroom, I feel happy...it is an enjoyable thing to do.
> Fariza: Enjoyable?
> All students : Yes.
> Fariza: Do you think that meeting your community members is an interesting experience?
> S2: Yes, interesting
> S1:We got to interview real life people,
> S2: ... ask people's opinions.
> S6: Yeah, we got to meet and interview people. From that experience, we learnt a lot, the real situation. Usually we hear from other people, but now, we got to do it ourselves.
> Fariza: So, you had the opportunity to experience it yourselves, right?
> S6: Yes

Fariza: Do you think that this activity motivated you to learn? Did you feel like you want to learn more through this activity?
S6: Yes!

Multiliteracies learning activities develops language and communication skills

The MOHE Blueprint for Enculturation of Lifelong Learning for Malaysia (2011) stated that in order to cultivate lifelong learning, there should be efforts to facilitate achievement of skills, knowledge and aptitudes necessary for a successful lives. Through the current research project, we successfully developed the students language and communication skills, one of the most appreciated lifelong learning skills. 21st century learners should have the ability to use the English language, not only knowing the workings of the language, but having the ability to communicate effectively using the language. Traditional ESL classroom often focuses on learning the grammatical aspect of the language, ensuring accuracy in speaking the language. In developing lifelong learning, the ability to communicate effectively is more essential. The below extract was a part of an informal conversation between the two teachers and myself. Data shows that the students' language and communication skills had improved through learning using the multiliteracies approach:

Siti: think this approach improved the students' learning in so many ways. There were obvious. First, from what I can see, their confidence level has increased .I saw this through their presentations the other day. They have points in their presentations and we could understand the points. Second, They have improved their (English) language. I actually understood what they presented the other day. Previously (within the first cycle, I did not understand at all, what they were saying in their presentations. That's why I think that this approach (multiliteracies approach) is good. They used simple English,I think it was okay because the audience could understand what they were saying.
Fariza: It (multiliteracies approach) is also beneficial to their communicative skills, right? It is not about using complex words but it is about using words that people could understand the message. Not like the first one, they copy and paste (plagiarised) and we could not understand what they were saying.
Arfah: True. I think they had the idea that in English class, they have to use all this bombastic words so that people can be impressed. When they were presenting their documentaries, I can see that they used simple language, common words that we use every day and that's why their documentaries a success. They delivered their message using the everyday English language. I felt that they were 'talking' to us at that time. So, I think this time they did not copy-paste from the internet (laugh).

(Professional discussion, 19 January 2011)

The students also mentioned similar points. They stated that learning ESL using the multiliteracies approach had given them the opportunity to practice their knowledge of the English language in practical situations. They highlighted that this type of learning approach was more effective in developing their language and communication skills. The following extract supported this point (Informal conversation, 22 January 2012);

Fariza: Do you think that this activity motivated you to learn ? Do you feel like you want to learn more through this activity?
S6: Yes!
S1: I felt like I wanted to learn more.
Fariza: You wanted to learn more?
S6: Yes.
Fariza: How? When you had activities involving your community members, what do you wish to learn from that?
S1: I felt like I wanted to learn more about interacting (with people).
S6: more interactions with people interacting with people again and again
S1: yes. Then, I felt like I wanted to use the English language with them.
Fariza: So, do you think that you language and communications skills have improved after this learning activity?
S2: Improved!
S6: definitely has improved.
S1: yes.
S1 and S2: yes.
S6: Sometimes, when we use English amongst us, we used to mix with the Malay language. This time, with other people, we were more organized and tried to speak English as much as we can.

S1 and S2: yes
S6: Sometimes, when we hear other people using the language, we tried to compare with our own language, from there we could imitate the way they use English.

Multiliteracies learning activities promotes technological knowledge
In the current era, it is important for students to have the knowledge to use available technological devices around them and it is also essential for students to have the ability to keep up with the advances of technology. Data from our study shows that through the multiliteracies learning activities, the students were able to learn how to use technological devices and programs that they had never used before in learning. Apart from that , it was also interesting to see how the students dealt with the challenges of using technology and how they solved the issue.

S12: I like the editing part the most.
Fariza: When you compile your recording using the Movie Maker?
S12: Yes, using the Movie Maker.
Fariza: Why?
S12: It was easy. I finished class at 4.15 pm that day and I did the editing until 8 .00 pm. I spend a long time to do it because at that time I did not know how to use the MovieMaker. I kept on doing and testing until I got it.
S11: I was there with him.
S12: We had to edit the recordings
Fariza: Did you enjoy doing that?
S12: Yes.
S11: I thought you were quite tensed at that time?
Fariza: You felt tensed?
S12: Quite tensed for a moment. But I got to learn how to use the Windows Movie Maker, so it was all worth it.

The following extract also portrayed similar point (Informal conversation, 22 January 2011);
Fariza: Do you think that your IT skills are improved through these learning activities?
S10: That (technology) was the best part
S11: I think yes.
S12: I got to use my father's camera. I never used it before.
Fariza:You have never used a digital camera?
S12: No
Fariza: How about the MovieMaker program?
S10: Never.
S12: It was in my computer but I never used it before.
Fariza: So, you have never used the program before?
S11: It was like , discovering something new, learning how to do something new.
S10: We gained additional knowledge (through the learning activities)

The following extract clearly demonstrates that through multiliteracies approach, students were able to use technology and develop the ability to cope with the fast paced transformations technology brought. In this extract, one student raised the issue of compatibility of their video recording to the computer's processor. At this time, the use of Windows XP was quite popular and Windows 7 was just introduced to the market a couple of months earlier. Through the multiliteracies learning activity the student was able not only to use the technological resources but also able to deal with the advances of technology.

Fariza: What did you use to do the recordings?
S10: Handphone
S12: Camera
S11: We used digital camera
S12: when we were recording using the handphone, the format that the phone used was MP4, we had problems when we use Windows Movie Maker.
S12: windows movie maker did not support

S10: Windows movie maker in our computer did not support MP4 format, we had to use Windows 7
Fariza: So you have to find computers that use Windows 7 ?
S10: yes. Windows XP did not support MP4 format. We had to find computers that use Windows 7. One member of the group had a computer using Windows 7 but it did not have the Movie maker program, the other member had it but she did not know how to use it. So, all of us had to learn something new.

<div align="right">(Informal conversation, 22 January 2011)</div>

Multiliteracies learning activities enhanced teamwork skills
Able to work effectively as individuals and in teams were also a valuable lifelong learning skills. The Malaysian Ministry of Higher Education (MOHE) included teamwork as a must-have skill in their Soft Skills Model (2006). Through this research project, it was apparent that the students developed teamwork skills. In the first cycle of the research project, the students had issues with maintaining effective teamwork thus implicating the quality of their first multiliteracies project. After the second cycle of multiliteracies learning activities, it appeared that the students demonstrated more effective team collaboration.

Within the second cycle, the students were faced with problems in working collaboratively with their group members just like what happened in Cycle 1. The students stated that they were faced with issues on various aspects of completing the second multiliteracies project. For example, in an informal conversation, a student complained that his group members blamed him for not contributing enough to the development of the mini research (17 January 2011). Another student, S10, stated that one of his group members pushed everyone to work in a faster pace causing high stress levels among the group members (Informal conversation, 22 January 2011). In the following extract (22 January 2011), S10 explained that his group members had quite a number of other disagreements in the process of completing the second multiliteracies project. He added that the end product of the multiliteracies project which was the documentary was a result of the hard work of the team members. S10 and S11 described that the process of completing the multiliteracies projects had engaged them in positive and negative experiences.

S11: Sometimes it was about the team members (causing stress)
Fariza: Teamwork?
S10: Yes. Not everyone has the same style of working, different people has different styles
Fariza: But, in the end, every group produced their own documentary.
S10: That (the documentaries) was the result of our sweat and tears.
Fariza: Even though you had a lot of issues?
S10: That was the end product. We had a lot or arguments, but we still had the end product.
Fariza: So, do you consider the end product to be positive or negative?
S10: positive
Fariza: Positive. The process?
S10: The process was balanced.
S11: We have a few ups and downs moments. There were positives and negatives experiences. But, in the end the end product was positive.

Within the first cycle when a group were not able to work as a team an individual member took charge and did all the work, however, within the second cycle, the students exercised deliberation among group members and collaborative problem solving. This point was evident in the following conversation excerpt (Informal conversation, 22 January 2011);

Fariza: Okay, if you encountered any problem, how did you cope or solve the problem?
S6: We always discuss with the group members first.
S1: We would sit together...
S6: ...and we would discuss with everybody. We would ask what the issue was, and then we asked for everyone's opinions regarding the issue.
Fariza: So, u would get together and ask everyone's opinion?
S6: Yes, we get everyone's opinion first.
S1: Yes, then we would try to reach a consensus on how to solve the problem.
S6: If everyone agreed, then we would take actions.
Fariza: So, that was how you solve all your problems while conducting your multiliteracies project?
S6: yes

S1 and S6 explained the ways they coped with any predicament among group members whilst completing the project. They reiterated that they held discussions with group members to discuss or find a solution for any predicament they faced. They stated that the opinions of all members were taken into consideration before they deliberate for a solution. Here, they work as a group as a consensus was achieved after listening to all group members.

Other groups also employed similar approach in solving teamwork issues. As evident in the following conversation excerpt (Informal conversation, 22 January 2011), S10 described that whenever his groups were faced with any issues, the group discussed the issue and tried to come to a consensus.

> *Fariza: Okay, how bout teamwork? Any improvement in terms of teamwork?*
> *S10: we had issues, but we managed to settle it at the end.*
> *Fariza: How?*
> *S10: (We) discussed it nicely*
> *Fariza: So, when you had issues, you discussed the issue with everybody and tried to resolve the matter?*
> *S10: Yeah. We discussed the best way to resolve the problem.*
> *Fariza: After the career blog assignment, I noticed that most students highlighted that the biggest challenge that they faced was working in teams. Do you still have problems in that area?*
> *S12: Not really, because this time around everybody had to do work. I devised three questions and gave each member one question. We didn't have much time, so when we completed our scripts, we write it on a big piece of paper and continue with our interview.*
> *Fariza: So, you had better teamwork this time around?*
> *S10: Most (students) had already know how to participate (in a group work)*

According to the previous excerpt, S12 claimed that his group members employed effective group collaboration. S12 said that his team divided work equally among group members to complete the tasks and afterward they combined the result of their tasks to produce the documentary. This instance showed that the students were managing their teamwork issue more effectively. Similarly, another group of students stated that they had good collaborative effort among their group members. The students described that their collaborative efforts in the second cycle were a positive experience and their team skills had improved since the last multiliteracies project within the first cycle. S1 and S6 noted that their group members worked on the task together under the notion that the task would be incomplete unless they work together. S6 mentioned that the project was multidimensional that required everyone in the group to work on different aspects and then work collaboratively to produce one documentary. This point is illustrated in the following extract (Informal conversation, 22 January 2011);

> *Fariza: Do you remember during the first cycle, when we did the career blog? When you presented your work and the challenges and obstacles you faced in carrying out the assignment, most groups pointed out that they had issues in getting cooperation from their team members. So, is it different now?*
> *S1: Now, it (the cooperation between group members) is better than before.*
> *S6: Ooo yes..*
> *Fariza: Why?*
> *S6: Because before this, we had to write in the computer (blog), sometimes it was hard to meet up and write. In this case (the second multiliteracies project), we had to do a video and use Movie Maker, so we had to meet up and discuss what to do.*
> *S1: Yes, everyone had to do it.*
> *S6: If one member did not participate, then the task would be incomplete.*
> *S1: Yup, everyone had to participate, some had to be the host, some had to work with the technical aspects.*
> *S6: Yeah. If we were to do a write up, one person could just do it. That is why this assignment is different than the first one.*
> *S1: Yes.*
> *Fariza: So, there is an improvement in terms of teamwork and that is why you like this cycle better?*
> *S1, S2 and S6: Yes.*
> *Fariza: So, was your experience positive or negative?*
> *All students: Positive!(laugh)*

CONCLUSION

The data from the study shows that even though lifelong learning was emphasized at the policy-making level, it was not being fully realized in the classroom due to cultural classroom practices. Data shows that the focus of learning was still focussed on preparing learners to succeed in national examinations. Thus, teaching approaches in the classroom still used traditional approaches such as answering examination practice questions and learning using text books and other print-based media. In my opinion, this situation did not signify the failure of the enculturation of lifelong learning skills and knowledge as dictated by the Malaysian Ministry of Higher Education's blueprint (2011). The current research project has proved that lifelong learning could be incorporated in classroom learning through using the multiliteracies approach (New London Group, 1996, 2000). Learning using the multiliteracies approach had assisted the students to develop several lifelong learning skills such as linking theoretical to practical knowledge, communicate in the English language in authentic situations, work effectively in teams, develop the ability of using current technology and keeping up with the advances of technology. These conclusions was limited to the context of the study however, the findings provided substantial evidence for understanding other learning contexts in Malaysia.

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UTILIZING PROJECT - BASED LEARNING IN TEACHING OBJECT ORIENTED PROGRAMMING AND DATA STRUCTURE TO ENGINEERING TECHNOLOGY STUDENTS

Nurzulaikhah Nadzri[1]
Muhammad Sobri Ramli[2]
Norzanah Md Said[3]
Yusman Yusof[4]
Universiti Kuala Lumpur Malaysia France Institute
Seksyen 14, Jalan Teras Jernang, 43650 Bandar Baru Bangi, Selangor, Malaysia

nurzulaikhah@mfi.unikl.edu.my[1], mohdsobri@mfi.unikl.edu.my[2],
norzanah@mfi.unikl.edu.my[3], yusman@mfi.unikl.edu.my[4]

Abstract

Project-Based Learning (PBL) is an instructional approach that is becoming more popular among educators. With PBL, the traditional teacher-centred approach is now switched to student-centred approach. At the Malaysia France Institute, Universiti Kuala Lumpur (UniKL MFI) over the past several semesters, the Object-Oriented Programming (OOP) and Data Structure course had been delivered through the formal lectures together with practical laboratories sessions. To assess their grasp of the subject, a small survey involving 14 students was carried out. The results showed that many students gained less understanding on OOP and they did not see how the programming techniques could be applied in the real world application. Evidently, there was a lack of hands-on skills. This paper will discuss the method of employing PBL technique to the course. A mock-up real-world project which focuses on hardware-software (HW/SW) system development will be implemented. The system will be controlled by microcontroller, programmed using C# on .NET Micro Framework which supports OOP. Students are required to apply OOP and Data Structure techniques with some guidelines from a well-prepared practical manual when implementing the project. The experience in programming the real hardware system using the OOP and Data Structure technique is expected to make the students realize and appreciate the benefits of this programming method and are then able to apply the method in other real-world application.

INTRODUCTION

The focal point of engineering technology education is different from engineering education. The former is designed to focus on analyzing, applying, implementing, and improving existing technologies, while the latter focuses on the conceptual and theoretical aspects of science and engineering (Stephen R., 2006; Abang Ali et al., 2003). Therefore, it can be expected that graduates from both programs will lead into different profession or career path. The engineering technologist will work towards the practice of engineering closest to product improvement, manufacturing and engineering operational function while engineers will work towards areas of research, development, and conceptual design functions (Stephen R., 2006; Abang Ali et al., 2003). Hence, it can be said that graduates from engineering technology programs will use existing technologies while putting efforts to improve them for manufacturing, engineering operation and application. It is in this respect that the hands-on learning and teaching method are suitable in educating the engineering technology students.

1. Motivation

For the past few semesters, the Object-Oriented Programming and Data Structure course is delivered through traditional teaching approach which is delivering lectures together with a few hours of practical laboratories. From observations, most students appear to have a lack interest and motivation. A survey based on the course learning outcomes which measures the knowledge or/and skills obtained by after completing the course was then conducted. The course learning outcomes are: i) Students are able to apply concepts of object oriented and Data Structure programming; ii) Students are able analyze and solve engineering computing problem using Object-Oriented and Data Structure programming; iii) Students are able to design and develop application using Object-Oriented methodology utilizing Data Structure programming when required.

The survey questions as attached in Appendix 1 were distributed among 14 students who took the subject. Figure 1 shows one of the survey results which indicate that the students did not understand the OOP concept delivered by using the current teaching method. Some of them also have no opinion regarding the subject. They

lacked understanding about the subject. Of importance they could not see or relate to the course with the real-world application.
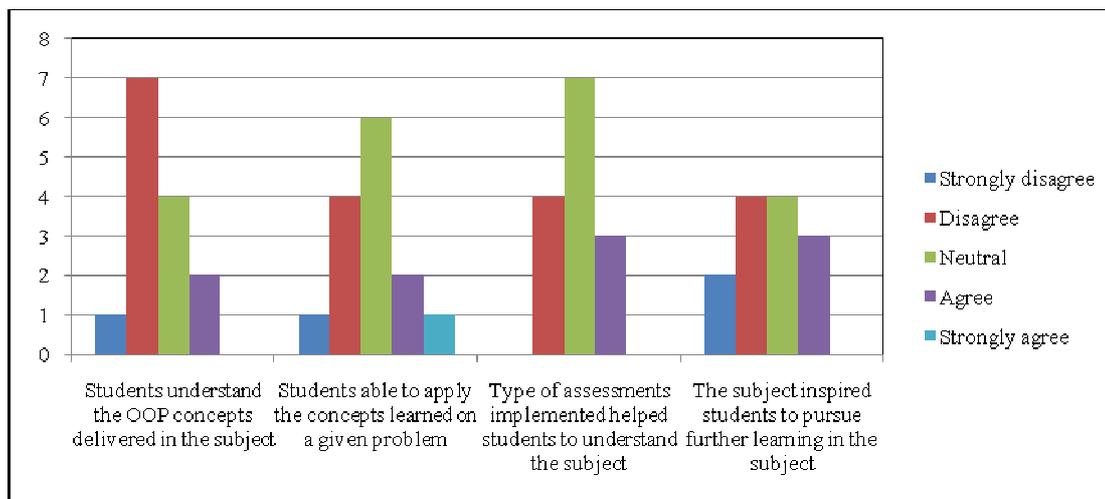
Figure 1: Students' Knowledge, Attitude and Opinion on OOP

On another survey question, 9 (64%) of them said that the mini project had helped them to grasp the concept taught during their lesson. 71% of the students expressed 'yes' to have a physical hardware such as mobile robot, a training kit or a prototype vending machine to help them better understand and appreciate the subject.

Based on the survey it was concluded that the current traditional approach of teaching and learning method had not provided a good understanding and generated interest about the course. The current teaching approach was ineffective because students could not visualize how OOP and Data Structure can be applied in real-world situations.

2. Project-based Learning (PBL)

Project-Based Learning is a teaching strategy for teaching and learning around a project. PBL is driven by questions based on the original/authentic learning activities or problems that are central to the discipline/curriculum. According to McGrath (2002), PBL requires the involvement of communication and presentation skills of both participants and facilitators. Essential elements include skills in time management, research and investigation, self-assessment and reflection, and team and leadership skills (McGrath, 2002; "What is Project-Based Learning?",n.d).

PBL techniques have been used in a wide variety of subject matter. The PBL process is to help students apply what they learn to real life experience and provide all-around enriching education, and goals to work through so that it can produce a final product based on the schedule plan. What is important is that the use of PBL in the classroom can make the students perform well on standardized tests, learning research skills, understanding subject matter in greater depth, and more deeply involved in their work (Chen & McGrath, 2001; Penuel, Korbak, Yarnall, & Pacpaco, 2001).

Research has shown that the PBL techniques can result in - i) a positive effect on student knowledge of content to real-world knowledge content and skills development cooperation (Boaler, 1997; Penuel & Way, 2000; Mioduser & Betzer, 2003; Mergendoller, et al, 2006; ChanLin, 2008); ii) increase in students' motivation and involvement of their learning experience (Belland, et al, 2000; Brush & Saye, 2008; Ravitz & Mergendoller, 2005; Bartscher et al., 1995); iii) increase in students' critical thinking and problem solving skills (Mergendoller et al., 2006; Shepherd, 1998; Tretten & Zachario, 1995).

As highlighted earlier, students prefer to have hands-on project based learning experience in order for them to better understand and appreciate about the course. Given this advantage, the Project-Based Learning (PBL) was selected. It was envisaged that PBL not only delivers positive impact but also exposes students to hands-on

system implementation which also aligned with engineering technology education philosophy. Related studies and methodology in implementing the learning method will be discussed in the next section.

RELATED WORK

Students face severe difficulties in making a good program in OOP. Based on a review of three research papers, found that the methods used by them, was to encourage students' interest towards the course and they will be able to apply for this OO techniques. The first paper (Kristensen, Hansen, & Rischel, 2001) has focused on issues of teaching OOP using Java framework program of systematic design of SML. This approach has led to a significant increase in writing object-oriented programs as well as good documentation of this program than a few years ago.

The second paper (Chen & Cheng, 2007) has focused on using laboratory OOP programming computer games with the support framework. Application framework provides a summary of easy to use and high-level abstraction to the students with a good start without them doing all the work from the beginning. This method shows that the framework for assistance, programming computer games is a good practice for laboratory teaching OOP.

The third paper(Yulia & Adipranata, 2010) have been approached to use cooperative learning methods based on game design for learning OOP concepts and visual object-oriented environment that uses MinumUML program that can generate code based on figures made by the user. It requires team work in order to support a better understanding of OOP concepts through game design modules. As a result, this technique can improve the quality of learning OOP in line with the objectives of the course that have been determined in advance.

Previous studies had shown that many higher institutions were using software based project for the PBL implementation on teaching the computer programming language subject (Chen & Cheng, 2007; Ferreira et al., 2007; Hsu, 2005; Chun-ying Wu, 2010; Chunying Wu & Wang, 2010) (Chun-ying Wu, 2010). The implementation of purely software based project is not suitable for to be implemented for students at UniKL MFI. The course is being offered to the students from Bachelor of Industrial Automation and Robotics Engineering Technology and they are expected to be skilled in HW/SW integration. Therefore, an alternative project will be introduced and training kit had to be developed and is to be used as a tool for the PBL implementation. The detail implementation of PBL at UniKL MFI will be discussed in the subsequent chapter.

PROPOSED PBL IMPLEMENTATION

In UniKL MFI, the course is delivered in three separate sessions which are lectures, tutorial and laboratories. The course duration is 14 weeks. Table 1 summarizes the student face-to-face contact hours throughout the course.

Table 1: Contact hour for OOP and Data Structure course

	Week	Hours per week	Hour per semester
Lecture	14	1	14
Tutorial	14	1.5	21
Laboratories	14	2.5	35
Total contact hour per semester			70

Since the laboratory sessions encompasses 50% of the total course contact hour, during lecture students were introduced to the theoretical aspects of OOP and Data Structure while the PBL will be implemented during lab sessions. Students will apply the theoretical knowledge gained to form their own investigation of a guiding question to solve given project development problem in labs.

1. Development of Vending Machine System

Working on project is the key component of PBL implementation. In outlining the project, there are certain criteria (Railsback, 2002) need to be considered such as:

- Student centred, student directed;
- A definite beginning, middle, and end;
- Content meaningful to students; directly observable in their environment;
- Real-world problems;
- Specific goals related to course content and outcome;
- Opportunity for reflective thinking and student self assessment;
- Authentic assessments.

Based on above criteria, for PBL implementation students are required to develop a Vending Machine System. It is because they already familiar with the operation and references for the system can be obtained easily. The general outlines of system specifications are as shown in Figure 2 and the overall system outlook is shown in Figure 3.

1) The machine will be used by two type of person i.e. the consumer and operator;

2) Consumer is able to: a) See product list and price on display; b) Make selection, Insert money, See the money balance on display;

3) Operator is able to: a) ON the machine; b) Update inventory; c) See report on display.
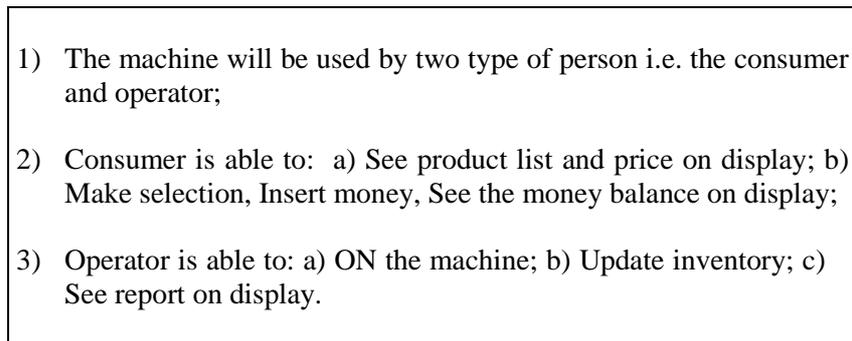
Figure 2: Vending Machine System Specifications
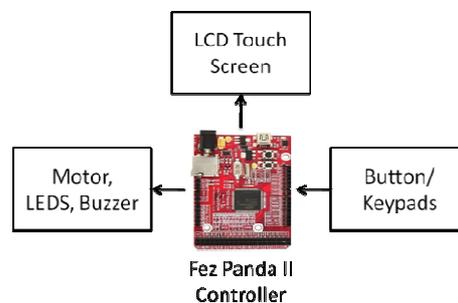
Figure 3: Vending Machine System

The training kit consist of basic components such as buttons, LEDs, LCD display, keypad, buzzer and DC motors. The FEZ Panda II board (Figure 3) is used as the platform to connect the microcontroller on the board with the I/O components. The FEZ Panda II is a small low-cost board running Microsoft .NET Micro Framework. Therefore, working with the board does not necessarily required Microsoft as the operating software (OS) for a computer. This will make the training kit become very useful in which it can be run on any OS. Besides of the basic I/O components, the training kit also contains motor driver L293D and transistors to amplify the output current from the board.

To program and debug the board, the Microsoft's Free Visual C# Express is used. This is the main reason for choosing the FEZ Panda II on the training kit. The software is using the C# language in which the Object-Oriented techniques must be applied during coding. Thus, the students have to learn the concept of OOP and applied it on the software in order to run an application. The application is loaded through USB cable. This will make the training kit capable to work with any personal computer or laptops with USB slot.

2. Course Delivery Plan

Starting from the first lab session, students were guided and directed to apply the knowledge gained from lectures to develop a Vending Machine System. In week fourteen they will demonstrate and present the developed system. Each group is given option to set the overall operation system of the machine and required to use all OOP techniques learned together with one method of Data Structure. Table 2 outlines the course delivery plan.

Table 2**:** Course delivery plan

Week	Topics Covered	Lab Project Theme
1	Introduction to Programming Fundamental • Introduction to C#	Introduction to Vending Machine System
2, 3, 4 & 5	Object-Oriented Programming • Class	Project 1: Implementation of OOP design concept and programming in Vending Machine System
6	Object-Oriented Programming • Inheritance • Polymorphism	Project 2: Apply inheritance and polymorphism concept when programming Vending Machine System
7	Data structure • Link list & recursion	Project 4: Use basic data structure technique in manipulating Vending Machine System data
8	Data structure • Stack & queue	
9	Data structure • Searching & sorting	Project 5: Apply searching, sorting and binary tree in manipulation Vending Machine System data
10	Data structure • Binary tree	
11, 12 & 13	Project discussion: Vending Machine System Development	Project 6: Integrate modules from Project 1 to 6 to develop Vending Machine System
14	Project presentation and demonstration	

Based on the Table 2, students will be introduced to Vending Machine System. They are required to determine the basic algorithm of their vending machine system and list down the I/O involves together with their functions on the machine. Progressing from week to week, the UML diagram will be sketched so that the classes involved and their relationship (inheritance and polymorphism) can clearly be seen, small isolated modules will be developed. Then add-on machine functionality will be added and Data Structure will be applied in structuring the data of the machine (e.g.: product inventory and sells collected for certain period).

When working with the project, the lab demonstrator will act as supervisor in order to make sure that the student's project is running, the system is developed based agreed design specification and applying the relevant OOP and Data Structure technique when writing program.

Even though the scope of the project is the same for all of the students, however, the idea of program flow and the concept of OOP used vary from one project group from the other depending on students' ideas and creativity.

3. Project Assessments

An assessment is a process of information gathering that aims to identify the learning outcomes from the students. The information obtained can be used to assess the quality of PBL method and improvement shall overtake on the weakness of this approach. In the context of the Vending Machine project, assessments that will be conducted are group presentation, demonstration and technical report. These types of assessments are mainly

focusing on the knowledge and skills that the students obtained from the project. The assessments will be divided into three subcategories which are, presentation skills, creativity in maximizing the application of OOP and Data Structure in the project and the level of understand about the integrating the course topics into the project. Meanwhile, a peer assessment may be conducted to assess the students' capability to work in team. All of the assessments data will be analyzed later to measure successfulness of PBL implementation. Besides from that, a survey will be conducted to know students' personal opinion towards the method.

EXPECTED RESULT

PBL teaching approach is planned to be implemented on January 2013 because the hardware and software are still in the development process. It is expected that this PBL is able to increase the students' understanding towards the course and able to apply it the real-world application. Apart from that, this PBL teaching method will help gain other benefits such as increase the motivation towards the subject; encourage students to become problem solver, increase social and communication skills, and allowing students to work with real-world project. All these skills and knowledge is very useful in preparing the students for the real working environment.

CONCLUSIONS

Through studies, it can be found that utilizing the PBL technique for computer programming subject is not a new issue. However, many educators are using project that is purely software based and not suitable for implementation at UniKL MFI. This paper is proposing to utilize PBL using the integration of software and hardware at the same time. The skills and knowledge gained while working with the project will be become a valuable experience for the students. It is because, as the Engineering Technology graduates, the students must equip themselves with the hands-on skills by not neglecting the theoretical aspects. Besides that, this teaching method is capable in promoting students' critical thinking, communication skills and encourages self directed learning. These will become an add-on criteria that prepares students not only for the next learning course but also for the real world working environment.

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APPENDIX

STUDENT QUESTIONNAIRE ON TEACHING & LEARNING EFFECTIVENESS
Industrial Automation Section
Universiti Kuala Lumpur Malaysia France Institute
Subject Code: FSB23103 / FSB23804
Mark X where appropriate.

Questions	1 Strongly disagree	2 Disagree	3 Neutral	4 Agree	5 Strongly agree
i. I understand all the concepts in the subject					
ii. I am able to apply the concepts learned on a given problem					
iii. The type of assessments implemented helped me to understand the subject.					
iv. The subject inspired me to pursue further learning in the subject.					

1. What kind of assessments that help you to understand the concept learned in the course

	Mini Project		Lab Test		Examination		Assignments/Tutorial

2. Will the OOP Programming on physical hardware such as mobile robot, training kit or vending machine helps you to understand and appreciate the subject more?

	YES		NO

FACTORS INFLUENCING LIFELONG LEARNING AT WORKPLACE: THE EXPERIENCE OF THAI AND MALAYSIAN HUMAN RESOURCE MANAGERS

Muhammadhusnee Benjasom[1]
Suhaimi Mhd Sarif[2]
Freelance Researcher
[1]9 M.5 T .Koutoom A. Yarang Ch. Pattani 94160 Thailand
Email: hkate21@gmail.com

[2]Assistant Professor, Faculty of Economics and Management Sciences, International Islamic University Malaysia
Jalan Gombak, 53100 Kuala Lumpur, Malaysia
Email: albanjari@yahoo.com

Abstract

This paper investigates factors that influence lifelong learning experience at workplace of Thai and Malaysian companies. The informants of this study are human resource (HR) managers of Thai and Malaysian companies. The study used personal interview with Thai and Malaysian HR managers. Informants were asked to provide important factors for lifelong learning initiatives and the HR managers' roles for lifelong learning at their respective companies. The results showed key factors for lifelong learning at workplace include (a) business decisions that influenced by global and local events, (b) proper recognition and reward system, and (c) unique capability of managers to influence via managerial roles opportunities within the organizational culture's values. However, the results of the study are not conclusive and cannot be generalized. The study proposes future studies to use case studies method and to include key business stakeholders into the focus group discussion.

INTRODUCTION

In today's world, business sector is working very hard to ensure profitability and sustainability. In the mean time, there are external and internal factors of the business environment that require comprehensive monitoring to explore and exploit for opportunities. The ability to monitor the business environment requires strategists, managers and executives to equip with the latest knowledge, skill, ability and habit. Both the institutions and workers must be willing to participate in lifelong learning exercises. Since everyone knows lifelong learning is essential in the contemporary and dynamic business world, everyone should have unique experience in doing lifelong learning. The understanding of lifelong learning practices by different types and nature of businesses is very significant to accelerate the good practices of lifelong learning. Due to similarity in terms of socio-economic and culture of Thai and Malaysian business settings, the lifelong learning experience at workplace of Thai and Malaysian business contexts is best solicited from the human resource managers. This paper is organized into a few parts. Firstly, it discusses the literature review. Secondly, it provides the methodology part. Thirdly, it presents the feedback of informants in the findings section. Fourthly, it discusses the findings in the discussion part. Finally, the paper provides the limitations and future research direction before a conclusion.

LITERATURE REVIEW

Academics and practitioners paid special attention to the practices of lifelong learning at workplace. There are a few reasons for that, namely (a) requirement of the job market (Cully and Curtain, 2001; Meyers, Billet, and Kelly, 2010), (b) new source of employment (Hancock, 2006; Stenberg and Westerlund, 2008), (c) social and workplace order (Jenkins, Vignoles, Wolf, and Galindo-Rueda, 2003; Feinstein and Hammonda, 2004; Cornford, 2009).

1. Requirement of the job market

The fast changing pace of the economy has resulted many of the traditional jobs are slowly disappearing from the job market. This is also a contribution to the long term unemployment and slow economic growth. Cully and Curtain (2001) contended lifelong learning in the forms of apprenticeships, industrial training and so forth becomes essential. Meyers, Billet, and Kelly (2010) argued that mature workers will participate in lifelong

learning if they see potential personal and institutional benefits. Thus, lifelong learning becomes an essential requirement of the contemporary job market.

2. New source of employment

New requirement for the job market as contended by Cully and Curtain (2001), and Meyers *et.al.* (2010), lifelong learning is also contributed by the need to find for a new source of employment. Hancock (2006) argued that traditional jobs are getting no space in the contemporary business world. New source of employment is essential to buffer the increase of unemployment in the society. Stenberg and Westerlund (2008) argued that the long term unemployment becomes the essential factor to encourage for lifelong learning so that with new knowledge and skill, new employment or entrepreneurial opportunities can be offered to the job market. Hence, the unemployment can be addressed gradually. According to Hancock (2006), the mature workers should be given encouragement in lifelong learning practices to enable them relevant in the current job market so that they will not be phased out from the job market before their retirement age.

3. Social and workplace order

As a result of changes in the new job requirement, lifelong learning occurs in all spectrum of life. Cornford (2009) argued that the current workplace and social life requires workers to be updated with the latest news, lifestyle, and social events. The advancement of technology has accelerated the transfer of information, which has substantial influence on work and social life. However, some practices are not serious in supporting lifelong learning efforts, merely superficial. In the mean time, Jenkins, Vignoles, Wolf and Galindo-Rueda (2003) argued that lifelong learning becomes social and workplace order of the day. Workers are eager to participate as mean in securing individuals' economic outcomes , namely wages and job security. Feinstein and Hammonda (2004) argued that lifelong learning is determined by the ability of adult learning. Active adult learning enhances lifelong learning.

Thus, this study proposes that three main factors contribute to lifelong learning at workplace of business organizations: requirement of the job market, new source of employment and social/workplace order.

Figure 1: Framework of the study

METHODOLOGY

This study used qualitative research method for its data collection due to its aim and nature of the study. The main objective of this paper is to investigate the factors that influence lifelong learning experience at workplace of Thai and Malaysian companies. The informants of this study are human resource (HR) managers of Thai and Malaysian companies. The study used personal interview with Thai and Malaysian HR managers. Informants

were asked to provide important factors for lifelong learning initiatives and the HR managers' roles for lifelong learning at their respective companies.

FINDINGS

The study interview 22 informants, consists of Malaysian and Thai human resource managers. Table 1 summarizes the brief profile of the informants.

Table 1: Profile of informants of the study

Code	Nationality	Gender
A1	Thai	Male
A2	Malaysian	Male
A3	Malaysian	Female
A4	Malaysian	Male
A5	Malaysian	Male
A6	Malaysian	Male
A7	Malaysian	Male
A8	Malaysian	Female
A9	Malaysian	Male
A10	Malaysian	Female
A11	Malaysian	Female
A12	Malaysian	Male
A13	Thai	Male
A14	Malaysian	Female
A15	Malaysian	Female
A16	Malaysian	Female
A17	Malaysian	Male
A18	Malaysian	Female
A19	Thai	Male
A20	Malaysian	Male
A21	Thai	Female
A22	Malaysian	Male

1. Feedback on Question 1

Informants were asked two questions. Firstly, they were asked "what is your opinion about the practice of lifelong learning at your workplace?"

Lifelong learning is not a new concept to some informants. According to A1, lifelong learning "is something related to the workplace when people do things, they wanted to do it better." When A1 being asked to clarify the meaning of "something related to the workplace," A1 referred it as "the routine of core business at workplace." As for A2 as he said: "lifelong learning from my understanding is about keep learning something related to my routines on a continuous basis." The idea of "something related" is referred by A2 as "long term, voluntary and self-motivation." In the same tone, A3 said: "Lifelong learning at my workplace is pretty good as people know about it and they do it voluntarily." In addition, A4 commented: "Lifelong learning is a process that combines the knowledge and experience so that the leaning will not be forgetter for the rest of life."

According to A5 said "Lifelong learning gives benefits to everyone whom has decided to pursue his or her study that can be clearly seen when later they are really embanking the journey with full of knowledge and to live together." In a different tone, A6 said:" lifelong learning to me is about doing something good on long term basis." The same idea replicated by A7 when A7 commented: "to me, lifelong learning is about the application of education. We have to make an alignment with the current situation, so that we can go on our business."

However, A8 said: "Learning is a good thing to do, no matter how old are you. As a Muslim, I strongly hold on to the teachings of Islam, that Islam encourages the Muslim ummah to gain knowledge as much as possible, from cradle to 6 ft underneath of graveyard." Informant A9 was very excited about lifelong learning when he said: "I really enjoy lifelong learning. To me it is very interesting and I like leaning many things in my life. At home, at workplace, and at everywhere. Yes, I really like it. When you learn you will feel something different in your life." In the same pace, Informant A10 argued: "lifelong learning is very essential for our personal growth. As long as we still living, we have to keep acquiring knowledge."

Another meaning of lifelong learning is about continuous learning. Informant A11 said: "lifelong learning is about non-stop learning... how can you give a stop for learning? You can never stop learning as long as you are alive." Informant A12 also echoed the responses of Informant A11 when Informant A12 stated: "the term lifelong learning is about giving pluses to life and learning. But, more importantly, it is about the best you do for your life and others and you tend to protect it because you really loving it." Likewise, Informant A13 has also pointed the importance of learning in one's life when Informant A13 said: "learning is painful, but the fruit of learning is good. When the learning process is prolong, it indicates a long pain too. But, I just believe that it is good because we can increase our knowledge about our personal life, social, workplace, and many more aspects of life out there have not being explored. In Islam too, learning is not a short process, it is really long from the first day we started our life until the end of our life." Informant A14 argued that lifelong learning is beneficial because "it gives benefit to us for now and the future." Informant A15 is also stated that lifelong learning is good for the people because Informant A15 said: "everyone needs knowledge to go on with this life, at individual, at home, at workplace, everywhere, it brings good to us." In addition, lifelong learning is a permanent and life time teacher. Informant A16 said: "lifelong learning teaches us to be more subjective and appreciate life."

The 'life time teacher' notion made by Informant A16 is further explained by Informant A17 when the informant mentioned: "Lifelong learning is very good and important for our life. We need to learn in order to survive. It is just like our best friend forever (BFF)." Informant A18 contemplated: "learning gives better understanding about life and how to deal with so many challenges in life. When we have better understanding about our own life, we can make good decisions."

Informant A19 cautioned lifelong learning to be practical and realistic. Informant A19 said: "In learning process, not all learners have the same speed and capability to absorb learning. Sometimes they could find the learning process as dull and boring exercise." No doubt, learning is always good and beneficial. According to Informant A20: "lifelong learning is very important of to improve oneself." As for Informant A21, lifelong learning is relevant to all aspects of life.

Informant A21 said: "lifelong learning is one of the concepts of Islam; Leaning is something necessary over all Muslim throughout their lives." In this regard, Informant A22 argued that lifelong learning is a built in concept. Informant A22 stated: "lifelong learning is a self motivation concept that close to our heart. When we learn we will improve our ability faster."

2. Feedback on Question 2

Secondly, all informants were asked their views regarding the practices of lifelong learning at their respective organizations. According to Informant A1, lifelong learning can be encouraged when the process emphasized on sharing of experience through formal and informal channels. The explanation for Informant A1's is elaborated by Informant A2 when the informant argued that lifelong learning at workplace can take place in various situations at workplace as well individuals' life.

However, Informant A3 suggested that some systematic process and training to allow the lifelong learning process contributes significantly to individual and organizations. When learning is done systematically, Informant A4 contended that that process will make employees are updated with the recent knowledge and skills. The same agreement made by Informants A5, A6, A7 and A8 when they attributed the practices of lifelong learning at their workplaces are "beneficial," "excellent," "universally acceptable," and "commendable" for every workers and others. Specifically Informant A8 said: " lifelong in my organization will give a very

good impact on their productivity of their work and giving them more information on what they should do in any circumstance occurred."

The same responses given by Informants A9, A10, A11, A12, A13, and A14. For Informant A15, lifelong learning is good when it gives "improvement and stability of the organization." Informant A16 concurred with the idea of "improvement" on the surface, but not really in practice. Informant A16 said: "in practice, there are various processes and workers from different skills and qualifications."

In other context, Informant A17 said: "lifelong learning practice at my organization does continue process in teaching and learning of new skill, knowledge and so forth." Other informants are also echoed to the same manner on how organizations practice lifelong learning.

DISCUSSION

The informants of the study were asked two questions pertaining to the concept and practices of lifelong learning at workplace. From the feedback, there are many ways the concept and practices of lifelong learning defined by the informants.

Based on the feedback by 22 informants, the key concept of lifelong learning at workplace is related to workplace, individual workers, knowledge acquisition, experience sharing, pluses for personal growth, and fruitful exercise. In terms of nationality, feedback from Thai informants tends to define lifelong learning on 'transactional' aspect of workplace in terms of "routines," "process," "practicality," and "thoughtful."

From this observation, the understanding about lifelong learning at workplace is highly influenced by the routines, work processes, procedures and values. In slightly different, Malaysian managers tend to focus on individual and personal gain in lifelong learning, which is more on "transformational" aspects of workplace. Table 2 summarizes the key concept of lifelong learning at their respective organizations.

Table 2: Summary of key concept of lifelong learning defined by the informants of the study

Code	Nationality	Key concept of lifelong learning
A1	Thai	Routine of workplace
A2	Malaysian	Voluntary and self motivation
A3	Malaysian	Good to know
A4	Malaysian	Combines knowledge and experience
A5	Malaysian	Journey of knowledge
A6	Malaysian	Doing something on long term basis
A7	Malaysian	Application of education
A8	Malaysian	No age boundary for learning
A9	Malaysian	An interesting and excitement process
A10	Malaysian	Essential for personal growth
A11	Malaysian	Non-stop learning
A12	Malaysian	Pluses to life and learning
A13	Thai	Painful process but fruitful outcomes
A14	Malaysian	Benefits for now and future
A15	Malaysian	Good for people
A16	Malaysian	Teacher of life
A17	Malaysian	Companion of life
A18	Malaysian	Better understanding about life
A19	Thai	Practical and realistic
A20	Malaysian	Self improvement process
A21	Thai	Thoughtful and spiritual
A22	Malaysian	Self-motivation

In terms of the what are the factors contribute to lifelong learning at workplace, Thai managers emphasized on transactional approach in terms of "routines," "defined processes," "formal sharing," and "guided process." However, Malaysian managers empowered the workers on the best and suitable way to participate in lifelong learning. Most of the practices are in terms of "individual" and "sharing with others."

This method tends to use transformational approach. Table 3 summarizes the key practices of lifelong learning by human resource managers from Thailand and Malaysia.

Table 3: Summary of key practices of lifelong learning defined by the informants of the study

Code	Nationality	Key practices of lifelong learning
A1	Thai	routine
A2	Malaysian	Individual motivation
A3	Malaysian	Individual curiosity
A4	Malaysian	Individual interest
A5	Malaysian	Individual experience
A6	Malaysian	For personal gain
A7	Malaysian	Individual gain
A8	Malaysian	Personalized process
A9	Malaysian	Individual excitement process
A10	Malaysian	Individual personal growth
A11	Malaysian	Individual plus others learning
A12	Malaysian	Sharing with others
A13	Thai	Go through processes
A14	Malaysian	Individual benefit
A15	Malaysian	Personal gain
A16	Malaysian	Legacy for others
A17	Malaysian	Individual and others share knowledge
A18	Malaysian	Knowledge transfer and sharing
A19	Thai	Work experience sharing
A20	Malaysian	Individual improvement process
A21	Thai	Thoughtful and spiritual
A22	Malaysian	Self-motivation

Based on the views of HR managers in Thailand and Malaysia, lifelong learning concept and practice has been subscribed a long time ago, but has been actively practiced in recent years. Most Asian countries subscribed lifelong learning is to follow the global trends so that they will in line with the rest of the world (Han, 2001; Kuman, 2004; Han, 2007). However, lifelong learning should be practical and realistic (Kumar, 2004). The main reason for companies used lifelong learning is to ensure a sustainable profitability and global competitiveness. As for public policy makers, the only reason is to ensure sustainable prosperity and full employment. Therefore, the novelty of lifelong learning is an essential agenda for everyone. Han (2007) argued that Asian's motivation for lifelong learning to address economic problem, to meet global standard, and to be competitive at par with other developed countries.

LIMITATIONS OF THE STUDY AND FUTURE DIRECTION

The main limitations of the study is the unequal size of informants participated in this study. Out of 22 informants, there are four (4) informants among Thai human resource managers. Majority of the informants are Malaysian human resource managers. Thus, the results of the study cannot be generalized. The future study should try to obtain equal number of informants to represent two different countries or contexts.

CONCLUSION

This paper managed to solicit the views of HR managers of Thai and Malaysian companies pertaining to the factors that influence lifelong learning experience at workplace of Thai and Malaysian companies. Both business contexts welcomed lifelong learning practice at workplace because it beneficial to individual workers and companies. However, the approach to practice lifelong learning is differed due to socio-economic situations. While Thai companies prefer 'transactional' approach in encouraging lifelong learning at workplace, Malaysian companies tend to use 'transformational' approach. This situation is also contributed by (a) business decisions that influenced by global and local events, (b) proper recognition and reward system, and (c) unique capability of managers to influence via managerial roles opportunities within the organizational culture's values. However, the results of the study are not conclusive and cannot be generalized. The study proposes future studies to use case studies method and to include key business stakeholders into the focus group discussion.

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A REVIEW OF FACTORS ASSOCIATED TO ADJUSTMENT OF INSTRUCTORS IN HIGHER EDUCATION INSTITUTIONS IN SOUTHERN BOARDER PROVINCES OF THAILAND[1]

Karuna Daengsuwan[2]
Saritpong Limpisathira[3]
Choochat Phuangsomjit[24]
[1]This article is part of the Ph.D study in the field of Educational Administration, Faculty of Education, Sukhothai Thammathirat University, under the topic of Adjustment among Instructors in Higher Education Institute in Southern Border Provinces of Thailand
[2]Candidate doctor, Educational Administration, e-mail : Karuna_40@hotmail.com
[3]Associate Professor Faculty of Education, e-mail : Saritpong.Lim@stou.ac.th
[4]Assistant Professor Faculty of Education, e-mail : Choochat.Phu@stou.ac.th
Faculty of Education, Sukhothai Thammathirat University, Nontaburi Thailand

Abstract

Instructors in higher education institutions in southern border provinces of Thailand have been affected by the unrest situation which has seriously occurred since the early of 2004 and continued to the present time. The adjustment in working by instructors, in order to correspond to the local context, is crucial one. The aim of this study was to compile the empirical evidence from research, together with a primary conclusion concerning factors related to adjustment of instructors in higher education institutions in southern border provinces of Thailand. By searching and screening a number of studies within the scope and specified qualification, sixteen studies were found for the review. Then, the data was analyzed using descriptive statistics and a narrative summary. The study has concluded primary factors related to adjustment of instructors in higher education institutions in southern border provinces of Thailand. The findings showed that twelve factors which were compared to adjustment, showed a statistically significantly mean different; eight factors were related to adjustment; and eleven factors were found as factors affected the adjustment. This information will be employed as a confirmation for a further step of the research.

Keywords : factors associated to adjustment, instructors, higher education Institutions, southern border provinces of Thailand

INTRODUCTION

The region of southern border province is full of abundance and fascinating with a diverse culture and a unique identity which is different from other regions in Thailand. The splendour of living together within diversity has been told by original people as a beautiful remembrance. Although the unrest has been continuing in this region for long time, it is still in the frame that the government can control and handle for the spreading of harm to the national security. Nevertheless, this endless continual problem brings about the separation of opinions and beliefs which has expanded to be a severe and complicated problem. In addition, there was a group of people who had a bad-intention and intent to create a new violence through rebellion at Camp Krommaluang Naradhiwas Rajanagarindra in Narathiwas province in the early of 2004. Besides, various violent situations have also been continuing since the present time.

The higher education institution in this region is responsioble for the development of the local and the country through system and higher education's mechanism. The unrest has affected to the implementation of this mission which, in fact, the instructor is the major mechanism to achieve the higher education institution's obligation (Bandit Thiphakorn, 2008: 24). Besides, a reformation of higher education must be adapted by starting from higher education institutions. For this, the wisdom and spirit of each instructor is a crucial one (Charat Suwanwela, 1997: 43). Therefore, the instructors had to be awakened and sensitive to the surroundimg situations when in time of the country face with the crisis and use their wisdom in adjusting and aim to work according to the duities to conform to the situation within the local communities – without making the higher education is out of the social system, being ignoring, and not being involved in solving the social problems (Prawase Wasi, 2010: 5). Indeed, the ability to adjust is possitvely correlated to the ability to confront and overcome the obstacles (Sasitorn Sangsai, 2007: 96). Thus, the adjustment of instructors on problems and obstacles in the local situation is utmost important to the achievement according to the higher education's obligation. This can facilitate the education in order to correspond to the government's expectation. In fact, education is one of a key mechanisms to solve the problem and promote sustainable peaceful in this region. Besides, it also makes the higher education institution to be able to fulfill the social expectation with the hope

that the higher education institution could lead the society to struggle through the obstacles and has a peacefulness altogether.

According to the importance of the adjustment of instructors in higher education institutions in southern border provinces, it is therefore necessary to rely on a literature review from several researches, in order to gather and obtain primary conclusion for factors associated to adjustment of instructors in higher education institutions in southern border provinces. This study selected appropriate factors which were supported to the empirical evidence and will be studied at the next step of conducting research.

OBJECTIVES

This study was based on the review of literature and aimed to gather the empirical evidence from research concerning factors associated to individual adjustment, in order to have a primary conclusion on the factors associated to adjustment of instructors in higher education institutions in southern border provinces. These factors were descrined as follow:
>1. factors which were compared to adjustment and showed a statistically significantly mean different
>2. factors relating to adjustment
>3. factors affecting on adjustment

RESEARCH SCOPE

This study was a review of literature from research concerning factors associated with an individual adjustment. These factors consisted of factors which were compared to adjustment and showed different means, factors relating to adjustment, and factors influencing adjustment. The aim was to gather data for a primary conclusion on the factors associated with instructors' adjustment in higher education institutions in southern border provinces of Thailand. The reviewed researches were those concerning the individual adjustment including 1) the individual adjustment on careers which were similar to instructors in higher education institutions, 2) the adjustment of individuals working in the region of southern border provinces, and 3) the adjustment of individuals who were under stress. These researches were conducted both in Thailand and overseas from research reports, thesis, dissertation, and research articles which were published during year 2001 – 2010.

RESEARCH METHODOLOGY

This study was a literature review from research which studied on factors associated with an individual about factors which were compared to adjustment and showed a difference in mean; factors related to adjustment; and factors affecting on adjustment among teachers in the higher education institutions in the southern border provinces of Thailand. The main research methodology which was employed in this study was dexcribed as follow:
Population and sampling
To obtain a primary conclusion on factors which were compared to adjustment and showed a different mean, factors relating to adjustment, and factors affecting on adjustment among instructors in higher education institutions in southern border provinces of Thailand, the researchers gathered the data from research reports, thesis, dissertations and research articles concerning the instructor's adjustment. The population was derived from a sampling method by selecting a sample group and the research's qualification was specified as below:
>1) The study employed a sample group under the following qualification,
>>a. a sample who had similar works to instructors in higher education institutions by working at least three out of these four areas: instructional management, research, academic services, and the preservation of arts and culture.
>>b. a sample who worked in the region of southern border province of Thailand since year 2004 up to present.
>>c. a sample who were under stress
>2) the study employed the research that were conducted in Thailand and overseas which were reported during year 2001 – 2010.
>>The detail of the research on individuals who had similar careers to the four areas of working performance of instructors in higher education institution was described in Table 1.

Table 1: the individual working characteristics compared to the consistency with the job performance in the four areas of teachers in higher education institution

Individual adjustment from a review of research	Working characteristics according to four working areas of instructors in higher education innstitutio			
	Instructional management	Research	Academic research	Preservation of arts and culture
nurses (Visanu Imsamran, 2006; Monrudee Chuangcham, 2007; Walaiporn Chawawattanapong, 2005)	✓	✓	✓	✓
Government Officers in Transferring Local Administration (Saisamorn Chunjai, 2004)	✓	+/-	✓	✓
international teaching assistants (Elif, 2009)	✓	✓	✓	✓
international instructors (Cheng-Ji, 2006)	✓	✓	✓	✓
Foreign Lecturers in Thai Universities (Thanit Kongkaew, 2001)	✓	✓	✓	✓
Teachers)Boonleang Thumthong, 2001; Sawalee Sinlapun, 2003; Sarapee Bumrungvong, 2006; Pornpen Pollasen, 2006; Manatsawee Watcharawisit, 2007)	✓	✓	✓	✓
Accounting and Financial Officer (Paweena Sintupan, (2003	✓	✓	+/-	✓
Supervisor)Panaya Thonglaung, 2001(	✓	✓	✓	+/-

✓   means working performance which were similar to instructors in higher education institutions
+/- means possible or impossible working performance that were similar to instructors in higher education institutions

With respect to a review of literature, the researchers found 16 research which had similar qualification and met the criteria of sampling.

Research Instruments

Three types of instruments were employed in this study including:

1) Research screening form which was created based on the criteria of the sample's qualification.

2) Data entry form which was used for recording data of the samples. It consisted of two parts as described as follow:

Part 1: General information of research including researchers, published sources, year of publish, research methodology and samples.

Part 2: A conclusion of research findings concerning with factors affecting on adjustment and factors relating to adjustement

Data collection

Data was collected by using computer in searching. The data was data and screened in order to obtain the research which met the qualification of the sample. Then, the researchers gathered the research which met the specified criterion and read it again thoroughly inorder to classify factors for compariing to adjustment and found the difference in mean, factors related to adjustment, and factors affecting on adjustment. Finally, the data was recorded in the research finding's conclusion form.

Data analysis

1) General data was analyzed by using descriptive statistics.

2) The data from the conclusion part and the classification of factors: factors that were compared to adjustment and showed the difference in mean, factors related to adjustment, and factors affecting on adjustment, were analyzed by using a narrative summary.

RESULTS AND DISCUSSIONS

This study was a review to obtain a primary conclusion on factors which were compared to adjustment and showed a statistically significantly mean different, factors relating to adjustment, and factors affecting on the adjustment among instructors in higher education institutions in southern border provinces of Thailand, from selected sixteen research. The presentation of the finding was divided into three parts: general information of the study, the findings of the review of the research concerning factors associated to adjustment, and information concerning a primary conclusion on factors associated to adjustment of instructors in higher education institution in southern border province.

Part 1: General information of the study

The study employed sixteen research which most of them were conducted in Thailand and were master degree's thesis (87.50% and 75.0%). These research were published in ten years back during the year 2001

– 2010 which most studies (25%) were in year 2006. In addition, half of reviewed research was the studies on the adjustment among the population of teachers-instructors and teaching assistants. The other research were the studies of adjustment in the group of population who had similar jobs to teachers-instructors (37.50%). Besides, the researchers also selected one research on the adaptation of police officers performing duites in the southern border region after breaking out the unrest situation in 2004, together with another one research on the individual adaptation under stress (6.25%), in order to conform to the aim of the study as to obtain a primary conclusion on factors relating to adjustment of instructors in higher education institutions in southern border provinces.

Part 2: findings from the review of research concerning factors association to adjustment

2.1 The findings from the literature review on factors which were compared to the adjustment and showed a statistically significantly mean different, indicated that there were eight research which studied on the comparison of factors and found the different in mean, and eighteen factors were found when compared to adjustment. The detail of this finding was shown in Table 2 as below:

Table 2: factors which were compared to adjustment and showed a statistically significantly mean different, classified by population

Factors comparing to the adjustment and showed a statistically significantly mean different		international teaching assistants (Elif, 2009)	Phychiatric nurses (Visanu Imsamran, 2006)	Professional Nurse (Monrudee Chuangcham, 2007)	Teacher (Sawalee Sinlapun, 2003)	Teacher (Pornpen Pollasen, 2006)	Police Officers Performing Duties in the Southern Border (Saranyathon Kongsiworakunchai, 2008).	Government Officers in Transferring Local Administration Saisamorn Chunjai, 2004)	Supervisor (Panaya Thonglaung, 2001)
Personal factors	Gender							✓	
	Age		✓	✓			✓		
	Marital status			✓			✓		
	Income			✓			✓		
	Level of education		✓						✓
	Attitudes towards adjustment				✓			✓	
	Personality							✓	✓
	Working experiences		✓	✓	✓				
	Period of working						✓		
	Position		✓	✓					
	Devision of working			✓					
Factors related to Family	Support from the family		✓						
Factors related to work	Environment in Working							✓	
	Understanding of the duty						✓		
	Responsibilities							✓	
	Relationship with colleagues							✓	
	Relationship with supervisors							✓	
	Promotion / Advancement	✓							

The data in Table 2 indicated factors which were compared to the adjustment and showed the statistically significantly mean different. The findings included eleven number of personal factors including Gender (Saisamorn Chunjai, 2004), age (Visanu Imsamran, 2006; Saranyathon Kongsiworakunchai, 2008; Monrudee Chuangcham, 2007), marital status (Saranyathon Kongsiworakunchai, 2008; Monrudee Chuangcham, 2007), income (Saranyathon Kongsiworakunchai, 2008; Monrudee Chuangcham, 2007), level of education (Visanu Imsamran, 2006; Panaya Thonglaung, 2001(, attitudes toward adjustment (Sawalee Sinlapun, 2003; Saisamorn Chunjai, 2004), personality (Saisamorn Chunjai, 2004; Panaya Thonglaung, 2001 (working experience (Visanu Imsamran, 2006; Monrudee Chuangcham, 2007; Sawalee Sinlapun, 2003), period of working (Saranyathon Kongsiworakunchai, 2008) working position (Visanu Imsamran, 2006; Monrudee Chuangcham, 2007), and working dividion (Monrudee Chuangcham, 2007).Moreover, only one factor was found under the factor related to family, that is, a support from the family (Visanu Imsamran, 2006). Six factors were found under the factor related to work including working environment (Saisamorn Chunjai, 2004),

understanding of the duties (Saranyathon Kongsiworakunchai, 2008), responsibilities, relationship with colleagues, relationship with supervisors (Saisamorn Chunjai, 2004), and promotion/advancement (Elif, 2009).

2.2 Information from a review on research concerning factors relating to adjustment

According to the literature review, nine research were found from the research relating to adjustment and twenty-three factors were related to the adjustment. The detail of this finding was shown in Table 3 as below:

Table 3: Factors related to adjustment, classified by population

Factors related to adjustment		international instructors (Cheng-Ji, 2006)	Professional Nurse (Monrudee Chuangcham, 2007)	Teacher (Sawalee Sinlapun, 2003)	Teachers (Boonleang Thumthong, 2001)	Accounting and Financial Officer (Paweena Sintupan, 2003)	Professional Policing Nurses (Walaipom Chawawattanapong, 2005)	Foreign Lecturers in Thai Universities (Thanit Kongkaew, 2001)	Teacher (Sarapee Bumrungvong, 2006)	Teacher (Manatsawee Watcharawisit, 2007)
Personal factors	Gender	✓								
	Age						✓			✓
	Marital status						✓		✓	
	Income						✓			
	Economic status									✓
	Working experience			✓						
	personality						✓		✓	✓
	Self-concept						✓			
	Mental health									✓
	Working position			✓						
	Future endeavour									✓
	Attitudes				✓					
	Motivation				✓	✓				
	Professional faith									✓
	Perception of adjustment						✓			
	Perception of organization climate		✓							
	Duration of staying in Thailand							✓		
	Behavioral capability and the ability to communicate under Thai culture							✓		
Factor related to family	Relationship with family member								✓	✓
Factors related to work	Physical Features in the workplace.								✓	✓
	Size of organization				✓					
	Relationship with colleges									✓
Environmental factors	Radio media							✓		

The data shown in Table 3 presented factors relating to adjustment which were classified into eighteen personal factors. These factors included gender (Manatsawee Watcharawisit, 2007), age (Walaipor Chawawattanapong, 2005; (Manatsawee Watcharawisit, 2007), marital status (Walaipor Chawawattanapong, 2005; Sarapee Bumrungvong, 2006), income (Walaipor Chawawattanapong, 2005(, economic atatus (Manatsawee Watcharawisit, 2007), working experience (Sawalee Sinlapun, 2003), personality (Walaipor Chawawattanapong, 2005; Manatsawee Watcharawisit, 2007; Sarapee Bumrungvong, 2006), self-concept (Walaipor Chawawattanapong, 2005(, mental health (Manatsawee Watcharawisit, 2007), working position (Sawalee Sinlapun, 2003), future endeavour (Manatsawee Watcharawisit, 2007), attitudes)Boonleang Thumthong, 2001), motivation)Boonleang Thumthong, 2001; Paweena Sintupan, (2003professional faith (Manatsawee Watcharawisit, 2007), perception of the adjustment (Walaipor Chawawattanapong, 2005(, perception of organization's climate (Monrudee Chuangcham, 2007), length of staying in Thailand, behavioral capability and the ability to communicate under Thai culture (Thanit Kongkaew, 2001). Moreover, one factor was found under the factor related to family, that is, the relationship with family member (Manatsawee Watcharawisit, 2007; Sarapee Bumrungvong, 2006). Three factors were found as factors related to work including physical features in the workplace (Manatsawee Watcharawisit, 2007; Sarapee Bumrungvong, 2006), relationship with colleagues (Manatsawee Watcharawisit,

2007), and size of organization) Boonleang Thumthong, 2001). Finally, only one environmental factor was found which was the radio media (Thanit Kongkaew, 2001).

   2.3 A review on research concerning factors affecting on adjustment

    According to the review of research, there were four research concerning factors affecting on adjustment, and eleven factors were found as factors affecting on adjustment. The detail was described in Table 4 as follow:

Table 4: Factors affecting on adjustment, classified by population

Factors affecting on adjustment		Professional Nurse (Monrudee Chuangcham, 2007)	Professional Policing Nurses (Walaiporn Chawawattanapong, 2005)	Teacher (Sarapee Bumrungvong, 2006	Teacher (Manatsawee Watcharawisit, 2007)
Personal factors	Personality			✓	
	Mental health				✓
	Self-concept		✓		
	Professional faith				✓
	Future endeavour				✓
	Perception of adjustment		✓		
	Perception of organization's climate	✓			
Factor related to family	Relationship with family member			✓	
Factors related to work	Relationship with students				✓
	Relationship with collegues		✓		✓
	Physical features in the workplace			✓	

    With respect to the data in Table 4, factors affecting on the adjustment were classified into seven personal factors including personality (Sarapee Bumrungvong, 2006), self-concept (Walaipor Chawawattanapong, 2005(, mental health, professional faith and future endeavour (Manatsawee Watcharawisit, 2007), perception about that adjustment (Walaipor Chawawattanapong, 2005(, and perception of organization's climate (Monrudee Chuangcham, 2007). Furthermore, Only one factor was found under the factor related to family which was the relationship with family member (Sarapee Bumrungvong, 2006). Three factors related to work were found including the relationship with students (Manatsawee Watcharawisit, 2007) the relationship with colleagues (Walaipor Chawawattanapong, 2005; (Manatsawee Watcharawisit, 2007) and the physical features in the workplace (Sarapee Bumrungvong, 2006).

   Part 3: Information concerning a primary conclusion on factors associated to adjustment of instructors in higher education institution in southern border province

    To obtain a primary conclusion on factors relating to adjustment of instructors in higher education institutions in southern border provinces, the researchers selected all factors affecting on adjustment because this study employed the statistical methods which clearly indicated the influence of independent variables on the dependent variables. For those factors that were compared to adjustment and found the difference in mean and factors relating to adjustment, the researchers selected the factors that were supported by at least two research. However, the further step of the study on the adjustment of instructors in higher education institutions in southern border provinces will aim at corrsesponding to the changes of the local violence which impacts and threaten the achievement of the the instructors' working performance. Therefore, the researchers selected the factors associated with the interaction of individuals to the environment even though this factor was supported by only one research finding.

    A primary conclusion on factors concerning the adjustment of instructors in higher education institution in southern border province was shown in Picture 1 as follow:

Physical features in workplace

Relationship with students

Relationship with colleagues

Relationship with family member

Self-concept

Mental health

Personality

Future endeavour

Professional faith

Perception on organization's climate

Perception on the adjustment

Factors related to work

Factors related to family

Personal factors

A primary conclusion on factors affecting on adjustment of the instructors in the higher education institution in southern border province

A primary conclusion on factors related to adjustment of the instructors in the higher education institution in southern border provinces

A primary conclusion on factors association to the adjustment of the instructors in the higher education institution in southern border provinces

A primary conclusion on factors which were compared to the adjustment and showed the statistically significantly mean different of the instructors in the higher education institution in southern border provinces

Factors related to family

Personal factors

Personal factors

Factors related to work

Relationship with family member

Age

Marital status

Motivation

Personality

Length of staying in Thailand

Behavioral capability and the ability to communicate under Thai culture

Working experience

Attitudes toward adjustment

Personality

Working position

Age

Level of education

Income

Marital status

Environment in working

Perception on duties

Relationship with colleagues

Relationship with supervisors

Factors related to work

Physical features in workplace

Picture 1: A primary conclusion on factors association to the adjustment of the instructors in the higher education institutions in southern border province

Conclusions CONCLUSION

This study was a review of literature from the research concerning the individual adjustment including the factors which compared to adjustment and showed a statistically significantly mean different, the factors relating to adjustment, and the factors affecting on the adjustment. The reviewed research were the studies concerning with individuals who had similar careers to the instructors in higher education institutions, or individuals who worked in the southern border region, or individuals who were under stress. The aim was to gather and obtain a primary conclusion on factors concerning adjustment of instructors in higher education institutions in southern border provinces of Thailand. The findings were summarized as follow:

1. Findings from the literature review showed that there were sixteen research which had the qualification that met the criterion and were used in this study.

2. Findings from the review of research concerning with factors associating with adjustment was presented as follows:

2.1 The research on the comparison of adjustment which showed a statistically significantly mean different were found in eight research. It was also found that there were eighteen factors had a different mean when compared to the adjustment. These factors were divided into eleven personal factors: gender, age, marital status, income, level of education, attitudes toward adjustment, personality, working experience, period of working, working position, and division of work. There was only one factor related to family which was a support from the family while six factors were found under the factor related to work including the environment in working, the understanding of the duties, responsibilities, relationship with colleagues, relationship with supervisors, and promotion/advancement.

2.2 The research relating to adjustment were found in nine research and twenty-three factors were found as factors relating to adjustment. This can be classified into eighteen personal factors: gender, age, marital status, income, economic satatus, working experience, personality, self-concept, mental health, position, future endeavour, attitudes, motivation professional faith, perception of the adjustment, perception of organization's climate, duration of staying in Thailand, behavioral capability and the ability to communicate under Thai culture. Besides, only one factor was found in the factor related to family, that is, the relationship with family member. Three factors were found among factors related to work: physical features in the workplace, relationship with colleagues, and size of organization. Meanwhile, only one environmental factor was found which was the radio media.

2.3 The research concerning factors affecting on adjustment were found in four research, together with eleven factors affecting on the adjustments. These factors were divided into seven personal factors: personality,

self-concept, mental health, professional faith, future endeavour, perception about that adjustment, and perception of organization's climate. One factor was found in the factor related to family which was the relationship with family member. Three factors were found within the factors related to work including the relationship with students, the relationship with colleagues, and the physical features in the workplace.

      3. The findings from a primary conclusion concerning with factors associated to adjustment of the instructors in higher education institution in southern border provinces was dwscribed in the following:

      3.1 The factors that were compared to the adjustment and showed the difference in mean among instructors in higher education institution in southern border province can be summarized into twelve factors. These included eight personal factors: age, marital status, income, level of education, working experience, working position, attitudes towards the adjustment, and personality; and four factors related to work: the environment in the workplace, perception on the duties, relationship with colleagues, and relationship with supervisors.

      3.2 The factors relating to the adjustment of instructors in higher education institution in southern border provinces were primarily summarized into eight factors. There were six from personal factors: age, marital status, personality, motivation, length of staying in Thailand, behavioral capability and the ability to communicate under Thai culture; one from factor related to family which was the relationship with family member; and another one from factor related to work which was the physical feature in the workplace.

      3.3 The factors affecting on the adjustment of instructors in higher education institution in southern border provinces can be primarily summarized into eleven factors: seven of them were from personal factors (personality, mental health, self-concept, professional faith, future endeavour, perception on the adjustment, and perception about the organization's climate; one from the factor related to family (relationsjip with family member); and three from the factors related to work (relationship with students, relationship with collegues, and physical feature in the workplace).

SUGGESTIONS

This review of literature from research aimed to gather the empirical knowledge which associated to the individual adjustment. This study also provided a primary conclusion on factors which were compare to adjustment and showed a statistically significantly mean different, factors relating to adjustment, factors affecting on adjustment among the instructors in higher education institution in southern border provinces. However, all factors which were summarized in the study were only primary factors which were selected through a systematic review of research in order to use as a confirmation for conducting the research at the next step.

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SCHOOL PRINCIPLE'S EDUCATION MANAGEMENT TRANSFORMATION

Jazmi Md Isa[1]
Mohd Nor Jaafar[1]
Azizi Abu Bakar[1]
[1]Universiti Utara Malaysia, Sintok Kedah Malaysia

Abstract
Education is one of the most important aspects in human life. With the help of education a person would be able to achieve a higher standard in life. Education includes informal education that starts from home until a more formal education which begins in school before heading to university level. In accordance with that, the leadership of school administrators is perceived as a vital stage in designing a student's life. It is perceived essential to stress on education management style in order to produce human capital that will become successful in life.

Keyword : Business Management

National education is going through transformation towards producing quality education of international standard. Quality education must be accessed by all to develop human capitals that produce workforce with higher income. Studies have found that school principals have significant effect on student's achievement. The Principals' role in attaining transformation in education is critical (Abd Ghafar, 2010). Today the job of a school principle has became a very challenging profession. As a leader appointed formally by the school organization, principals should play the role as head and manager of the school. This means that a principals' role not only ensure continuity of the present structure and system but also have the capability to influence the subordinate to change so that the organization will be more receptive and work together in handling current changes in the education system. Based on the report entitled *A Nation at Risk,1983, Action For Excellence, 1983, Better Education for Michigan Citizen: A Blue Print For Action, 1984* in United States and also several studies (Edmonds, 1979; Hussain Mahmud, 1993) it was found that the leadership of principals was a prime mover for the success of a school.

In line with the desire to achieve world-standard education in our country, the education field must progress rapidly. The economy of the borderless world is in need of knowledgeable and disciplined employees who also possess a high degree of commitment (Abdullah Ahmad Badawi, 2004). Fiedler (1967) stated that the relationship between a leader and employees is essential in the effort to have control over the situation to accomplish goals and attain organization objectives. This relationship would also determine the level of loyalty towards the leader, the dependence and support from employees under him. Furthermore Fiedler (1967) added that if leader has already attained support, the leader no longer needs position power or structure task to obtain obedience because employees already have high willingness to receive orders.

Among the leadership styles that is most suitable to be practiced by school principals today is the transformational leadership. The advantage of transformation leadership is that it attempts to heighten employees self-effectiveness towards achieving better productivity (Bass and Avolio, 1990). This relationship has been confirmed in studies by Hipp (1996), Hipp and Bredeson (1990) as well as Reames and Spencer (1998). Transformational leadership is perhaps one of the leadership theories that has the capability to describe the principals' leadership characteristics in the future because this type of leadership has its own distinctiveness such as charisma, considerate, ability to stimulate intellect and capable of inspiring others (Zawawi, 1999). Transformational leadership has the capacity to stimulate other people to become confident in their own ability and potential. Bass (1990) stated that transformational leadership is - *occurs when leader broaden and elevate the interests of their employees, when they stir their employees to look beyond their own self-interest for the good of the group.*

He described transformational leadership having the capability to perform and raise employees awareness towards realizing organizations' interest besides helping them explore and reach their own personal interest. Burns (1978) in his observation on leadership drew an interesting conclusion by stating that school principles are an example of transformation leadership because most are adept in bringing improved changes to teachers and pupils. A success of a school is closely correlated with the principles' leadership style (Shukor, 1995).

Several studies have found that the style or leadership behavior practiced by the principal has an immense influence on a teachers job satisfaction (Sweeney, 1982; Patrick, 1995; Hipp, 1996; Lunenberg & Ornstein, 2000). Studies have also found that the school principles' good relationship with the teacher stimulates good teamwork and the teachers are better willing to help achieve organizational goals (Owens 1995; Hoy & Miskel 1996; Lunenberg & Ornstein, 2000).

The education reformation process has made leadership at school level increasingly complex. This coincides with Kamaruddin (1989) who stated that administrator at school level not only play the role as education administrator but also as community leader. Thus, leadership of school today has become an extremely challenging profession. As a person being formally appointed by the school's organization, a principal should be able to play the role as leader and manager of the school. In other words, the principal's role does not only ensure continuity of the school's present structure and system but also to be competent in encouraging the employees to improve in order for the organization to become more responsive and to work together in handling current changes within the education system. Ibrahim (1998) stated that a principal is a visionary in any aspect of the school. A principal must know regarding the school's physical condition as well as the condition of teacher, student and other employee. A principle must precede others in terms of knowledge, experience, ability to solve problem, dedication towards work and so on.

The statement above describes that the principal is the most important individual who plays the role in succeeding to achieve the education agenda of a school specifically as well as the nation. However, an issue arises of whether there is a relationship between a principle's leadership in achieving education agenda, in enhancing the level of organizational commitment and self-efficiency among teachers under the principle's administration. In Malaysia's education context, Wan Zahid (1994) stressed that the National Education Vision should be in line with Vision 2020, education leader are required to have vast knowledge, superior personality and moral with also the courage try and take risk. This mean that the success of a school is closely related to the principal leadership style.

Cooperation from employees that are responsible is highly dependent on positive interaction between the principal and employees. This is in accordance with Aminudin (1990) who found that positive relationship between the principal with teachers resulted in an increase of teacher's performance and commitment in a school. The changes that have occurred within the national education have intensified the challenge and responsibility of school teachers. Among them are the Primary School New Curriculum (KBSR), Secondary School Integrated Curriculum (KBSM), Teaching and Learning Science and Mathematics in English Language (PPSMI), open education concept, futuristic education, implementation of j-QAF program and that latest being the proposal to pass English language subject as a condition in obtaining SPM certificate. Diversified work loads, minimal time for rest have much effected the change in work satisfaction among teachers (Utusan Malaysia, 2009).

Successful leader usually can provide a working environment whereby they can guide employees' determination to achieve individual goal, group and eventually organization. To shape this climate, leader must work with the employees to build objective, celebrate every successful objectives and encourage positive work ethic in the working environment. The principle's influence is imperative and their significant role on a school excellence is highly acknowledged. Sergiovanni (1995) affirmed that in many ways the school principal is the most important and influential individual in any school it is his leadership that sets the tone of the school, the climate for learning, the level of professionalism and the morale of teacher and the degree of concern for what students may or may become note if a school is vibrant, innovative, child centered place; if it has a reputation for excellence in teaching; if students are performing to the best of their ability one can almost always point to the principal's leadership as the key to success. In Malaysia many studies (Abdul Karim Mohd. Nor, 1987; Chairil Marzuki, 1997; Rahimah Ahmad, 1982) confirmed that the principal leadership plays a critical role in producing an effective school. To date studies in Malaysia, such as Abd. Rahman Ali, 1998; Kamaruddin Deraman, 1998; Muhamad Bustaman Abdul Manaf, 1995; Mohd Nasir Amir, 1999, Faridah Mohd Fauzi, 2000, have focus solely on government school principal as sample and principal of the religious school have never been mentioned. Principal of religious schools have role of equal importance as government school principal to achieve educational excellence in this country. According to a study conducted by Siow Heng Loke, et al, (1999) it is believed that academic achievement of private schools are overall better than government school.

Leadership has been proven to be of high importance. Islam describes leadership as *taklif* (burden of trust) not *tashrif* (dignity). Hence, leadership is a responsibility which will be questioned by Allah s.w.t on the implementation of trust and therefore leadership should be carried out as best as possible (Zamri, 2007). According to al-Mawardi (1993) among the characteristics of an excellent leadership e in Islam is that the leader must be fair, knowledgeable, competent, fine moral and courageous. Moral on the other hand is an essential part of leadership , like the expression leadership by example or in Arabic the usual word is *Qudwah Hasanah*. The best example in Islamic leadership is the leadership of Prophet Muhammad.

SUMMARY

In conclusion, school's leadership has provided great contribution in shaping the mind and soul of society and producing many experts that have the role to shape the culture of a community in producing excellent human capital. All this could not be achieved without the effectiveness of leaders in school in directing employees in achieving the vision and mission.

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SERVICE QUALITY IN 'OFF-CAMPUS PROGRAM' USING A SERVQUAL APPROACH: INITIAL STUDY

Hasnizam Shaari[1]
Fairol Halim[2]
Muhammad Ainuddin Iskandar Lee Abdullah[3]
Centre for Professional & Continuing Education, Universiti Utara Malaysia, Sintok Kedah
[1]zamree@uum.edu.my, [2]fairol@uum.edu.my, [3]ainuddin@uum.edu.my

Abstract

The study of service quality is relatively new especially in higher education sector. Previous study predominantly focus the service quality issues in main stream higher education but rarely being discussed in the context of off-campus programs offered by university. The issue is whether university could ensure the equal service quality being provided to both main stream and off-campus programs. Uniquely, off-campus students are more mature, perhaps could be difference in term of their expectation and evaluation towards service encounter. Thus, this study aims to discover service quality issues in 'off-campus program' offered by one of the university's centre of excellence. This study adapts the SERVQUAL measurement to understand students' service quality gaps at two different centers. Findings from 82 respondents suggested that there was a significant difference in service quality gaps between the two centers. Among the crucial dimensions are tangibility, reliability and empathy issues. Implication and recommendation were suggested at the end of this article.

Keywords: service quality, off-campus program, service quality gaps

INTRODUCTION

Higher education in Malaysia is facing tremendous challenge in winning students' choice and preference. This is due to the increasing number of higher education institutions; both public and private. For instance, it is recorded that from 32 private higher education institutions in year 2000, the number had increased to 418 private institutions in 2009 (Ministry of Higher Education Malaysia, 2009). This development had forced Ministry of Higher Education of Malaysia to investigate the ideal number of institution for the ease of monitoring and strengthening the rating of higher education in Malaysia (mStaronline, 2011). Among others, this exercise is to ensure the quality of higher education in Malaysia and towards achieving international education's excellence-hub in this region.

With this intense competition, only a few will survive in this sector with excellence in delivering high quality education. According to Cheng (1990) and Tan and Kek (2004), higher educational quality can be assessed through students' satisfaction by determining the extent to which students' need and expectation can be satisfied. Various measures have been developed to address higher education students' satisfaction. Most scholars (e.g. Abdullah, 2006; Athiyaman, 1997; Hill, 1995) using SERVQUAL instrument. However, previous studies are conceptual in nature and strictly focus on 'full time' program (i.e. mainstream) at faculty as well as university level. Present study employed SERVQUAL instrument but limit the study on 'off-campus' program offered at difference locality operated by one of university's centre of excellence.

The objectives of the study are, (1) to identify differences between students' expectation and performance of service quality and (2) to recommend area(s) for improvement.

This study benefits the management and staffs of the 'off-campus program' operators to continuously improve the service quality of higher education. This is importance as students' of this specific program typically matured students thus more critical and demanding. Additionally, the latter improvement effort could benefit students.

LITERATURE

The research of quality management in service sector is relatively new as compared with manufacturing sector (Jusoh et al., 2004). As stated by Vinzant and Vinzant (1996), it just started in 1990s. However, the study of service quality has gained considerable attention and debate by numerous scholars and practitioners due to the nature of the service itself and the difficulty in defining ideal definition of service quality (Shahin, 2010). The most cited definition of service quality refers to the measure of what is expected from a service encounter and the perception of the actual service encounter (Parasuraman, Zeithaml & Berry, 1988).

Parasuraman et al. (1988) suggested that the measure of service quality through SERVQUAL dimensions, namely; tangible, reliability, responsiveness, assurance and empathy. The measurement consists of 22 items. This is an extension of the earlier service quality conception that is explained as Model of Service Quality Gaps (Parasuraman, et al., 1985). The following Figure 1 summarized the Model of Service Quality Gaps.

According to these scholars, there are five major gaps in service quality concepts. The first four gaps (Gap 1, Gap 2, Gap 3 and Gap 4) are known as how the service is delivered, while Gap 5 closely related to customers. As such, it is believed that the gap could be the ideal measure of service quality (Shahin, 2010).
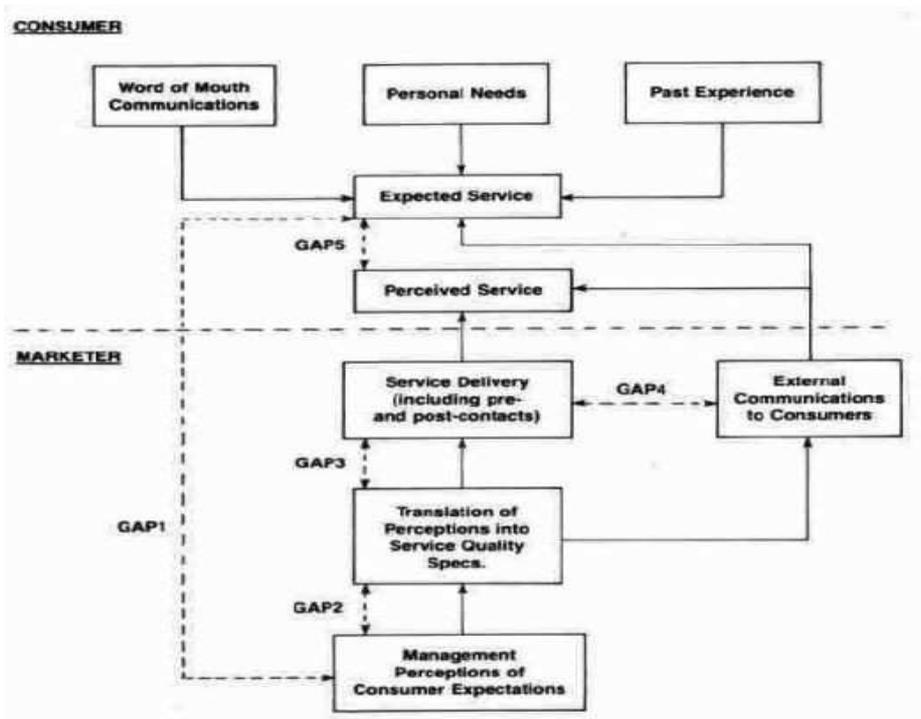
Figure 1: *Model of Service Quality Gaps*
Source: Parasuraman et al. (1985)

The study by Tan and Kek (2004) among two local universities in Singapore revealed that learning and facilities aspect as a key determinant of students' service quality satisfaction. These researchers also concluded that student with different years had different perception and expectation towards service quality. This finding is consistent with the study by Jusoh et al. (2004) and Hill (1995). They suggest that new students tend to rate positive response as compared to senior students perhaps due to their experiences with service provider.

METHODOLOGY

For the purpose of initial study, two major learning centre of 'off-campus program' were selected namely stationed in main campus and Kuala Lumpur respectively. These two centers were selected because it offered more academic programs as well as having a larger amount of students relative to other centers. Currently, this centre of excellence have nine learning centre. A total of 100 questionnaires were distributed to identified students with the help of course coordinators and lecturers during the class contact. Only 96 sets were returned, thus response rate is 96% based on the self-collected basis. However, after data cleaning and screening, only 82 questionnaires were usable and proceed for data analysis.

Research instrument i.e. questionnaire was adapted from Parasuraman et al. (1988). The questionnaire consists of three main sections, namely; section A to measure students' service quality expectation, section B to measure students' service quality perception and section C detailing students' background. All the measure of service quality dimensions namely tangibility, reliability, responsiveness, assurance and empathy were adapted from

Parasuraman et al. (1988). These measures consist of 22 items. For the purpose of the study service quality is defined as measures the difference between what is expected from a service encounter and the perception of the actual service encounter (Parasuraman et al., 1988). In details, the dimensions of service quality are stated as follows:

- *Tangibles*. Refers to physical facilities, equipment and appearance of personnel.
- *Reliability*. Refers to ability to perform the promised service dependably and accurately.
- *Responsiveness*. Refers to willingness to help customers and provide prompt service.
- *Assurance*. Refers to knowledge and courtesy of employees and their ability to inspire trust and confidence.
- *Empathy*. Refers to caring and individualized attention that the firm provides to its customers.

FINDINGS AND DISCUSSION

Generally, 35.4% are male and 64.6% are female respondents. Majority of the respondents aged between 26 to 35 years old. Only 1.2% of the respondents are more than 55 years old. Based on the survey, majority of the students are from Bachelor of Public Management program (69.5%), followed by Bachelor of Business Administration program (19.5%) and Bachelor of Communication (11%). Most of the respondents from semester 1 (51.2%), followed by 14.6% in semester 2, 12.2% in semester 5 and only 1.2% in semester 4. Interestingly, almost 40% of the respondents obtain the information about this academic program through friends and 34% via website. Almost 20% of them depend on official media advertisement. The distribution of sample throughout learning centers considered equal with 53.7% respondents from in-campus centre and 46.3% from Kuala Lumpur center.

To answer the research objective one, T-test was conducted. The following Table 1 summarized the mean gap scores between these two learning centers. According to Tan and Kek (2004), service quality gap score could be obtained by subtracting the perception scores with expectation scores. Positive gap score denote the satisfaction while negative score indicate that there was dissatisfaction towards the consumption of the services.

The results suggest that, the trend of dissatisfaction of service quality emerged in both in-campus center and Kuala Lumpur center. The result is consistent with Tan and Kek (2004) findings in higher education whereby all the scores toward negative service quality gaps. Generally, the negative service quality gaps predominantly huge for Kuala Lumpur center. The result also suggests that respondents from Kuala Lumpur center had put high expectation on the service encounter as compared to in-campus center. Kuala Lumpur center is situated at metropolitan and in-campus center is at the main campus which is located at non-metropolitan area. According to Australian Communication and Media Authority (2008) study, there is a tendency for people in metropolitan to have more complaints on service quality as compared to non-metropolitan. Perhaps, respondents or students from Kuala Lumpur have different demographic and psychographic (income distribution, lifestyle, attitude) background that resulted the higher expectation from them.

Table 1 *Mean gap scores between in campus versus Kuala Lumpur learning center*

Dimensions	Mean expected service score	Mean perceived service score	Mean gap score
In Campus Center			
Tangible	5.94	5.21	-0.73
Reliability	5.70	4.88	-0.82
Responsiveness	5.73	4.71	-1.02
Assurance	5.98	5.22	-0.76
Empathy	5.96	4.97	-0.99
Kuala Lumpur Center			
Tangible	6.13	4.36	-1.77
Reliability	5.81	4.49	-1.32
Responsiveness	6.07	4.49	-1.58
Assurance	6.09	4.55	-1.54
Empathy	6.10	4.39	-1.71

The highest service quality gap for in-campus center is associated with responsiveness of staffs and lecturers to serve the students. On the other hand, the lowest service quality gap recorded in in-campus center is tangibles aspect (relates to equipment, physical facilities and education materials). Respondents from Kuala Lumpur center indicate that the crucial negative service quality gap is pertaining tangible aspect (-1.77) which is contradicting with the in-campus center findings. The least effect is on reliability aspect such as the issue of delivering promised service. This is hold true as students in in-campus center enjoyed the main campus facilities which are up to the standard of higher education requirement outlined by Ministry of Higher Education of Malaysia. However, Kuala Lumpur center is a learning center that is rented by the operator. Such facilities are at the minimum requirement for offering the off-campus program.

The second critical aspect of service quality for Kuala Lumpur center is empathy gaps (i.e. -1.71). Empathy refers to the ability of service provider to show caring and individualized attention to the customers. Based on the findings, students had high expectation of empathy yet, the actual performance as perceived by students' is less than what is expected. The gap is quite crucial that demand for immediate countermeasure. Currently, lecturers and staff of Kuala Lumpur center is not belong to the university. The current practice of the operator is to appoint nearby higher education institution lecturers to conduct the lectures. Perhaps, these lecturers did not felt sense of belonging thus limit their empathy towards the service provided. However, advance investigation cannot be proceeded to confirm the findings as employee commitment issues is out of the scope of this study.

In general, based on the satisfaction grid as suggested by Watson, Saldana and Harvey (2002), students in both centers had rated that service quality dimension as very important and the score is between satisfactory and very satisfactory. As a result, management should seek formula to maintain excellent standard and take a countermeasure to ensure that there is no slippage and improve the service quality whenever possible.

CONCLUSION AND RECOMMENDATION

In conclusion, service quality in higher education sectors specifically among 'off-campus programs' is equally importance as in mainstream higher education. The dimension of responsiveness, tangibility and empathy are recorded as a crucial element for customers' service satisfaction. This finding suggests the urgency for management and operator of this program to take corrective action at their Kuala Lumpur center. As this center located at strategic location i.e. metropolitan with high population and market potential, it is importance to reduce the discrepancy between expectation and perception of customers towards service encounter.

Importantly, as majority of this respondents were from semester 1, it is deemed necessary to highlight that possibility of potential customers to form their expectation not only after they had registered as a student, but maybe beforehand. Therefore, it is crucial for management and operator to gather relevant information mainly to enhance customers' service satisfaction. This study also revealed that, majority of the students obtained the information of the program through friends. Thus the currents service gaps put the management and operator of

this program in danger situation. In this new millennium with the advance in telecommunication and information such as social media, students that experienced negative service gaps could tarnish overall image of the program, organization and the brand through negative word of mouth.

As this initial study limit to understand the main issues in service quality in 'off-campus program' in two main learning center, future study should extend in term of number of center as well as respondent. Comparative study between main stream and 'off-campus program' also could be research as it benefits university in improving overall service quality to community.

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STRESS APPRAISAL IN PRICIPLES AND TECHNIQUES IN NURSING PRACTICE AMONG SECOND YEAR NURSING STUDENTS AT PRACHOMKLAO COLLEGE OF NURSING, PHETCHABURI PROVINCE

Chongkon Puttikul[1]
Nipa Rujanuntakul[1]
[1]203 Mo.2 Kiriruttaya Road, Thongchai District, Amphur Mueng, Phetchaburi province, Thailand

INTRODUCTION

The core of nursing education is practice-oriented discipline. The course content has two components: theoretical knowledge and clinical practice. Clinical practice is essential in nurse education. However, the clinical area is often stress-producing of students, as they are dealing with human lives. Nursing students are expected to demonstrate a high level of responsibility and accountability in their work with seriously ill patients. They often identify themselves with patient's illnesses. Thus clinical experience is a matter of great concern for the nursing students.

BACKGROUND OF THE STUDY

Stress is a natural phenomenon that everyone experience in their lifetime. Investigators have reported that nursing students' stress is related to specific fears : fear of failure. Fear of teachers' evaluations. Fear of harming a patient, and fear of interaction with patients, patients' families, teachers. And other health professionals. Many of these fears originate from the clinical component of the experience when the instructor evaluation and interaction with a wide array of people is intense. Many empirical studies support the fact that it is the clinical component of education that is the one of the most stressful experiences for nursing students. Although research has revealed that nursing students find their clinical experience stressful, a few reports have been published concerning stress and nursing students' appraisal in the clinical setting.

Studies have demonstrated that stress influences a person's performance. Researchers else pointed out that if students perceive stress as a challenge, it will increase their motivation to learn but if they perceive it as a threat it will hinder them is their learning process. Studies have demonstrated that the chinical environment is stressful for nursing students, particularly is the first year of a program (Davitz, 1972 ; Grassi-Russ & Morris, 1981, Pagana, 1988 Some of the stressor identified by nursing students are the initial clinical experience and interacting with instructors. (Kleehanmer, Hont, & Keck, 1990; pagana, 1988) , evaluation of their clinical performance (Davitz. 1972) fear of harming a patient (Wilson, 1994), lack of clinical knowledge and experience to accomplish task (Beck & Srivastava 1991) , use of technical equipment, taking responsibility and making mistakes, care of dying patients and fear of the unknown, pressure of time when performing nursing duties , unfriendly atmosphere in the ward.

The clinical experience is of great concern to nursing students. The most common theme apparent throughout the literature on stress in the clinical experience is that of student worries about personal inadequacy and the possibility of making errors. Quint (1965). They found that students exhibited sleepless and anxiety-ridden nights before their first appearance on the ward because they were fearful of their initial encounter with the patient. Later, they were burdened with the sense of their own lack of knowledge and competence.

Infante (1985) suggested that the idea that the student is not a nurse but is learning to be a nurse is often forgotten in the clinical experience. She noted that nursing students carry the responsibllity for nursing actions relatively early. She believes that this weighty responsiblity interferes with learning. In the present sesearch, an instrument was designed to described the aspects of an initial clinical experience that were challenging and threatening to baccalaureate nursing

OBJECTIVES

The purpose of this research was to study the level of stress and stressful situations from practicing in principles and techniques in nursing practice as appraised by second year nursing students at Prachomklao College of Nursing. Phetchaburi province.

RESEARCH QUESTIONS

1. What events are identified as stress by second year nursing students in the clinical setting.
2. How do second year nursing students appraised stressful events
Methodology

We used the Lazarus and folkman stress and coping model as conceptual framework of the study.

Instrument design Pagana Clinical Stress Questionaire (PCSQ) was used to assess the threatening and challenging aspects of the clinical experience. The front page contained open-ended questions which asked the respondent to describe the clinical experience from the perspective of being a new experience and to describe the stress, challenges, and threats that they were experiencing. The participants also indicated the amout of stress they are experiencing.

The second part of the instrument contained a 20 – item inventory with scales designed to measure the threat and challenge emotions.
Sample – The sample consisted of 87 second year nursing students who have recently practiced for 4 weeks.

Procedure – The students were approached of the day after their clinical experience. The research study was explained by the investigator. Subjcets were given and informed consent and asked to sign if they agreed to participate. They had 30 minuted wrote the situations that caused them stress and complete. The clinical stress questionaire 20 items. After that researcher check the completetion of the questions.

Results All data were collected in a classroom setting the day after the completion of the course Frequency, percentage, means standard deviation for eash assessment form item were obtained.

The open – ended question concerning student indication of stressful situation was analized by content analysis. Agreement among three judges was used to establish reliability for this qualitative technique

RUSULTS

Table 1 Stress Levels

Domain	$\overline{X}$	SD	Level
-Challenge	2.61	0.70	High
-Threat	1.94	0.81	Moderate
-Harm	1.20	0.80	Low
-Benefit	1.83	0.72	Moderate
Total	2.40	0.77	Moderate

The means, standard deviation of subjects who indicated stressful situations and their appraised at 4 domain is

Students estimated practicing in clinic as moderate stressful the total mean for stress appraisal were moderate level but challenging to them.

Students were malrily challenged by the opportanisty to apply their knowledge and skills in the clinical setting. They ferguently menttoned the challenge of organiging then work and getting done on thme. Their open-ended sesponses was used to determine the predominant thenres is the qualitative data on 87 snbueeets. Eight major thevnes emesged. (F) First time experience. Nursing care plom, Case conferences. Caring for eritieally ill

patients. Rdlationship with nurses in wards. Clinical supervision of nursing instrnctors. Inadeguate knowledge and skills of students. Relaltionshipwith patients and their relatives.

DISCUSSION

The finding, both quantitatively and qualitatively. That the initial clinical experienes on a unit was anxiety preordering for students was not suiprising as most people have some feas of the unknown. This finding was in agreement with Selleek (1982) and lewis, et al (1987). St may be that faenlty nembers need to explore ways to decrease the number of times that stndents must change units by developing clinical objectives that com be aceomplished within the some clinical setting Brunt (1984) found that student anxiety deereased ofter time spent in one setting

In addition, faeulty may need to consider ways in which students con become better acqualued with units befere pateerst com is required.

IMPLICATION:

Faenlty and staff shonld help denelop a teaching and learning environment to rednec the stress of the stndents

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THE DEVELOPMENT FOR LEARNING ENGINEERINR PHYSIC 1
BY VIDEO MULTIMEDIA

Adinan Jehsu[1]
Safitree Nawae[1]
Supath Srisawat[1]
[1]Faculty of Science and Technology, Princess of Naradhiwas University, Narathiwat, 96000, Thailand

Abstract
This research aim to improved the learning of engineering physics 1 for the 1st year student faculty of engineering Princess of Naradhiwas University by using online video multimedia. The one group pretest-post test design and satisfaction questionnaires were used. The 29 students of the 1st semester 2011 were used as the sample. The research found that
    1. The maximum and the minimum points for posttest were 70 % and 6.67%, respectively.
    2. The satisfaction mark for online video multimedia on network was 93.97 %.

Keyword; Online video multimedia, Physics

INTRODUCTION

The first engineering physics courses take 48 hours per semester. Due to the several of the lesson they are a need to learn a lot. Some student can't follow the class. Currently, teaching network sites play importance role in order to help the problem solving and learning. In this work we used the online video multimedia to improve student learning courses engineering physics 1 (05-004-204) topic in chapter 4 curriculum of Princess of Naradhiwas University. The first year student faculty of engineering.

METHOD

1. The scope of research
Population and sample used in this study
Undergraduate Faculty of Engineering, the first year student Princess of Naradhiwas University. The first semester of the 2011 academic year.
The topic
Chapter 4 particle systems engineering physics course following the course of the Princess of Naradhiwas University.

Duration
3 hrs per week for 2 weeks

Parameter
    The operating parameters was online video multimedia
    Dependent variables was the satisfaction and the achievement of the students.

The tools was used in this research
    Two type of the tests consisted of the satisfaction and achievement test on the first engineering physics learning courses with multimedia online video

2. A form of research
The one group pretest-posttest and the satisfaction test.

The satisfaction level with the learning courses with multimedia in Engineering Physics 1 can be calculated from

$$\text{The level of satisfaction} = \frac{\sum_{i=1}^{5}\left(n_i \times i\right)}{N}$$

i was the satisfaction score

poor = 1
fair = 2
average = 3
good = 4
excellent = 5

n_i was the number of the students was choose their level of satisfaction

N was the number all student

Comparative the level of satisfaction was shown in Table 1.

Table 1 Comparative the level of satisfaction.

Average point	level
4.50-5.00	excellent
3.50-4.49	good
2.50-3.49	average
1.50-2.49	fair
1.00-1.49	poor

RESULTS AND DISCUSSION

Figure 1. shown the students were satisfied by learning with the online video multimedia 93.97 %. The highest average point, $\overline{x} = 4.69$ was the students satisfied in online multimedia and the lowest average point, $\overline{x} = 4.21$ was the students used the online multimedia by themselves as shown in Table 2. The percentage of the satisfaction levels was shown in Figure 2. From this figure can be concluded that each topic the satisfaction were in high and the highest level.
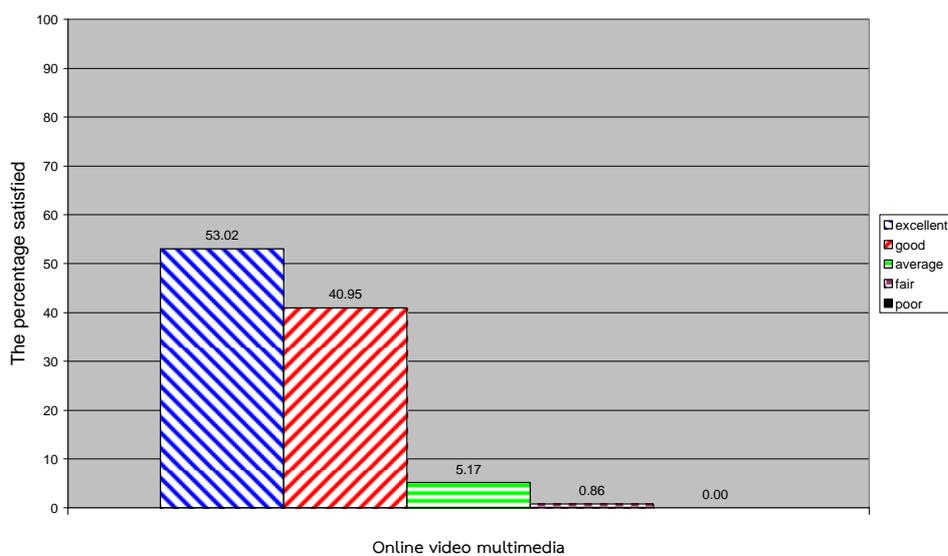
Figure 1 The percentage satisfied with online video multimedia.

Table 2 The level of satisfaction on the online video multimedia.

Topic	avarage	level
Online video multimedia		
1.Easy for using the online multimedia	4.31	good
2.Understand the language used in the media	4.55	excellent
3. The students used the online multimedia by themselves	4.21	good
4. Front size is clear	4.24	good
5. The media heard clearly.	4.48	good
6. The online video multimedia enable learning resolve	4.66	excellent
7. The online video multimedia can be study all the time	4.55	excellent
8. The students satisfied in online multimedia	4.69	excellent
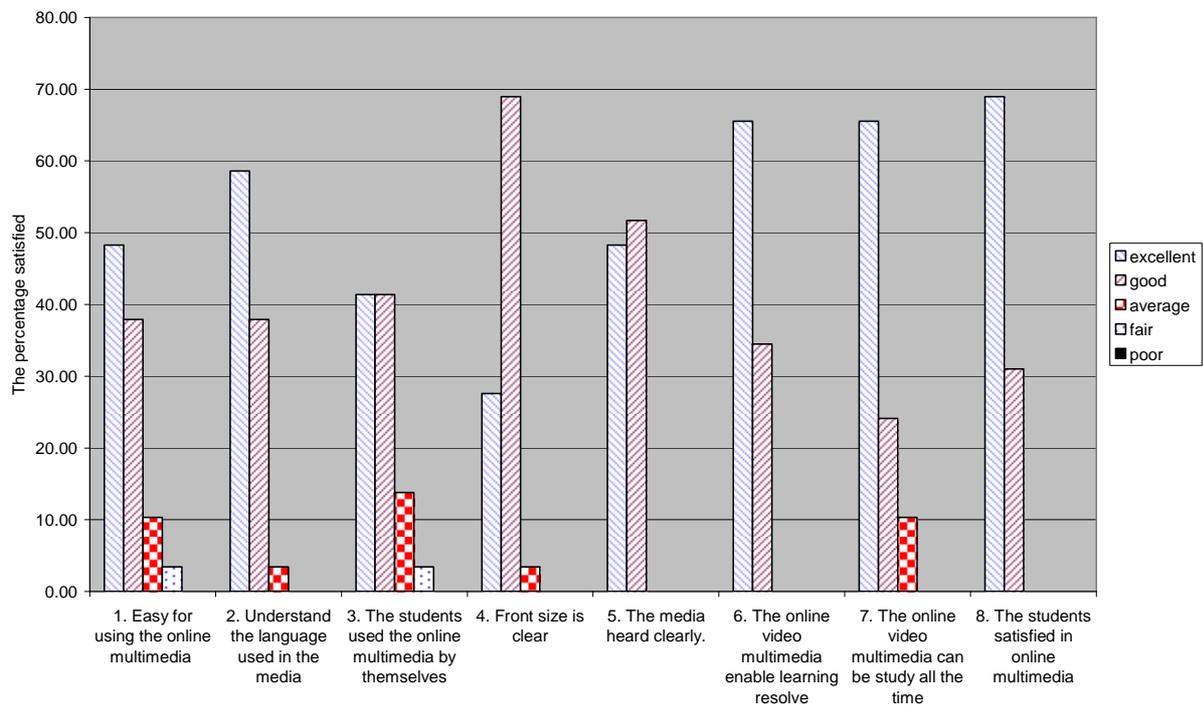
Figure 2. Percentage satisfaction online video multimedia.

Achievement of students as shown in Figure 3. It can be see that the average of the results before and after using online video multimedia and were 7.53 and 17.12 point, respectively, The average number of points after using the online video media increased. The standard deviation were 5.01 and 6.19, respectively. It can be concluded that the mean score of the students achieved a higher 31.95%, which shown that students scored highest and lowest percentage were 70 and 6.67, respectively.
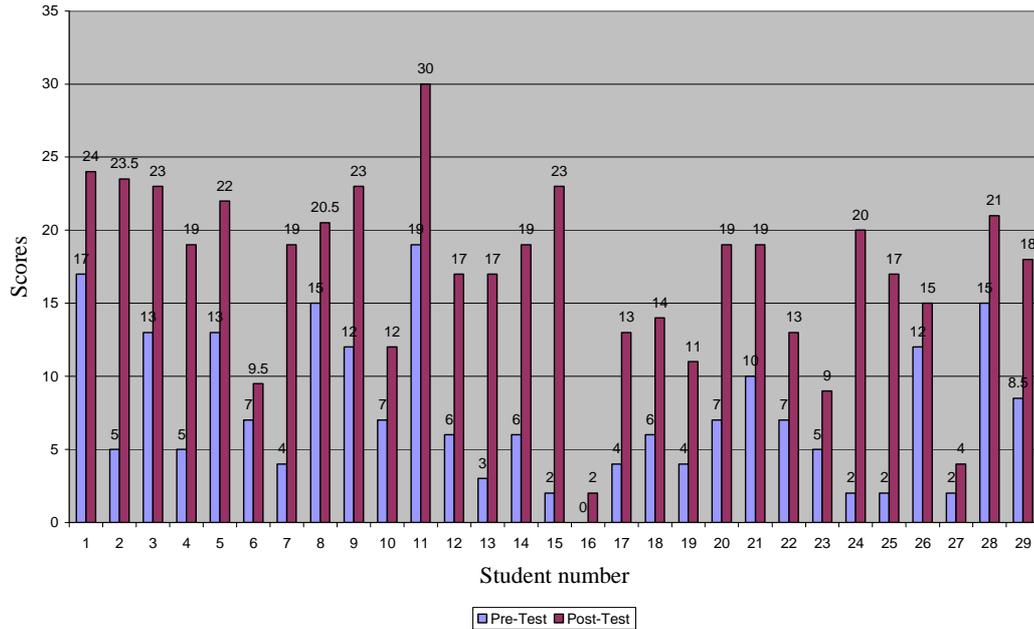
Figure 3. The student scores before and after using the online video multimedia**.**

CONCLUSION

The research found that the student enjoyed using the online video multimedia engineering physics 1. The achievement scores increased ranging from 6.67 to 70%.

ACKNOWLEDGMENT

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VET EDUCATION IN INDIA AND ABORAD

Devan[1]

[1]Associate Professor, Centre for Adult and Continuing Education, Pondicherry University, Puducherry 605 014

Abstract

The purposes of this study were to examine the effectiveness of Know-What-Why-How (KWWH) teaching strategy on critical thinking skills of nursing students. The Experimental one group pretest-posttest design was employed. The purposive sampling subjects were 43 nursing students from Prachomklao College of Nursing, Petchaburi Province. The research instruments were critical thinking skills test, KWWH performance evaluation form, satisfaction questionnaire and student's reflective journal writing form. Statistical analyses employed were mean, standard deviation, percentage, dependent t-test and content analysis.

The study revealed that critical thinking skills of nursing students before and after the implementations of the KWWH instructional strategy were statistically significant different at the level of .05. Nursing students mentioned that the KWWH instructional strategy improved their critical thinking skills and were appropriate at the high level.

Keywords: know-what-why-how (KWWH) instructional strategy, critical thinking skills, nursing students

INTRODUCTION

Vocational education or vocational education and training (VET) prepares trainees for jobs that are based on manual or practical activities, traditionally non-academic, and totally related to a specific trade, occupation, or vocation. It is sometimes referred to as technical education as the trainee directly develops expertise in a particular group of techniques of technology. Vocational education may be classified as teaching procedural knowledge. This can be contrasted with declarative knowledge, as used in education in a usually broader scientific field, which might concentrate on theory and abstract conceptual knowledge, characteristic of tertiary education. Vocational education can be at the secondary or post-secondary level and can interact with the apprenticeship system. Increasingly, vocational education can be recognized in terms of recognition of prior learning and partial academic credit towards tertiary education (e.g., at a university) as credit, however, it is rarely considered in its own form to fall under the traditional definition of higher education. Up until the end of the twentieth century, vocational education focused on specific trades such as, for example, those of automobile mechanic or welder, and it were therefore associated with the activities of lower social classes. As a consequence, it carries some social stigma. Vocational education is related to the age-old apprenticeship system of learning. However, as the labor market becomes more specialized and economies demand higher levels of skill, governments and businesses are increasingly investing in the future of vocational education through publicly funded training organizations and subsidized apprenticeship or traineeship initiatives for businesses. At the post-secondary level vocational education is typically provided by an institute of technology, or by a local community college. Vocational education has diversified over the 20th century and now exists in industries such as retail, tourism, information technology, funeral services and cosmetics, as well as in the traditional crafts and cottage industries.

VOCATIONAL EDUCATION AND TRAINING IN INDIA

Vocational education prepares students to build their careers in wide ranging subject-areas of manual or practical activities. Today, vocational training has emerged as an important source of employment to thousands of Indians across the country Govt. of India has taken many significant initiatives to popularize vocational education in the country. Delhi being the national capital boasts numerous quality vocational training institutions. We have compiled a list of all the important training institutes of Delhi engaged in imparting quality vocational training.

1. India a very Young Nation

Nearly 55% of Indians (550 million people) are below 30 years of age and 70% of Indians are below 35 years of age! India is a very young Nation.

2. India's Priority – Primary + Secondary Education + Vocational   Education & Training

While India needs IIT's, IIM's and Medical colleges, (we are fairly well organized for higher education, in fact we have too much of it) the real requirement is for Primary Education & Secondary Education and Vocational Education & Training. 100% of India's population needs basic or primary + secondary education while 90% need to get into some sort of Vocational Education & Training after high School. Everyone cannot become an Engineer, MBBS, MBA, Accountant or a Lawyer! The Founder Trustee of our foundation is from IIT and feels that for every one IIT India needs 1000 or more Vocational Education & Training Centers!

3. Vocational Education & Training

If India could impart Vocational Education & Training, rather than only the conventional college education, it would benefit all and have the following additional advantages for the Nation:

1. Prepare the youth for a vocation of their choice

2. Build up a formidable Work-Force of International Quality, which would have demand not only in India but in all countries of our Planet. In India only IT training is world class. See how it has and will transform India in the future. (We also produce World Class Engineers, Doctors, Accountants, etc.) In the manufacturing and service sectors there are hundreds of skills and vocations for which three is a world wide shortage. For example, TV, electrical appliance repair & service. Automobile & Motorcycle repair & service. Foreign language skills. Medical and Health services. Hospitality, Tourism, Retailing, Construction, Telecommunications, Electronic, Agriculture, General Engineering, Teaching, etc. The list is very large.

3. For India we need millions of trained people in the area of services for Agriculture, Floriculture, Horticulture, Sericulture, Fishery, Heath Care, Tourism, Trading, Services, Business and hundreds of skills for the Manufacturing Sector. We do not see World Class Vocational Education & Training Infrastructure, even after 55 years of India's independence.

4. Reduce Unemployment by supplying world-class skilled people required by the Nation and for rest of the World!

5. Reduce Cost & improve Productivity of Trading, Services and Manufacture by providing skilled Man Power. Run the country with a higher efficiency, lesser wastage and lower cost of operation.

4. Preparation

In India the scramble for College and University education is a disaster for all concerned and we require an entire spectrum of skilled man power. There is no relevance of a B.A, B.Com or B.Sc or even a M.A, M.Com or M.Sc degree in today's complex economy. Probably very little, since it may be required for hardly 3% of India's population, or about 30 million people per year at the most, at this stage.

We are stretching the existing higher educational facilities to a breaking point. The Faculty and infrastructure is not able to cope at the increasing number of students, after they have completed their high school education. Like "Zombies" every one wants to join some college or the other with out a road map or plan about their future. It's a National Tragedy of sorts!

5. Government + Industry + Trade + Services + Educational   Institutions – need to work together

As you are in the think tank of India's education set up and are probably looking at ways to act as a catalyst to improve the productivity of Industry. Trade and Services as well as to make India more competitive, you may like to take up this matter of Vocational Education & Training with all the State Authorities, the Ministry of HRD and Education in New Delhi, and all the Chambers of Commerce in India as well as the All India Business Associations such as CII, FICCI & ASSOCHAM.

6. Our Contribution

We are working with the largest and oldest NGO Institutions in the UK, City & Guilds or C&G and can offer Vocational Education and Training Programms, with content and certification. They are offering 600 courses in 22 major fields, bundled within 52 main or 'mother courses'. C&G is more than 124 years old, operating in more than 103 countries and certifying more then 1 million people per year! We have already initiated and enable 40 VET centers in western India, in the last 3 months.

VOCATIONAL EDUCATION AND TRAINING IN ABROAD

1. Australia

In Australia vocational education and training (is mostly post-Secondary and provided through the vocational education and Training (VET) system by registered training organizations. This system encompasses both public and private providers in a national training framework consisting of the Australian Quality Training Framework, Australian Qualifications Framework and Industry Training Packages which define the assessment standards for the different vocational qualifications.

Australia's apprenticeship system includes both traditional apprenticeships in traditional trades and "traineeships" in other more service-oriented occupations. Both involve a legal contract between the employer and the apprentice and provide a combination of school-based and workplace training.   Apprentices and trainees receive a wage which increases as they progress.

2. Finland

In Finland, vocational education belongs to secondary education. After the nine-year comprehensive school, almost all students choose to go to either a *lukio* (high school), which is an institution preparing students for tertiary education, or a vocational school. Both forms of secondary education last three years, and give a formal qualification to enter university or *ammattikorkoulus,* i.e. Finnish polytechnics. In certain fields (e.g. the police school, air traffic control personnel training), the entrance requirements of vocational school include completion of the *lukio,* thus causing the students to complete their secondary education twice. The education in vocational school is free, and the students from low-income families are eligible for a state student grant. The curriculum is primarily vocational, and the academic part of the curriculum is adapted to the needs of a given course. The vocational schools are mostly maintained by municipalities.

3. Germany

Vocational education is an important part of the education system in Austria, Germany, Liechtenstein and Switzerland (including the French and the Italian speaking parts of the country) and one element of the German model.

4. Hong Kong

In Hong Kong, vocational education is usually for post-secondary 3, 5 and 7 students. The Hong Kong Institute of Vocational Education (IVE) provides training in nine different vocational fields, namely: Applied Science; Business Administration; child Education and Community Services; Construction; Design; Printing, Textiles

and Clothing; Hotel, Service and Tourism Studies; Construction; Information Technology; Electrical and Electronic Engineering; and Mechanical, Manufacturing and Industrial Engineering.

5. Hungary

Normally at the end of elementary school (at age 14) students are directed to one of three types of upper secondary education; one academic track (gymnasium) and two vocational tracks. Vocational secondary schools provide four years of general education and also prepare students for the maturate. These schools combine general education with some specific subjects, referred to as pre-vocational education and career orientation. At that point many students enroll in a post-secondary VET programme often at the same institution, to obtain a vocational qualification, although they may also seek entry to tertiary education. Vocational training schools initially provide two years of general education, combined with some pre-vocational education and carrier orientation, they then choose an occupation, and then receive two or three years of vocational education and training focusing on that occupation-such as bricklayer. Students do not obtain the maturata but a vocational qualification at the end of a successfully completed programme. Demand for vocational training schools, both from the labour market and among students, has declined which it has increased for upper secondary schools delivering the maturate.

6. Japan

Japanese vocational schools are known as *senmon gakko.* They are part of Japan's higher education system. They are two year schools that many students study at after finishing high school (although it is not always required that students graduate from high school). Some have a wide range of majors, others only a few majors. Some examples are computer technology, fashion and English.

7. Korea

Vocational high schools offer programmes in five fields: agriculture, technology/engineering, commerce/business, maritime/fishery, and home economics. In principle, all students in the first year of high school (00th grade) follow a common national curriculum. In the second and third years of high school (10th grade) follow a common national curriculum, In the second and third years (11th and 12th grades) students are offered courses relevant to their spcecialisation. In some programmes, students may participate in workplace training though co-operation between school workplace training is an important part of the programme. Around half of all vocational high schools are private. Private and public schools operate according to similar rules; for example, they charge the same fees for high school education, with an exemption for poorer families. The number of students in vocational high schools has decreased, from about half of students in 1995 down to about one-quarter today. To make vocational high schools more attractive, in April 2007 the Korean government changed the name of vocational high schools into professional high schools. With the change of the name the government also facilitated the entry of vocational high school graduates to colleges and universities.

8. Mexico

In Mexico, both federal and state governments are responsible for the administration of vocational education. Federal schools are funded by the federal budget, in addition to their own funding sources. The state governments are responsible for the management of decentralized institutions, such as the State Centres for Scientific and Technological Studies and Institutes of Training for Work. These institutions are funded 50% from the federal budget and 50% from the state budget.

Compulsory education (including primary and lower secondary education) finishes at the age of 15 and about half of those aged 15-to-19 are enrolled full-time or part-time in education. All programmes at upper secondary level require the payment of a tuition fee. The upper secondary vocational education system in Mexico includes over a dozen subsystems (administrative units within the Upper Secondary Education Under secretariat of the Ministry of Public Education, responsible for vocational programmes) which differ from each other to varying

degrees in content, administrative units within the Ministry of Public Education makes the institutional landscape of vocational education and training complex by international standards.

9. New Zealand

New Zealand is served by 39 Industry Training Organisiations (ITO). The unique element is that ITOs purchase training as well as set standards and aggregate industry opinion about skills in the labour market. Industry Training, as organized by ITOs, has expanded from apprenticeships to a more true life long learning situation with, for example, over 10% of trainees aged 50 or over. Moreover much of the training is generic. This challenges the prevailing idea of vocational education and the standard layperson view that it focuses on apprenticeships.

1.0 Norway

Nearly all those leaving lower secondary school enter upper secondary education, and around half follow one of 9 vocational programmes. These programmes typically involve two years in school followed by two years of apprenticeship in a company. The first year provides general education alongside introductory knowledge of the vocational area. During the second year, courses become more trade-specific.Apprentices receive a wage negotiated in collective agreements ranging between 30% and 80% of the wage of a qualified worker; the percentage increasing over the apprenticeship period. Employers taking on apprentices receive a subsidy, equivalent to the cost of one year in school. After the two years vocational school programmes some students opt for a third year in the 'general' programme as an alternative to an apprenticeship. Both apprenticeship and a third year of practical training in school lead to the same vocational qualifications. Upper secondary VET graduates may go directly to Vocational Technical College, while those who wish to enter university need to take a supplementary year of education.

11. Sweden

Nearly all of those leaving compulsory schooling immediately enter upper secondary schools, and most complete their upper secondary education in three years, Upper secondary education is divided into 13 vocationally-oriented and 4 academic national programmes. Slightly more than half of all students follow vocational progrmmes. All programmes offer broad general education and basic eligibility to continue studies at the post-secondary level. In addition, there are local programmes specially designed to meet local needs and 'individual' programmes.

A 1992 school reform extended vocational upper secondary programmes by one year, aligning them with three years of general upper secondary education, increasing their general education content, and making core subjects compulsory in all programmes. The core subjects (which occupy around one-third of total teaching time in both vocational and academic programmes) include English, artistic activities, physical education and health, mathematics, natural science, social studies, Swedish or Swedish as a second language, and religious studies. In addition to the core subjects, students pursue optional courses, subjects which are specific to each programme and a special project.

12. Switzerland

Nearly two thirds of those entering upper secondary education enter the vocational education and training system. At this level, vocational education and training is mainly provided through the 'dual system'. Students spend some of their time in a vocational school; some of their time doing an apprenticeship at a host company; and for most programmes, students attend industry courses at an industry training centre to develop complementary practical sk9illls relating to the occupation at hand. Common patterns are for students to spend one-two days per week at the vocational school and three-four days doing the apprenticeship at the host company; alternatively they alternate between some weeks attending classes at the vocational school and some weeks attending industry courses at an industry training centre. A different pattern is to begin the programme

with most of the time devoted to in-school education and gradually diminishing the amount of in-school education in favour of more in-company training.

13. United Kingdom

The system of vocational education in the UK initially developed independently of the state, with bodies such as the RSA and City & Guilds setting examinations for technical subjects. The Education Act 1944 made provision for a Tripartite System of grammar schools, secondary technical schools and secondary modern schools, but by 1975 only. 0.5% of British senior pupils were in technical schools, compared to two-thirds of the equivalent German age group.

14. Vocational Education & Training in Europe

University education does not necessarily prepare the youth for Life; also there is No guarantee of a job after a university degree. It is for this reason that 80 to 90% of the youth, after the 10th, opt for Vocational Education & Training where they work part time (at minimum or lower wages), as apprentices, with Industry and Trade for 2 to 4 years and study simultaneously in a Vocational Education & Training Institute, for learning the theory and acquiring the relevant knowledge and theory.

This way, the business and trade get low cost manpower, while the youth are learning a new trade, both on-the-job as well theory in the Vocational Education & Training Institute. This combination results in World Class skilled youth. There are 2500 trade options in Europe. These Vocations cover the Manufacturing, Service and Trading Sectors, including Agriculture as well as the New Economy.

STATUS OF VOCATIONAL TRAINING

The World Bank report of 2006 shows that among persons of age 15-29 only about 2 per cent reported to have received formal vocational training and another 8 per cent reported to have received non formal vocational training. The proportion of persons (15-29 years) who received formal vocational training was the highest among the unemployed. The proportion was around 3 per cent for the employed, 11 percent for the unemployed and 2 per cent for persons not in the labour force. The activity of persons receiving vocational education is as shown below-:
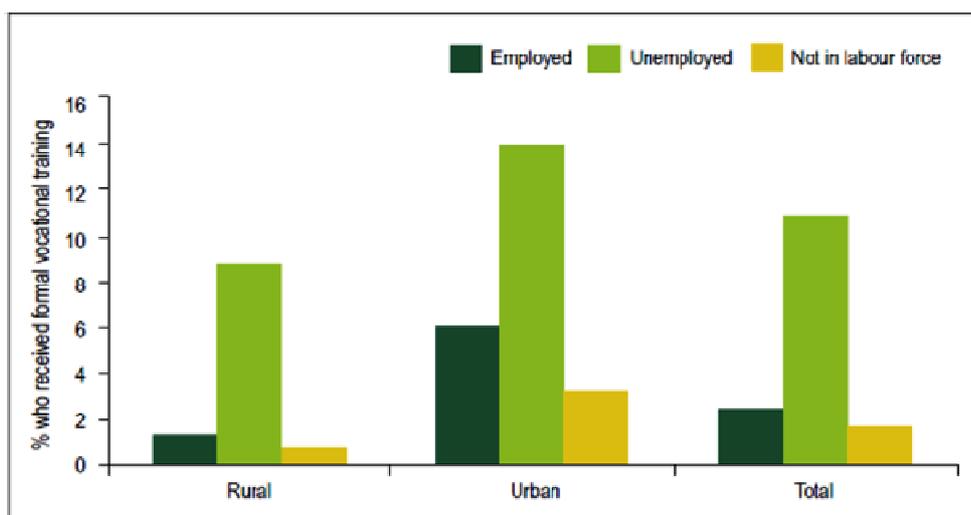
Source: Status of Education and Vocational Training in India, 2004-05, NSS 61st Round

COMPARISON WITH OTHER COUNTRIES

There is little capacity in vocational education in India and even that is under-utilized. World Bank Report suggests that the enrolment figure is less than three per cent of the students attending Grades 11-12. This implies that between 350,000 to 400,000 students are enrolled in vocational education, which works out to less than three per cent of the 14 million students or more in Grades 11 and 12, implying that less than one per cent of students who had entered Grade 1 over the last decade or so would have eventually participated in vocational education. In comparison the status in various other countries is as shown below-:

Country	Secondary enrolment ratio	Number of students (thousands)	Vocational-technical share (per cent of total secondary enrolments)
Russia	88	6277	60
China	52	15300	55
Chile	70	652	40
Indonesia	43	4109	33
Korea	93	2060	31
Mexico	58	-	12
Malaysia	59	533	11
South Africa	77	-	1

Source: World Bank, 2006

THRUST AREAS

- The training courses lack focus on the changing job market. As a result it was seen from various reports that the number of students is declining for long term vocational courses, mainly in ITIs. The training policy should be focused on the changing job market in order to attract young people. More autonomy needs to be provided to institutes and they should have market linked infrastructure. For publicly funded training, equity distribution is also a problem. But job creation must be done regionally, not centrally; otherwise it will create regional imbalances of trained manpower. According to NSSO report (No. 470, 55th round) about 27 per cent of the Indian populations were migrants. The proportion of migrants was higher (33 per cent) in urban areas than (24 per cent) in the rural areas. It was mainly in search of jobs. Creating job opportunities regionally can help 6maintain the equilibrium in future days.

- Funding for the public ITIs is very low compared to other countries like China and USA which have restructuring-funds, whose share goes for improvement of vocational training systems in order to achieve international quality. Although things have changed for the better in the 11th five year plan with the introduction of the National Skill Development Mission. But it is also desirable to have mechanisms to raise funds privately for up gradation of ITIs.

- ITIs must focus on low-literate youth and provide new vocational qualifications/training programmes and also on unorganised sector, otherwise it will cause long term losses. To take an example automobile industry is a technology intensive industry but most of the workshops are running without formally trained staff (we have currently no database of that). Sometimes, lack of training skills may harm the delicate instrument of vehicles. A vital challenge is to formally train workers for the crafts industry where a considerable number of informally trained craftsman work together.

- Lack of accountability and training/supply management are also major problems for ITI institutes.

- In our country different institutes impart vocational training but they do not have coordination among themselves. Information about this sector is not available from a single source. In fact we need to create

a central database from where one can get full access on vocational training system right from school level to ITI/ITC institutes.

- In rural sector, radiographer and other trained para-medical persons are very less in comparison to the large number of the rural population. Policy makers should focus on the paramedical vocational studies, so that incremental change in number of trained paramedical worker can benefit rural masses.

- A central vocational training standardization system, accredited nationally and globally, for maintaining the quality of the vocational education can enhance credibility of vocationally trained persons in the industry.

- To attract more students from school level, reorientation of vocational courses is needed.

- There should be a bridge organization to relate R&D institutes and vocational education system. It would help the vocationally trained person to get the benefits of R&D.

CONCLUSION

The industrial and labour market trends clearly indicate the necessity of strengthening of vocational education in India. The introduction of vocational education at secondary level through bivalent schools and SSC (vocational) will enable us to broaden the vocational education base at secondary level of education. A clear pathway for vocational students to enter higher education streams is the way to move forward. Through this concept note we have made an endeavour to provide some of the possible solutions to address these issues. Framing of vocational qualification framework, introduction of vocational degrees and setting up of a Vocational University with polytechnics, community colleges, CPs and other VEPs as affiliated colleges are some of the recommendations which require further deliberation at National and State level. Vocational Education and Training (VET) is an important element of the nation's education initiative. In order for Vocational Education to play its part effectively in the changing national context and for India to enjoy the fruits of the demographic dividend, there is an urgent need to redefine the critical elements of imparting vocational education and training to make them flexible, contemporary, relevant, inclusive and creative. The Government is well aware of the important role of Vocational education and has already taken a number of important initiatives in this area.

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THE EFFECTIVENESS OF KNOW-WHAT-WHY-HOW (KWWH) INSTRUCTIONAL STRATEGY ON CRITICAL THINKING SKILLS OF NURSING STUDENTS

Thunyaporn Chuenklin
Prachomklao College of Nursing, Petchaburi Province,
203 m2 Tongchai, Muong District, Petchaburi Province,76000, Thailand.
* e-mail thunya_po@hotmail.com
Subtheme: the role of institutions of learning, private sector and government

Abstract

The purposes of this study were to examine the effectiveness of Know-What-Why-How (KWWH) teaching strategy on critical thinking skills of nursing students. The Experimental one group pretest-posttest design was employed. The purposive sampling subjects were 43 nursing students from Prachomklao College of Nursing, Petchaburi Province. The research instruments were critical thinking skills test, KWWH performance evaluation form, satisfaction questionnaire and student's reflective journal writing form. Statistical analyses employed were mean, standard deviation, percentage, dependent t-test and content analysis.

The study revealed that critical thinking skills of nursing students before and after the implementations of the KWWH instructional strategy were statistically significant different at the level of .05. Nursing students mentioned that the KWWH instructional strategy improved their critical thinking skills and were appropriate at the high level.

Keywords: know-what-why-how (KWWH) instructional strategy, critical thinking skills, nursing students

INTRODUCTION

An advancement of science and technology nowadays along with health problems that become more and more complex. Nurses take on more responsibility. The profession has a social and ethical obligation to provide well-educated nurses whose decision result in the best patient outcomes and who effectively use critical thinking skills. (Alfaro-Lefevre 1995: 70 - 74; Cook 2001: 31; Raymond and Profetto-McGrath 2005: 210;) Many nursing organizations that concern the essence of critical thinking skills have determined critical thinking to be one of the nurse's competencies and determine it to be an indicator for accreditation both in nursing education and service. (National League for Nursing Accreditation Commission 2001; Joint Commission on Accreditation of Health care Organization 2004 cited by Brunt 2005: 255; Thailand Nursing and Midwifery Council 2008).

According to the studies during 1998 – 2007 show that critical thinking of the graduated nurse and nursing student in Praboromarachanok Institute, Ministry of Public Health, Thailand, were at the average level which lower than the desired outcome. Nursing educators are challenged to plan curricular and learning activities that prepare nursing student both knowledge and thinking skills. Therefore, the teaching and learning process should not be only teaching content but also promoting student to be able to think critically. Especially in the Principle and Techniques in Nursing Subject, which is a basic subject of professional nursing program, they should be taught the basic component of critical thinking such as analytical skill, interpreted skill, described/predicted skill, and summarize skill.

There are several instructional strategies and techniques that can promote critical thinking skills of the student. Know-Want-Learned (KWL) is one of the instructional strategies that reflected cognitive process, which developed by D. Ogle (1986). KWL stand for what we Know (K), what we Want to know (W), and what we have Learned (L). It is supposed that KWL is a very effective strategy in attaining the ultimate goal in learners' languages abilities (Fengjuan, 2010). Later, KWL was modified to be KWL plus- the traditional KWL with mapping and summarization, KWLH- the letter "H" stand for how to learn more, KWDL- the letter "D" stand for what I do, in order to apply it appropriately. According to the component of critical thinking- analytical skill, interpret skill, describe/predict skill, and summarize skill, in the Principle and Techniques in Nursing Subject then, the researcher developed the know-what-why-how (KWWH) instructional strategy. The KWWH stand for what we know (K), what does it mean or what we need to know more (W), why it is (W) and how can we do (H). Therefore, the purpose of this study was to examine the effectiveness of KWWH teaching strategy on critical thinking skills of nursing students.

METHODOLOGY

The Experimental one group pretest-posttest design was employed. The purposive sampling subjects were 43 nursing students. Inclusion criteria were second-year nursing student from Prachomklao College of Nursing, Petchaburi Province, enrolled in Principle and Techniques in Nursing Subject, academic year 2010 and volunteer to participate in the research.

The KWWH instructional strategy procedure was as follow:
1) Lectured and asked the higher-order thinking questions.
2) Divided the students into small group, each group contained 3-5 persons. Then, assigned the students to study the provided situation
3) After situation studied, ask the students to put in the information into the KWWH chart which consists of 4 columns.

The first column – K (know) put in the information about what the students know from the statement in the situation in order to promote the analytical thinking by separate the data into sub-category.

The second column – W (What) put in the information about the meaning of the situation in order to enhance the interpretation skill.

The third column – W (Why) put in the information about the cause and result in order to promote describe and prediction skill.

The forth column – H (How) put in the information about solving the problem in order to promote summarize making skill.

This KWWH procedure was implementing weekly for 8 weeks, at the total of 8 units. The KWWH performance was evaluated at the end of each unit.

The research instruments were critical thinking skills test, KWWH performance evaluation form, satisfaction questionnaire and student's reflective journal writing form. The content and construct validity were determined by 5 experts' judgment. Index of Item Objective Congruence (IOC) and experts' comment were gathered and revision was made on the entire instruments. The critical thinking skills test was consisted of 4 dimensions including analytical skill, interpreted skill, described/predicted skill, and summarize skill. The Cronbach's alpha Coefficient were reported at .70 - .75. Statistical analyses employed were mean, standard deviation, percentage, dependent t-test and content analysis.

RESULTS

1. Nursing students' critical thinking skills before and after the implementation of the KWWH instructional strategy were statistically significant different at the level of .05 as showed in table 1.

Table 1 compared critical thinking skills of nursing student between pre-test and post-test (n=43)

critical thinking skills	Score (4 points)						df.	dependent t-test	p-value
	pretest			posttest					
	$\overline{X}$	S.D.	level	$\overline{X}$	S.D.	level			
Analytical skill	2.77	0.48	high	3.26	0.28	very high	42	5.64*	.000
Interpreted skill	0.79	0.36	very low	2.41	0.62	high	42	15.36*	.000
Described/predicted skill	0.82	0.33	very low	2.43	0.45	high	42	21.87*	.000
Summarize skill	0.74	0.33	very low	2.14	0.43	high	42	20.75*	.000
total	5.12	0.89	low	10.24	1.13	high	42	30.99*	.000

* p-value < .05

As showed in table 1, the pretest mean score were in low level ($\overline{X}$ = 5.12, S.D. = 0.89) and the posttest mean score were in high level ($\overline{X}$ = 10.24, S.D. = 1.13), the posttest mean score was higher than pretest. The study showed that the highest posttest mean score was the analytical skill and the lowest posttest score was the summarize skill.

2. The mean score of KWWH performance were in the moderate level at the first time of the evaluation and have a tendency to increase gradually. Then, at the last evaluation the score showed at the high level as showed in Figure 1.
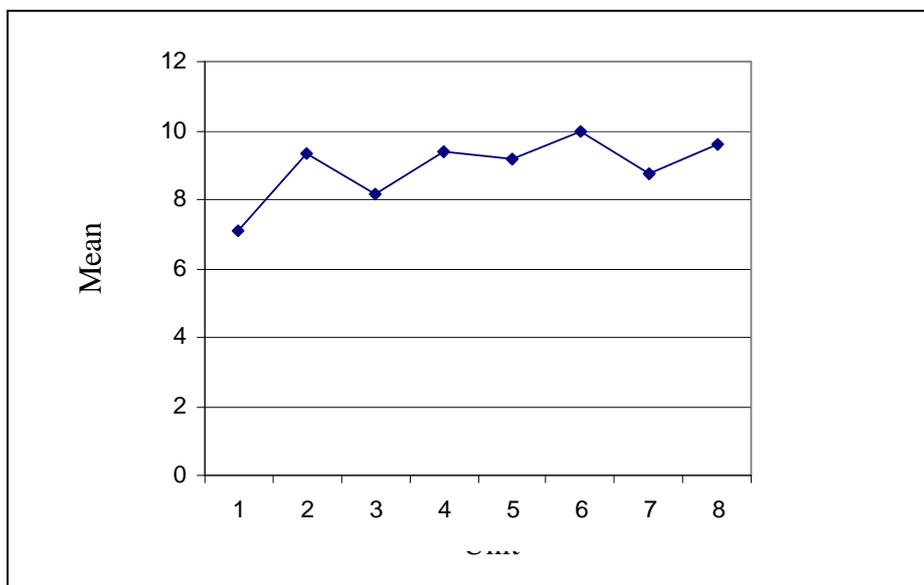
Figure 1 Mean score of KWWH performance.

3. The nursing students' opinion of the KWWH instructional strategy was appropriate at the high level. As shown in the table 2, the highest mean score of the opinion was the appropriate of unit content. The lowest mean score was instruction media.

Table 2 Mean score of the nursing students' opinion

Item	Opinion list	Score			
		$\overline{X}$	S.D.	Level	Order
1.	Unit Content	4.22	0.61	High	1
2.	KWWH Procedure	4.00	0.74	High	3
3.	Instruction Media	3.82	0.81	High	4
4.	Learning Evaluation	4.05	0.71	High	2
	Total	3.99	0.75	High	

4. The student's reflective journal writing about the KWWH instructional strategy indicated as follow:

a. **Promoting students' learning process**. According to the KWWH procedure, the students stated that they had a chance to review and link the information from the provided situation to the prior knowledge and experience. Furthermore, they got more opportunity to share their experiences with the lecturer and others. As the students mention that:

"To join in the learning activities, I must bring the knowledge that I have learned from other subjects such as Anatomy and Physiology, Pathology, and Physical Assessment etc, to solve the problem in the given situation."

"I think KWWH activities like an exercise chart that lead me to review my lesson and practice my thinking skills. When I have finished my work, I got a lesson summary."

"… Work in group, brain storming, discussion and share the experiences. When I don't understand I feel free to ask the teacher or my friends. It help me deep understanding.'

b. **Improving students' critical thinking skills**. The students who followed the procedure of KWWH instructional strategy stated that their thinking skills were increased. For instance, a student said that:
"It makes me able to analyze the given situation, think systemically, classify the situation information, and give the reason to explain my decision making in nursing procedure. It is very importance to know how to solve the problem in each situation."

c. **Motivating students to learn**. The majority of the students indirectly stated that they were motivated to learn. As the student said that:
"I feel good, KWWH activities interested me"
"I enthuse over the lesson. I like KWWH activities, it help me more understanding."

d. **Enhancing students' ability to apply knowledge to other situation**. The information in provided situations was determined as simulated conditions in clinical setting. The students were taught to think and make decision to solve the problems; therefore they realized how to use the knowledge in difference situation. As the student said that:
"I bring the knowledge that learned in early to apply in the case study. These make me able to remember what I learned, known, and how can I do in each situation."
"The condition in the given situation as an example that clarified and help me more understand how to apply the knowledge in the real setting."

DISCUSSION

The result of the study clearly indicated that critical thinking skill of the nursing students were increased after have been taught by the KWWH instructional strategy is the result of using sequent cognitive thinking teaching. According to the KWWH procedure, the learning procedure consisted of several activities included questioning the higher-order thinking, analyzing the provided situations, and making the decision to solve the problems in the situation and determine a nursing care performance. The makings of decision depend on nursing procedure understanding. Therefore the critical thinking skill should be taught by merged into the nursing knowledge contents (Angeili and Valanides, 2009) better than taught critical thinking skill in general condition separately. The result also showed that this instructional strategy enhancing students' ability to apply knowledge to other situation. In teaching – learning environments, instructor emphasized the students' perception of the value of learning by including how knowledge can be used in difference situation.

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EFFECT OF AVATARS IN INTERACTIVE LEARNING MATERIALS

Deniz Canca

Abstract

In recent years, since computers are being used in classes, various subjects are taught by using software programs. Computer, as an interactive instructional tool, can lead to an increase in learning, and in case of children, it can increase motivation and affect attitudes positively. Meanwhile, its effect differs according to the way how it is constructed. In this context, the aim of this study is comparing two interactive software programs (plain versus avatar included) for an environmental topic (recycling). While the plain program shows the fundamentals of recycling by explanotary interactive slides, the avatar included program is constructed on a "virtual young character" who collects data about the subject and applies them at the workplace. The study group consists of 102 primary school students. Results are determined by testing students' understanding and practising the subject together with their comparative comments.

Keywords: Interactive, material, animation, character, avatar, learning

INTRODUCTION

Our behaviour and attitudes towards our surroundings are mainly shaped by education, especially in early childhood. In recent years, since computers are being widely used in education, various subjects are taught to children by using software programs. Computer, as an interactive educational guide can lead to an increase in learning, increase motivation, and affect attitudes positively [1]. Besides, certainly, it differs according to subjects and materials that how computer based education contribute to learning and using new information.

In this context, the main aim of this study is representing and comparing two different modes in an interactive e-learning software; direct responsing versus responsing through an animated character; for the topic recycling, by both determining the achievement and getting the remarks of learners.

THEORETICAL BACKGROUND

Studies on cognitive development reveal that student participation is a key to success in learning. The extent of active participation of the learner in the learning process is an excellent index of the quality of teaching. Thus, the instructional techniques must provide maximum involvement of learners and enough opportunities for students to experience the environment, actual or simulated. Learner centred activities such as learning by doing, field study, experimentation, group discussions, games, role playing, project work, problem solving, and inquiry are some of the active learning techniques which bring about maximum learner participation. Through active participation, learning becomes internalised, becomes part of learner's cognitive structure and it becomes meaningful and permanent.

Technologies that support active learning, discovery, self-monitoring, dynamic software, anchored instruction, networks, participatory simulations, games, and construction kits dominate todays innovative developments (Nathan, 2010). Virtual learning environments are computer-based learning environments, which provide opportunities for learners to learn at the time and location of their choosing, while allowing interactions with other learners, as well as affording access to a wide range of resources (Xu & Wang, 2006). The improvement of e-learning systems has been the subject of many recent research efforts which aim to enable educators to provide proper personalized learning scenarios through investigating various models and techniques (Essalmi, Ayed, Kinshuk, & Graf, 2010; Tsolis, et. al., 2010; Klašnja-Milićević, Vesin, Ivanović & Budimac, 2011; Viswanathan & Ilango, 2012). Results of studies reveal that computer aided learning atmosphere affect students' motivation, achievement and attitudes positively (Owston, Wideman, Ronda & Brown, 2009; Akamca, Ellez & Hamurcu, 2009; Coakley, 2003; Schuepbach, Uherek, Weissenmayer & Jacob, 2009; Nicholson-Cole, 2005; Marcos, et. al., 2010; Vavoula, Sharples, Rudman, Meek & Lonsdale, 2009).

Computer and videogames often require that users interact with other characters on the screen that represent other real people or characters that are controlled by computer code running within the game (Lim & Reeves, 2010). Studies on software learning tools examine how an animated character appearing in a software affects

individuals' preferences (Choi, Yoon, & Lacey, 2012), their social status in virtual miniature societies (Lo, 2008), and emotions (Tinwell, Grimshaw, Nabi & Williams, 2011). Although there are numerous studies concerning long lasting attitudinal and behavioral changes through representational experiences in virtual learning environments (Carolan, 2007; Angeli, Valanides & Kirschner, 2009; Liang & Sedig, 2010; Chang, Bisgrove & Liao, 2008; Özmen, Demircioğlu & Demircioğlu, 2009; Bromfield, Clarke & Lynch,2001; Silk, et. al., 2008), a distinct study on the effect of personalization through animated characters has not been stated, particularly on improving students' conceptual understanding. Researches mainly reveal that technology stimulated and influenced individuals' thinking in relation to organizing data (Jones, et. al., 2001).

METHODOLOGY

Given that the study is teaching one of the basic topics of primary education, randomly selected 102 students from 3rd grades are determined as the sample group for the research. Both groups' learning materials, namely; plain and animated character involved, are prepared with the collaboration of YTU Computer Education and Educational Technology Department and Boğaziçi University Environmental Sciences Institute graduates.

The basic formation of the instructional materials are constructed on fundamentals of recycling. Here; recycling of paper, plastics, metals, glass, and organics is covered, including their release and further recycling processes.

The first software program includes basic principles of recycling that an individual should possess. The lecture starts with discussing results of the production and release of waste. The discussion covers knowledge on the amount of waste that is produced in a house, school, city, and world, the time needed of decomposition of various materials, and time and energy needed for the waste-related processes. The introduction is followed by two interactive activities; selection of materials suitable for recycling and the process of recycling after the appropriate type of release. In the first step students choose materials for the different type of recycling baskets (Figure 1). At the second step, they pass through different parts of a recycling factory for all types of materials and try to make the correct choices as decision makers (Figure 2). For determining the achievement on knowledge and attitude, after a couple of weeks after the instruction, students undergo an exam on the subject, including a hidden test for the amount of materials they put into the recycling bins after a handwork lecture.

In the formation of the second software, content and design in the first software is constructed as a program where all these steps are done by an animated character. Students express their choices through this virtual young character. In the first step where students choose materials for the different type of recycling baskets, they make the character find the correct items (Figure 3). Similarly, at the second step, instead of students finding the right actions in the virtual recycling factory, they help the character to find the right things to do in order to be successful at the very first working day (Figure 4). These two programs' teaching content and objectives are the same, leaving the only difference on the implementation.

"Can you group and put the wastes in correct bins?"
Figure 1:
A page of waste selection activity for Group 1

"make pulp – put glue – send to freezer"
Figure 2:
A page of recycling factory activity for Group 1

"I think I can group these. But it is better to get help"

Figure 3:

A page of waste selection activity for Group 2
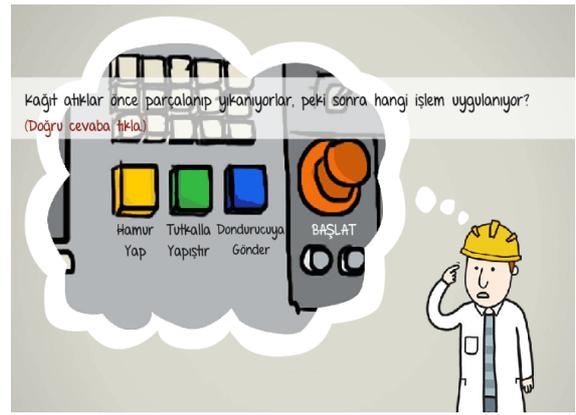
"make pulp – put glue – send to freezer"

Figure 4:

A page of recycling factory activity for Group 2

The difference between the two modes are determined by the independent samples t-test and percentage comparison. In the analyses, SPSS 20 software program is conducted on the groups which have equivalent pre-test points.

RESULTS AND CONCLUSION

Findings obtained from analyses of the knowledge test (Table 1) indicate that there is not a significant difference between the two groups ($t=1,945$; $p=.055$). In addition, responses of the groups to the hidden attitude test were similar in terms of frequency of students who properly use recycling bins (80.4% to 84.3%). Yet, interviews show that the majority of them (74.5%) prefer having a software program with animated characters.

Table 1: Independent Samples Test

	Mean	Std. Deviation	t	Sig.	Std. Error Difference
Group 1	20,84	2,70	1,945	,055	,980
Group 2	21,82	2,38			

The first result is that including animated charaecters into computer programs do not make a significant difference in knowledge achievement at the primary school level, and likewise, as a second result, the same is valid for the relevant attitudes. Meanwhile, it is notable that students mostly prefer inclusion of avatars in softwares. Hence, inclusion of personally controlled characters into the learning programs, particularly for the ones who prefer it, may provide a difference in achievement for various subjects. Moreover, in order to determine the range of this notification, composing similar experimental designs for other age groups, including adults, can be suggested for upcoming studies.

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LEARNING TO LEARN: EFFECT OF CONSTRUCTIVIST LEARNING DESIGN ON STUDENTS' SELF-REGULATION SKILLS

Sertel Altun

Abstract

In today's information era, while memorization based and exam focused system is wide spread in schools, there is a need for research on the effect of education designs that are based on the principles of constructive learning on students' ability to learn. In this sense, the goal of this study is evaluating the effect of constuctive learning design on learners' self-regulation skills. Study group consists of 33 undergraduate students who take the course "Individual Differences". The study has a pretest-posttest experimental design, where the independent variable is constructivist learning design and the dependent variables are self-regulation strategies. Results point out that constructivist learning environment had a significant positive effect on students' self-regulation skills, namely; rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation.

Keywords: Learning, self-regulation, strategy, individual, constructivism

INTRODUCTION

Today's information era brought the concept of lifelong learning into focus. Both inside and outside of school setting, individuals' need for self-education lead to a new way of looking at the education process. These developments caused researchers to study learning and its relevant variables. Individuals' need for providing and regulating their own learning whenever they feel the need for it brought out the concept of learning based on self-regulation. Self-regulation is a constructive process during which students determine the goals of their learning and then regulate and control their own cognition and behavior (Pintrich, 2000; Boekaerts 1999, Zimmerman 2002). It is individual's skill of setting accurate goals, observing, using appropriate strategies, keeping the motivation at high levels, and self evaluation for various cases and problems by considering the ability, knowledge and skills (Boekaerts, Pintrich, and Zeidner, 2000). For this skill to develop, the learner has to be active in the learning environment and go through the self evaluation continuously. One of the learning approaches that provide these desired conditions is the constructivist learning approach. As a learning theory, constructive learning requires individual to actively process the existing information by associating it with the new information and to internalize it by doing so (Naylor, 1999; Chin-Chung, Tsai, 2000; Fox, 2001). Constructive learning can be summarized as follows:

➢ Constructive learning is an active process.
➢ Information is not passively absorbed by the brain; it is constructed.
➢ Information is not discovered; it is invented.
➢ Information is personal and situational.
➢ Information is constructed socially.
➢ Learning is the process of giving meaning to the world.
➢ Learning requires solving meaningful and open-ended problems (Fox, 2001).

This approach is considered to be a modern design because it is based on scientific theories. It distances itself from the traditional education like memorization and teaching the subject area in detail. Therefore, unlike the traditional design which is centered on the teacher, it is a student centered design. However, in order to construct the information in the learner's mind, the teacher has to be expert at this. Constructivism can be applied both in micro (education design) and macro (curriculum design) level.

There is no existing recipe or series of rules for the constructive education design. According to Holt-Reynolds (2000), constructivism is considered to be a philosophy and reducing it to a series of methods would decrease the strength of this philosophy. On the other hand, Gagnon and Colloy (2001) developed a sample education design in accordance with the principles of the constructive learning approach. The design consists of six elements. These elements and their application in the classroom are as follows:

*Building the situation***:** At this stage, the teacher explains in detail what is expected from the students in the design, application, and evaluation of the education and what is needed in order to realize these expectations.

*Organization of the groups***:** How to regulate the student groups and how the groups work with the materials is defined.

*Building the bridge***:** Bridges provide the relation between student and information, student and student, teacher and student. Well build bridges enable students to use the information and form new information.

*Asking questions***:** Questions should help the students to develop their skills in critical thinking and problem solving.

*Presentation***:** At this stage, students present their work and explain their thoughts. The teacher is in a guiding position and regulates the thoughts that is formed at the end of the presentation.

*Reflection***:** At this stage, the learner conducts self evaluation about the process.

In today's information era, while memorization based and exam focused system is wide spread in schools, there is a need for research on the effect of education designs that are based on the principles of constructive learning on students' ability to learn. In this sense, the goal of this study is evaluating the effect of constuctive learning design made for the course "Individual Differences in Learning" on university students' self-regulation skills.

METHOD
Research Model

In this study "pretest-posttest experimental design is used. While the independent variable is constructivist learning design, the dependent variables are self-regulation strategies. The plan of the research design is given in Table 1.

Table 1: Experimental Design

Group	Pre-test	Experimental Process	Post-test
Experiment Group	Cognitive Self-regulation Questionnaire	Differentiated Teaching Design	Cognitive Self-regulation Questionnaire

Study Group

The study group consists of 33 3rd grade students from Yıldız Technical University's Computer Education and Educational Technologies Program. The research was implemented at the "Individual Differences in Teaching" course in the 2010-2011 academic year.

Data Collection Tools

For determining students' strategy variables, "Motivated Strategies for Learning" questionnaire developed by Pintrich, Smith, Garcia, and Mc Keachie is used where the Turkish translation, linguistic equivalence, validity, and reliability analyses are done by Altun and Erden (2005). The questionnaire consists of 3 parts with 81 five-point Likert items (Pintrich, 1993). The study focuses on the second part of the questionnaire where the strategies of rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation are measured.

2.4. Application

Application is done in 16 weeks, 32 course periods. During this period, students conducted six studies in groups of 5 and 6. The studies are as follows: Research and presentation on the conceptual meaning of self-regulation skills; analysis of a well-known person with high skills, presentation of the variables that enable this person to develop the relevant skills; questioning of their own self-regulation skills and if there are any short-falls, creating strategies to develop these skills; creating designs that allow the development of students' self-regulation skills in the learning environment; research on learning styles and determining their own learning style; planning the education designs for students with different learning styles. For planning, application, and evaluation of the studies, constructive learning principles are employed. In the following principles, the procedure is explained in detail.

Building the situation: At the beginning of each study, students went through a warm up exercise. These warm up exercises enabled group dynamic as well as a fun start to the subject. In this process, students' existing knowledge is determined. The instructor explained the process to the students and what is expected from them.

Organization of the groups: At the beginning of the semester, students formed groups of 5 by themselves and worked in these groups continuously. They are asked to solve the conflicts within the group by themselves, but when they could not, the instructor intervened and contributed to the solution. Each group determined their group name.

Building the bridge: This stage comes up when the information construction and the interaction between and within groups occurs. The instructor works with the groups and puts emphasis on the group interaction. In order to ensure that each member contributes to the study and to create group interaction, activities such as sharing roles and group trips are organized.

Asking questions: Throughout the process, the instructor asks questions both to the individuals and to the class in order to achieve deeper understanding of the subject. This contributes to increasing groups' knowledge to a step higher in accordance to the responses.

Presentation: At the end of each study, every group made a presentation, mostly via powerpoint. However, students also used techniques such as role playing, drama, exhibition, clipboard, and discussion. After the presentations, other groups and the instructor asked questions to the group and the unclear points were clarified. Subsequently, self-evaluation and evaluations are done first by the presenter group, then by the neighbour groups, and lastly, by the instructor. In order to work on the weak points, the content of the next stage is determined with the groups.

Reflection: Each student evaluated the process orally in the class. Afterwards, they wrote down their evaluations and added them to the group portfolio.

Evaluation: During evaluation, the process is questioned and in accordance with the previously determined criteria, the group portfolio is evaluated. Group portfolio counted for the 80% of the grade whereas the final exam counted for the 20%.

Analysis of Data

On the basis of the suggestion of Erden (1998), dependent samples t-test is used for the pretest-posttest experimental design. The significance level is set as $p<.05$. All the statistical analyses are done via SPSS 17.0 (Social Sciences Statistical Package) program.

FINDINGS AND RESULTS

The research question was determined as; "Is there a significant difference between students' pre-test and post-test self-regulation points who received constructivist learning design?". The pre- and post-test results of the five sub-dimensions of self-regulation strategies, namely; rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation, are given in Table 2.

Table 2: t-test Results on Cognitive Self-regulation Sub-dimensions

Strategy	N	Pre-test Mean	Pst-test Mean	t	SD	p
Rehearsal	33	15.91	18.93	2.99	4.36	<.01
Elaboration	33	30.85	34.65	3.79	5.92	<.01
Organization	33	19.54	21.60	2.26	5.37	<.05
Critical Thinking	33	22.38	26.26	4.06	5.56	<.01
Metacognitive Self-Regulation	33	56.15	62.36	2.10	12.19	<.05

Table 2 shows that significant differences exist for all sub-dimensions of self-regulation, in favor of post-test points. Rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation skills have a significant increase after the experimental process. This, points out that constructivist learning environment had a positive effect on students' self-regulation skills.

DISCUSSION AND SUGGESTIONS

The study shows that the constructive learning design has a positive effect on students' cognitive self-regulation skills. According to the constructive approach, information is formed by the individual through the process of individuals' interaction with the objects. Learning cannot be isolated from the social and cognitive processes. In other words, individuals do not simply absorb the information, but they form it again. They learn new information together with the existing information by adopting them to their personal situations (Özden, 2003). Such an environment contributes to the development of the students' skills for cognitive self-regulation. Since the student has the chance to question and present the existing knowledge continuously, there is the opportunity to develop self-directed awareness. Moreover, through discussions within and between groups, students have the opportunity to develop their critical thinking, elaboration, and organization strategies. Having the students undertake the same subject from different aspects allowed them to rehearse the subject and by doing so, to use the rehearsal strategies effectively. Especially, having the instructor give feedbacks about weaknesses and strengths of the study and construct strategies with students to work on the weaknesses had a positive effect on the development of students' self-regulation skills.

There are similar results that can be found in other studies on this subject. In their study, Yuen and Kit-Tai (2006) expressed that in the constructive learning environment, students have more time to think and construct the information and they have the ability to make authentic comments. Furthermore, in constructive education, it is stated that students' existing knowledge is activated and the information transfer is made easier. Koç and Demirel (2008) state that constructive learning environment contributed to the development of students' cognitive and perceptual areas. Findings of Lord (1999) presents that students in constructivist classes give more effort for the environmental subjects in comparison to the other student groups. Chinn (1999) showed that constructive learning environment enables students to produce new information and acquire the habit of high level thinking. Another study conducted by Kim, Fisher and Fraser (1999) concluded that in constructive design, students adopt a positive attitude towards learning as they share their experiences with their teachers and friends as the in-class discussions increase. The study of Şahin (2001) shows that constructive design is more effective than the traditional design. Wolf (1994) also states that through the constructive design, students perform meaningful learning.

By using the results of this study and of other studies conducted on the subject, it can be concluded that the constructive environment enables students to acquire the skills of taking the responsibility for learning, being active in learning process, and increasing the perceptual and cognitive awareness on learning.

New studies may focus on the effects of constructive learning environment on the variables that are known to influence learners' ability to learn such as self-efficacy perception, worry, and belief in learning. Furthermore, besides university level; similar studies can be conducted on primary and secondary schools and the results can be compared.

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TECHNOLOGIES FOR LIFELONG LEARNING IN THAILAND: POSSIBILITIES AND STRATEGIES

Anis Pattanaprichawong[1]
MuhammadDeen Mohd.napiah[2]
MuhammadNaim Omar[3]
[1] Lecturer at Princess of Naradhiwas University. (anis_10104@yahoo.com)
[2] Lecturer at International Islamic University Malaysia.(drdeen_61@yahoo.com)
[3] Lecturer at International Islamic University Malaysia.(naimomar@yahoo.com)

Abstract
The objective of this paper is study the possibilities and strategies of technologies for lifelong learning in Thailand by documentary and field study .The study will focus about possibilities of using technologies are print medium, radio, television, mobile telephony, and internet and computer networks for promoting lifelong learning in Thailand.

"Lifelong learning" is aims to give students the skills to go on learning throughout life and also positive attitudes towards learning which accept and even welcome change and new learning. Lifelong learning includes people of all ages learning in a variety of contexts – in educational institutions, at work, at home and through leisure activities.

The concept of lifelong learning stresses that learning and education are related to life as a whole, not just to work, and that learning throughout life is a continuum that should run from cradle to grave. In nutshell, lifelong learning promotes the devel¬opment of knowledge and competences to enable each citizen to adapt to the knowledge-based society and actively partic¬ipate in all spheres of social and economic life.

Keyword: Technologies, Lifelong learning in Thailand, Possibilities and Strategies

THE DEFINITION OF "LIFELONG LEARNING"

"Lifelong learning", according to (Royce, 1999 : 149), is "Aims to give students the skills to go on learning throughout life and also positive attitudes towards learning which accept and even welcome change and new learning." , while (Schuller & Watson, 2009 : 2) suggests, "Lifelong learning includes people of all ages learning in a variety of contexts – in educational institutions, at work, at home and through leisure activities. It focuses mainly on adults returning to organized learning rather than on the initial period of education or on incidental learning." The necessity to adjust to the prerequisites of the knowledge based society and economy brought about the need for lifelong learning for all in Thailand. (Keese, 2007 : 81) confirms the utility of lifelong learning, "A range of evidence points to clear economic benefits from lifelong learning both for individuals and for society as a whole." All these observations clearly establish that Lifelong learning is instrumental to meet societal or individual developmental challenges in Thailand.

The concept of lifelong learning stresses that learning and education are related to life as a whole - not just to work - and that learning throughout life is a continuum that should run from cradle to grave. In nutshell, lifelong learning promotes the devel¬opment of knowledge and competences to enable each citizen to adapt to the knowledge-based society and actively partic¬ipate in all spheres of social and economic life. Therefore, provisions of life long learning to different sections of Thai society may help them to continue developing on a personal level, having greater individual autonomy and making a more active and productive contributor to society. A country like Thailand having varied social, educational, economical and developmental standards demands the exploration and implementation of innovative ways to provide lifelong learning opportunities to every citizen. Technologies present numerous possibilities to fulfill the promise of lifelong learning for all in Thailand.

LIFELONG LEARNING AS POLICY

If the meaning of lifelong learning is co-extensive with the further development of the public system of education and training, which it clearly is in many respects, then it is subject to policy analysis in the traditional sense. The analytic conditions of policy are formation, implementation and compulsion:

1. The state, or some other ultimate source of political authority and sovereignty over both the means and the ends of policy.
2. A system of bureaucratic institutions, ranging from departments and ministries of state to local administrations, down to individual schools or colleges.
3. Together, these constituted a system of compulsion or sanctions which ensured policy compliance.   (Griffin, 1999a: 339)

This meant that policy analysis was based on the assumption that it was possible to discover whether or not a policy had been implemented and its objects obtained. This is how policy analysis emerged as a response to policy research into the welfare state, despite the fact that education has not been generally included in its remit.

But the idea of education as a welfare policy of the state has been recognized from the beginning in the social democratic model of lifelong learning projected by UNESCO and other international agencies. These agencies have also begun to take notice of the ways in which the role of the state in respect of welfare is under threat from global market forces :

> Many countries are also experiencing a crisis in social policies,
> which is undermining the very foundations of a system of solidarity
> that had appeared able to reconcile, in a democratic way, the
> economic, political and social aspects of society under the aegis
> of the Welfare State. (UNESCO, 1996: 56)

The worldwide crisis of the welfare state is a crisis of social democracy with implications for the policy of lifelong learning itself. The role of the state is crucial to the achievement of a social democratic vision of lifelong learning : 'In common with all theories of the welfare state the "state" itself is at the heart of social democratic perspectives' (Lavalette and Pratt, 1997: 12)

The role of the state in welfare or social democratic regimes is redistributive and interventionist in favour of those least likely to gain advantage in the market for goods or services such as educational opportunity. An earlier UNESCO report, before the current crisis in welfare and the role of the state, confidently asserted the role of the state in pre-globalization terms :

> Any educational policy reflects a country's political options, its
> traditions and values and its conception of its future. Clearly, in
> the first place, it is a function pertaining to each State's national
> sovereignty.
> Expounding an educational policy is the end result of a process
> of thought, which consists in:
> Ensuring that educational objectives comply with over-all objectives.
> Deducing educational objectives - in fact - from aims approved in
> over-all political policy. Harmonizing educational objectives with
> those adopted in other sectors of national activity   (UNESCO, 1972: 170)

In the quarter-century which elapsed between the Faure and the Delors Reports for UNESCO, the role of the state and of social welfare policy have changed with considerable consequences for lifelong learning. It is not as evident as it once was that the overall objectives of post-welfare states are social redistribution and intervention on behalf of groups disadvantaged in the education market.

Nevertheless, lifelong learning remains a policy of government when the meaning of lifelong learning is identical with an expansion of the public education and training system. Wherever it is possible unambiguously to measure the outcomes of policies in relation to aims and objectives, then it seems appropriate to analyse such policies in conventional ways: 'targets' seems to have been widely adopted to describe this process, alongside performance and outcomes. The penalties for missing targets, usually financial, represent the terms of compliance and the existence of sanctions whereby the government retains control over the *outcomes* of policy

with clear and unambiguous mechanisms of compliance. In the compulsory sector, for example, the overriding of local control in favour of direct control of schools by way of funding, audit and inspection, is an example of policy formation, implementation and compliance in its most obvious form.

However, lifelong learning policies are only partly addressed to quantifiable outcomes such as employability, human resource development, technological accreditation and global competition. They are also addressed to outcomes which are by no means measurable in the same way, such as social inclusion, or active citizenship, or even the quality of life itself. There are also the various *sites* of learning associated with lifelong learning, such as the family, the community or the workplace, which clearly lie beyond the scope of policy in the conventional sense. To understand the meaning of lifelong learning in these contexts we have to abandon altogether the conventional categories of policy analysis

LIFELONG LEARNING AS STRATEGY

Just as it is important to make a clear distinction between education and learning , so it is important to distinguish policy from strategy. This is particularly important because the two terms are often used interchangeably, whereas in relation to the role of the state they are by no means the same thing.

Strategy implies that the government abandons control over the *outcomes* of policy and restricts itself to organizing the *means*. The combined effects of globalization and competition, the onset of worldwide communications systems and embracing the neo-liberalism of the marketplace, have the effect of considerably reducing the scope for redistributive or welfare policies on the part of government. The role of government is seen as creating the conditions in which individuals are most likely to maximize their own learning. But the ultimate responsibility lies with them. This is consistent with the individualism of the competitive market economy, but also with the idea that the state should interfere as little as possible in the lives of individuals. (DfEE, 1998) suggests that lifelong learning itself is part of a wider government strategy to privatize the welfare system.

Before the term lifelong learning became widely adopted, there was a tradition of regarding adult education, recurrent education, continuing education, paid educational leave and so on as all *strategies* to bring about lifelong learning or a learning society (Houghton and Richardson, 1974) No doubt the term strategy was not necessarily used in distinction from policy in those days, but nevertheless it does convey some sense that what can be sanctioned or mandated is not learning *per se* but the kinds of conditions in which it might be maximized. This usage has now come to full fruition in the policy discourse of lifelong learning, which itself is a strategy on the part of the government to bring about further ends such as economic competitiveness, social cohesion, social inclusion, citizenship, and so on.

What are the implications of the shift towards a strategic position for public education? On the one hand, there is intense government interest in securing the conditions of economic competitiveness, social cohesion, human resource development and so on, but on the other, the role of the market, of "partners" and "stakeholders" makes policy superfluous:

> The strategy of governments is to create the conditions in which
> people, families, communities and organizations are most *likely* to
> learn for themselves, thus obviating the need for education policy
> in the traditional sense (Griffin, 1999b : 440)

It must not be assumed, of course, that the strategic role of government is a passive one. The conditions of learning have to be created in the form of various incentives, mainly financial, such as vouchers or tax-breaks, but also persuasion, veiled threat or even moral bullying. Learning has also been conceived as a kind of cultural commodity, and located not only in the market place but the in the social system of class and status.

LIFELONG LEARNING AS CULTURAL PRACTICE

If the government's retreat to the strategic position has implications for public education, the idea of lifelong learning as some kind of 'learning age' or 'learning revolution' or 'learning culture' has even more. This would seem to remove lifelong learning from the realm of policy entirely.

Although it is sometimes implied that cultural change can be socially engineered or created (NAGCELL, 1999) it is more widely accepted that only strategic incentives are more likely, in the short term, to bring about a learning society :

> Lifetime learning is not a Government programme, or the property
> of one institution. It is a shared goal relating to the attitudes and
> behavior of many employers, individuals and organizations.
> Government has a part to play but governments alone cannot
> achieve the cultural changes involved in making a reality of
> lifetime learning (DfEE, 1996 : 4)

The abandonment of policy in favour of strategy is taken a step further when lifelong learning is taken to consist of cultural practices in the form of attitudes and behavior. The idea that learning is sited in everyday experience, and in the social relations of family, community and work, effectively distances it from public education and thus removes it from the realms of both policy and strategy.

A postmodern analysis locates learning in cultural practices and in the culture of production itself (du Gay, 1997). But it may also be located in the culture of consumption too :

> Educational practitioners rather than being the source/producers
> of knowledge/taste become facilitators helping to interpret
> everybody's knowledge and helping to open up possibilities for
> further experience. They become part of the 'culture' industry,
> vendors in the educational hypermarket. In a reversal of
> modernist education, the consumer (the learner) rather than the
> producer (educator) is articulated as having greater significance
> and power (Usher *et al*, 1997 : 107-108)

Locating learning in patterns of consumption and production, which is certainly entailed by much of the policy discourse of lifelong learning, leads inevitably to a view of learning in terms of leisure and lifestyle practices :

> …knowledge becomes important: knowledge of new goods, their
> social and cultural value, and how to use them appropriately. This
> is particularly the case with aspiring groups who adopt a learning
> mode towards consumption and the cultivation of a lifestyle. It is
> for groups such as the new middle class, the new working class
> and the new rich or upper class, that the consumer-culture
> magazines, newspapers, books television and radio programmes
> which stress self-improvement, self-development, personal
> transformation, how to manage property, relationships and
> ambitions, how to construct a fulfilling lifestyle, are most
> relevant (Featherstone, 1991 : 19)

The view of learning, or a 'learning mode', as a lifestyle accessory of the new classes of society in a post-welfare society removes it even further from the public domain of policy, so that the government's retreat from policy-making to strategy-formation to "learning cultures" is complete.

USING TECHNOLOGIES TO PROMOTE LIFELONG LEARNING IN THAILAND

Following these dictums, the need of the hour is that we will focus about possibilities of using technologies are Print medium, Radio, Television, Mobile Telephony, and Internet and Computer networks for promoting lifelong learning in Thailand. The following strategies may be useful to fulfil this task.

(A) Print Medium

Print media is one of the well established educational medium in Thailand. As a result of the increasing rate of literacy, the number of people reading newspapers and magazines are increasing in Thailand. Taking advantage of this situation, following strategies may be adopted to utilize print medium for promoting lifelong learning in Thailand.

- Newspapers and magazines may publish specific "Lifelong Learning" sections on regular basis. Through these sections, they may provide details about institutions offering lifelong learning programs, training opportunities, lifelong learning guidance and other relevant information to the learners.

- Print media can make a difference by giving prominent news coverage and dedicated space to the lifelong learning. The magazines may also publish specific lifelong issues targeting adult learners and workers.

- Print media may also play an important and determining role in educating, creating awareness and transmitting crucial information about lifelong learning issues so that adult learners and workers become aware, remain alert and take measures to learn on continuous basis.

(B) Radio

Radio broadcast, both for information and education, is fairly old in Thailand. The radio has immense reach in Thailand and radio listening still remains an important source of information for a large number of listeners particularly in rural Thailand.

Considering the popularity of radio, following strategies may be adopted to offer radio supported lifelong learning.

- Phone-in-programs by Radio may be helpful to create awareness and provide information about lifelong learning. These programs will help learners to put up their learning needs and queries with anchors/experts. These programs will further help subject experts to offer lifelong learning counseling to the willing learners.

- Government and other agencies may also use radio to popularize and advertise about existing lifelong learning programs and opportunities to masses.

- About seventy percent population of Thailand lives in rural sector and they mainly require lifelong information about agriculture and related occupations. Radio can help a lot in this aspect as radio listening is quite popular in rural Thailand. Taking this trend in side, programs based on different aspects of lifelong learning programs may be aired on Radio on regular basis.

(C) Television

The following strategies may be adopted to utilize the immense potential of television for lifelong learning in Thailand.

- People in Thailand love to watch soap operas. This tendency of Thai viewers may be exploited for the cause of lifelong learning. The program producers for television may be requested to especially portray workers and adult learners in their soap operas and show the importance of lifelong learning in their life.

- The teleconferencing mode of television may also be utilized to provide information and counseling about lifelong leaning. The television channels may also invite lifelong learning experts to answer about lifelong opportunities to masses in Thailand.

- Now-a-days reality shows on television in Thailand are very popular. These shows have been used to encourage and excel people in different walks of life. Considering this success, reality shows for lifelong learning practitioners' and workers may also be organized. These shows will motivate people to indulge in lifelong learning activities for benefit of society and economy.

(D) Mobile Telephony

Mobile telephony is one of the most used communication means in media. (Agarwal, 2005) observes that phone networks, including cellular phones, leading to "silent" communication revolution enabling millions to overcome the literacy barrier in communication. Companies and organizations are using mobile signals to endorse their products, services and messages.

Considering these observations, following strategies may be adopted to use mobile phones to promote lifelong learning in Thailand.

- Mobile in Thailand has been frequently used for Short Messaging Service (SMS) and Multimedia Messaging Service (MMS). These messages are also available in national and regional languages. The government agencies, educational institutions, and other related agencies may send 'lifelong learning opportunities messages' to mobile users with a request to spread these messages to potential lifelong learners.

- Mobile companies offer the facility of mobile alerts to their customers. Under this facility, companies alert their customers about e-mails, latest events and other required information as per the need of the customers. The lifelong learning providers may use this feature to provide regular information about lifelong learning and training opportunities to learners.

(E) Internet and Computer Networks

The researches world over shows that internet has immense potential and is one of the best medium to spread lifelong learning. (Jullien & Branchet, 2010) noted that the Internet is a significant source of an increasingly diverse body of knowledge, a sort of "one-stop shopping paradise" for those seeking to learn: theoretical knowledge like foreign language or music theory or practical, hands-on skills. A few examples might include someone seeking guidance concerning a cooking recipe, an individual attempting to solve a technical problem related to his personal computer or someone needing to repair his washing machine.

Considering the reach and popularity of Internet in Thailand, following strategies may be implemented to use internet and computer networks for lifelong learning in Thailand.

- The agencies involved with lifelong learning in Thailand may launch 'Lifelong Learning Portal' in national and regional languages. This portal may be used to provide different kind of information related to lifelong learning and lifelong learners.

- The agencies may also use Internet to offer online lifelong learning program mainly focusing to equip learners for new skills and demands of labor market. The agencies will be required to regularly review and update these programs according to the need and demands of learners.

- The use of internet will also provide number of opportunities to lifelong learners to share their expertise, wishes, concerns and demands about lifelong learning by using e-mails, chat and blogs. This exchange of views will empower learners to practice lifelong learning via cooperative and active learning.

CONCLUSION

The global knowledge economy is transforming the demands of the labor market throughout the world. It is also placing new demands on citizens, who need more skills and knowledge to be able to function in their day-to-day lives. Equipping people to deal with these demands requires a new model of education and training. The researcher has a belief that adoption of proposed strategies to use technologies for lifelong learning will be helpful to meet out the unmet lifelong learning needs of Thai citizen in best possible way.

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THE TECHNOLOGY APPLICATION OF WEB-BASE BLENDED TRAINING INTEGRATION WITH KNOWLEDGE MANAGEMENT SYSTEM FOR NEW RESEARCHER IN RESEARCH PROPOSAL

Duangkamol Phonak[1]
Monchai Taintong[1]
[1]King Mongkut 's University of Technology North Bangkok
1518, Piboonsongkram, Rd., Bangsue, Bankok,10800, Thailand
tantawan_ple@hotmail.com

Abstract
This research aimed 1) to develop Web-Based Blended Training Integration With Knowledge Management System for New Research in Research Proposal (WBBT-KM) , 2) to validate efficiency of WBBT-KM and 3) to evaluate satisfaction of trainee using WBBT-KM. In order to identify the result of this research, the sample were 30 new researchers who interested to write research proposal and had not experience for research proposal performing. The instrument were WBBT-KM, testing and questionnaire. The statistics implemented were mean, standard deviation and standard criteria of 80/80.
The finding of research : The experts evaluated that WBBT-KM's quality was considered to be of good level. the efficiency of WBBT-KM was 81.25/80.12 which had been standard criteria of 80/80. The satisfaction of trainee using WBBT-KM was considered to be of good level.

Keywords: Web-Based Blended Training, Knowledge Management System, Research Proposal

INTRODUCTION

Blended Learning was the teaching and training practice that combines teaching methods from both face-to-face and online learning and training. It was extending classroom instruction, supporting credit recovery programs, enhancing trainer professional development or delivering enriched learning opportunities for accelerated trainee, Blended Learning models was increasingly common practice across the curriculum for training. It was implemented in a various of ways, ranging from models in which curriculum was fully online with face-to-face interaction to models in which face-to-face classroom instruction.

The rapid growth of Blended Learning has been a catalyst for additional instructional transformation, including: 1. Evolving pedagogy in which teachers'roles include cilitation, student mentoring and differentiating instruction for individual learners, 2. Increased flexibility and personalization of students' learning experiences, and 3. Strategic uses of technology as districts tap the capabilities of the learning management systems to support a wider range of instructional programs.

Driscoll (2002) pointed out that blended learning can mean different things to different people. It can mean:
1. to combine different web-based technologies,
2. to combine different pedagogical approaches,
3. to combine any form of instructional technology with FTF instructor led training or / and
4. to combine instructional technology with actual job tasks in order to improve learning transfer. Driscoll (also) sees Blended Learning primarily as an strategy

to help starting e-Learning in organizations: "Blended Learning allows organizations to gradually move learners from traditional classrooms to e-Learning in small steps making change easier to accept." The mostly used "ingredients" of the blend include: classroom instruction; interactive web-based training; email; self-paced content; threaded discussion; collaboration software; virtual classroom; print-based workbooks; and on-line testing. Blended Learning (b-Learning or Hybrid Learning or integrated learning or multi-method or mixed mode learning) consists of the combination of e-Learning and traditional education approach. The goal of Blended Learning is to provide the most efficient and effective learning experience by combining different learning environments. Blended Learning stands in the forefront in respect of interactivity with target learner group, enriching learning process and integration of technology into education. (Rovai & Jordan, 2004). The e-Learning had an interesting impact on the learning environment. Blended Learning is the most logical and natural evolution of our learning agenda. It suggests an elegant solution to the challenges of tailoring learning and development. Thorne (2004) states that Blended Learning represents an opportunity to integrate the

innovative and technological advances offered by online learning with the interaction and participation offered in the best of the traditional learning.

Knowledge Management had been proposed, and three major approaches for studying KM (technological, organizational, and ecological) had been developed. The technological approached focuses on tools that could be used to enhance knowledge sharing and creation. For example, Mahesh and Suresh (2004) defined KM as the strategic management of people and knowledge representations in an organization using specific technologies and processes to optimize knowledge sharing. Schmidt (2005) pointed out that KM and e-learning both aim to facilitate learning within organizations, but via two different paradigms. The main difference between KM and e-learning was that the former assumes knowledge could be actively produced or transferred, while the latter assumes that learning needed to be improved through guidance. Although these two learning approaches might appear to be contradictory from certain perspectives, they could be complementary when the blended learning approach is employed. In other words, guided practice or scaffolding could be integrated into the KM approached to enhance knowledge production and knowledge transfer through both face-to-face and online interactions.

As the information reviewed above, the researcher would like to develop Web-Based Blended Training Integration With Knowledge Management System for New Researcher in Research Proposal Performing (WBBT-KM) in order to promote New Researcher in Research Proposal Performing.

PURPOSE OF THE RESEARCH

The purposes of research were:
1) to develop Web-Based Blended Training Integration With Knowledge Management System for New Researcher in Research Proposal Performing (WBBT-KM).
2) to validate efficiency of WBBT-KM.
3) to evaluate satisfaction of trainee using WBBT-KM.

CONCEPTUAL RESEARCH FRAMEWORK
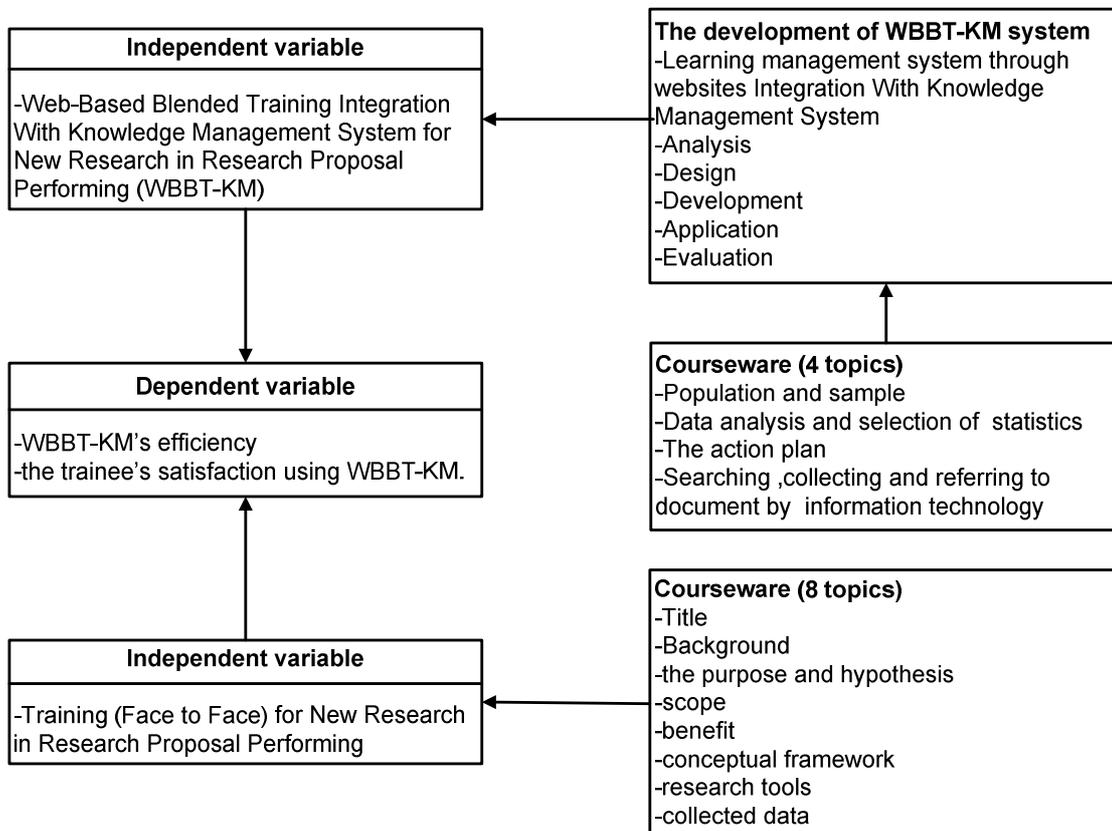
Figure 1 Conceptual Research Framework "WBBT-KM Model"

RESEARCH METHODOLOGY

There were four phases of this research methodology

4.1 Synthesis of "WBBT-KM Model" was divide to three parts
Part 1 was to study conceptual framework of related theories, including theories of Training theory, Theory of KM , Web-based Instructional , Blended Learning and content of Research Proposal Performing for new researcher.
Part 2 was to develop the "WBBT-KM Model"
Part 3 was to study nine experts' opinions on the quality of the "WBBT-KM Model". At this part, the researcher used information obtained from both first phase and second phase to develop the "WBBT-KM Model" . Then, the model was certified by nine experts through blended learning, KM and Research Proposal Performing of for new researcher.

4.2 Analysis
4.2.1 Analysis of Content selection was to subjects that would be used for training and learning "WBBT-KM Model".
4.2.2 Analysis of Trainee was to consider learner characteristics. To Tran through the "WBBT-KM Model".
4.2.3 Orientation was an orientation to understand and prepare the trainees about
training through the "WBBT-KM Model".
4.2.4 Facilitators support is to provide materials or facilities or resource and tools.
To teaching and learning through model.

4.3 Design and Development
The instructional design and development was very important because it integrated activities from the Blended learning Model Integration With Knowledge Management System. The activities from Blended Learning Model were e-Learning and Face-to-Face Learning. The techniques used in e-Learning were coaching, collaboration, cooperative learning. The techniques used in Face-to-Face Learning were active learning, individual lecture, and individual seminar. In addition, consists of:
4.3.1 The Learning management system through websites Integration With Knowledge Management System
4.3.2 The courseware of Research Proposal Performing for new researcher formed Web-based Instructional which 4 topics were 1) Population and sample,
2) Data analysis and selection of statistics 3) The action plan and 4) Searching ,collecting and referring to document by information technology
4.3.3 The courseware of Research Proposal Performing for new researcher formed training using the trainer which 8 topics were 1) Title, 2) Background, 3) the purpose and hypothesis, 4) scope , 5) benefit, 6) conceptual framework, 7) research tools and 8) collected data
4.3.4 The exercises for each of topic
4.3.5 The pretest and posttest
4.3.6 The trainee's satisfaction questionnaire

4.4 Implementation
In order to identify the result of this research, the sample were 30 new researchers who interested to write research proposal and had not experience for research proposal performing using Web-Based Blended Training Integration With Knowledge Management System for New Research in Research Proposal Performing (WBBT-KM).

CONCLUSION AND DISCUSSION

The finding of research : The experts evaluated that WBBT-KM's quality was considered to be of good level. the efficiency of WBBT-KM was 81.25/80.12 which had been standard criteria of 80/80. The satisfaction of trainee using WBBT-KM was considered to be of good level. Above Schmidt (2005) pointed out that KM and e-learning both aim to facilitate learning within organizations, but via two different paradigms. The main difference between KM and e-learning was that the former assumes knowledge could be actively produced or

transferred, while the latter assumes that learning needed to be improved through guidance. Although these two learning approaches might appear to be contradictory from certain perspectives, they could be complementary when the blended learning approach is employed. In other words, guided practice or scaffolding could be integrated into the KM approached to enhance knowledge production and knowledge transfer through both face-to-face and online interactions. Therefore, the New Researcher would be increase skill-driven learning, attitude-driven learning, and competency-driven learning in Research Proposal Performing using "WBBT-KM Model".

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MODEL OF HOGH EDUCATION INSTITUTION'S ADMINISTRATION RESULTED FROM AMALGAMATION OF PRINCESS OF NARADHIWAS UNIVERSITY[1]

Sirikanya Kanthong[2]
Suttiwan Tuntirojjanawong[3]
[1]This article is part of the Ph.D study in the field of Educational Management, Faculty of Education, Sukhothai Thammathirat University, under the topic of Model of Higher Education Institution's Administration Resulted from Amalgamation of Princess of Naradhiwas University
[2]candidate doctor, Educational Management, Faculty of Education, Sukhothai Thammathirat University
[3]Associate Professor, Educational Management, Sukhothai Thammathirat University
E-mail: sirigunyar@hotmail.com

Abstract

This research aimed to study a model of higher education institution's administration resulted from amalgamation of Princess of Naradhiwas University. The research process included: 1) studied research document regarding the model of higher education institution's administration resulted from the amalgamation, and 2) interviewed professionals and administrators in Princess of Naradhiwas University. The sample was twenty professionals and administrators in Princess of Naradhiwas University. The instrument was an interview form and the data was analyzed by synthesizing content. The findings showed that there are four elements in the model of higher education institution's administration resulted from the amalgamation of Princess of Naradhiwas University including: 1) Direction Governance, Resourcing & communication , 2) Core Activities, 3) Support, Infrastructure & Administrative Activities, and 4) Impact Tracking Measures.

Key words: Model of Higher Education Institution's Administration , Amalgamation University

INTRODUCTION

A worldwide trend of higher education reformation during the past decade resulted from a rapid change in politics, economics, technology, culture, ecology and environment. In case of Australia which is one of the countries that provides amalgamation between College of Advanced Education or Teacher Training Institution nationwide during 1984 -1988, the amalgamation here mainly resulted from political factor, economic, and geographical location. However, the amalgamation of higher education reformation in many countries were affected from the change in restructuring of higher education systems which have various models and can optimize the management at higher education level (HARMAN, KEY, 2002,2008, MOK, KA-HO;2005& SEHOOLE, M.E.C.2005). It is realized that the development of national higher education in the future cannot be performed as similar to the past, especially, the granting of higher education institution establishment or a fully new university (Manas Suwan et. Al, 2003). This resulted from two main reasons, that is, demand and supply in higher education which already reached to a satisfied level together with the limited budged from the government in establishing a fully new university. Therefore, the way of development of higher education in the country should be in the form of bringing the existing universities into the amalgamation process (Manas Suwan et. Al, 2007).

According to the Princess of Naradhiwas University Act 2005, it has announced in the Government Gazette and enforced in the 9th of February, 2005 for the amalgamation of the four educational institutions which have potentiality in developing Narathiwas province. These institutions included Narathiwas Technical College, Narathiwas College of Agriculture and Technology, Takbai Vocational College, and Boromarajonani College of Nursing, Narathiwas. This is in order to share resources and maximize the benefits with less investment as much as possible by not against the educational philosophy and the mission of formal institutions (Naradhiwas University Act 2005, 2005).

Princess of Naradhiwas University is still in a number of shortage conditions such as a lack of teachers which some of them are in development period, lack of framework of officials rate which is a motivation in performing work, and lack of budget in truly supporting the development direction for community, in order to develop the university to leap forward equivalently to all the nations and respond to the need of the society. However, these problems are parts of the development problems. Besides, all resource's limitations combined with the inflexibility in bureaucracy system made more severe problems. Also, the annual budget allotment is quite limit

and especially the amount of budget is not balance to the increasing number of students. Accordingly, the university needs to supply sufficient revenue for the administration of the university.

And the serious competition for stepping to ASEAN community, as well as, other threatening conditions, all has caused the university to find approaches to develop the university under limited resources, the condition of the unrest in southern border provinces, and diversity of culture.

In the fiscal year 2010, Princess of Naradhiwas University was able to develop the organization by integrating a link to the internal system in the organization effectively. The university is one of the four universities which were qualified according to the quality of government administration at a basic level which clearly presented the effective administration of Prince of Narathiwas university during shortly implementing the amalgamation (2005-2011).

According to the administration condition of Prince of Narathiwas University, by a new model of university resulting from amalgamation of institutions, the researchers were interested in the administration model of Princess of Naradhiwas University resulted from the amalgamation in order to apply this as a guideline in managing the university which resulting from the amalgamation to be more effective in the future.

RESEARCH OBJECTIVES

This study aimed to present a model of higher education institution's administration resulted from the amalgamation of Princess of Naradhiwas University.

The research process included: 1) studied research document regarding the model of higher education institution's administration resulted from amalgamation, 2) interviewed professionals and administrators in Princess of Naradhiwas University.

THE SCOPE OF THE RESEARCH

To specify the scope of the research, the researchers determined the scope of the content into three periods. The first period was a pre-amalgamation which was a beginning of this administration model before the Prince of Naradhiwas University Act 2005. The second period started from the implementing of the Prince of Narathiwas University Act 2005 until 2011. The third period started from 2012 onwards.

RESEARCH METHODOLOGY

The data collection procedure included the documentary data while a field data was collected through interview. The detail of the data collection is as follows:
1) Studied the model and condition of higher education institution's administration resulted from amalgamation, and studied the administrative condition of Princess of Naradhiwas University by documentary research.
2) Interviewed twenty professionals in administration and education assurance under the topic of a model of the administration of Prince of Narathiwas University by using a semi-structured interviewed and analyzed data by synthesizing the contenet.
3) the data from the analyzed document and interview were synthesized for the model of administration of Prince of Narathiwas University.

Population and Sample Group
The population in this study were ten professionals in administration and education assurance, and thirty administrators in Prince of Narathiwas University, altogether forty persons.
The sample group was sampled by random sampling, that is, five persons from the professionals in administration and education assurance and fifteen persons from administrators in Prince of Narathiwas University, altogether twenty persons.

Research Instrument

The instrument in this study was an interview on the administration model of Prince of Narathiwas University which was a semi-structured interview composing of four elements: 1) Direction Governance, Resourcing & communication, 2) Core Activities, 3) Support, Infrastructure & Administrative Activities, and 4) Impact Tracking Measures.

Data Analysis

This research employed the content analysis as a method of analyzing data.

RESEARCH RESULTS

According to the administration's model in higher education institution's resulted from the amalgamation of Princess of Naradhiwas University from the document data and the interview with professionals, it was found that there were four elements in the model. These included: 1) Direction Governance, Resourcing & communication, 2) Core Activities, 3) Support, Infrastructure & Administrative Activities, and 4) Impact Tracking Measures, as illustrated in Figure1.

Core Activities consisted of five aspects including 1) producing graduate 2) research 3) academic services for society 4) The preservation of art and culture 5) administration

Support, Infrastructure & Administrative Activities consisted of 12 departments, including:
1) Quality assurance
2) Research
3) Library
4) University council
5) Security
6) Information technology and basic structure
7) Building
8) Center for assisting victims from the unrest in southern border provinces region
9) Students' welfare
10) Public relation
11) International affairs
12) Personnel welfare

Direction Governance, Resourcing &communication consisted of 7 aspects:
1) organization leadership 2) strategic planning 3) focusing on service recipient and stakeholders 4) measure on analysis and knowledge management 5) the focus on human resource 6) procedure management 7) results of implementation

Impact Tracking Measures consisted of 5 aspects, including:
1) Blueprint for the Amalgamation entity
2) Joint steering group
3) Amalgamation Phase

Figure1. Model of Administration Amalgamation of Education Institutions Princess of Naradhiwas University

1. Direction Governance, Resourcing & communication

Direction Governance, Resourcing & communication			
Administrative procedure	**Amalgamation phase**		
	Pre Amalgamation phase	**Amalgamation phase**	**Post Amalgamation phase**
planning	Planning for the preparation of MUA	Having strategic planning, planning for long-term development and annual action plan -Focusing on supporting planning, especially on participation and exchange knowledge -definding minor important persons such as financial, academic, and equipment. - For personnel: develop knowledge, conscious mind in working for personnel encouragement in order to work with full capacity, have a good quality of life, a specific qualification, knowledge, understand of culture and ways of life, have high ideals in working with universal awareness, accept in the difference in nationality, religion, language, and culture of students and people - managing the administration organization system, and provide other services related to building and environment, - creating relationship with community, promote a directing work -recruiting, appointing, strengthening the working performance, and discipline. - preparing of the presentation for requesting budget, budget allocation, financing and parcel work.	Continue performing, having idea of learning based on moral together with knowledge- aims at making learners have faith, happily practice moral in the society, together with knowledge, principle, and allow the society to be part in the educational management: - making the principle of educational management to be Thainess and equal - creating learning society and reconciliation in southern border provinces region - integrating quality equipment to employ in administration, -building quality culture, and use necessary technology
organizing	The committees were mainly from MUA	Having the preparation of structure's management which emphasized on coordinating in the main working line and consulting line, - preparing the structure of command line together with commanding, -dividing the working structure according to the Prince of Narathiwas University Act 2005, personnel structure and related work, - establishing organization to support the administration.	Continue performing by setting the strategy for quality assurance, promoting the exchange of knowledge, the structure of the organization according to the progress of that organization, -emphasizing on the capacity of personnel, -adding the office for community development
direct	Directly from MUA and some issues that were authorized	The administrators had a high leadership - leader in changing, managing by participating and teamwork, - emphasizing on effective communication, manage conflicts, - holding on cooperate governance, -placing priority in participation in administration under committee form, -having co-committee in decision making, -minimizing the personal role; the committees have a role in controlling, promoting the operation; have a role in determining of the university, -developing people according to the quality assurance plan for resource management in all government sectors.	Continue performing, formal administration, emphasize on creating innovation, quality administration, systematic command, expand the authority of administration
controlling	The committees were mainly from MUA	Serious supervision, monitoring and evaluation and continuously with initiated the idea of implementing quality assurance system as a driven force.	Employing the quality assurance system as a driven force by emphasizing on sufficiency economic

2. Core Activities have a detail description as following;

The main responsibility of Prince of Narathiwas University consisted of four aspects. Firstly, produces university graduates, develop learning system which correspond to the need of community, 2) research: develops research for teaching and learning development, solving problems and develop community. 3) Academic and social services: services academic and creating occupation by faculty/college and institution provide academic service according to specific specialized, 4) Preservation of art and culture: emphasizes learning different culture and maintain arts and culture and administration.

Core Activities: graduate production, social and academic service, research, culture and art maintenance			
Administrative procedure	**Pre Amalgamation phase**	**Amalgamation phase**	
		Amalgamation phase	**Post Amalgamation phase**
planning	Performing mission according to the formal mission	Planning strategy, making development plan and yearly/long-term action plan, emphasize on work according to the responsibility that aims for achievement, emphasize for the center for community development, creating the cooperation with community. **Graduate production** The graduate production is the most important task that the concerned department have to be independent and flexible together with allocate scholarships for doctoral degree, develop into lecturer system, develop the networking system at all level of education, support and develop local personnel into university system. - curriculum management is corresponding to the need of the market and focus on learning which based on research; learners are able to think, perform, and solve; responsible for society; and develop information technology library. - teaching and learning emphasize on multi culture; emphasize on furthering study and graduate with careers; develop lecturers to further studying and develop academic profession and academic position; develop graduates with moral leading knowledge; and improve graduates and teaching and learning system. -having academic service for society -Preparing policy plan and management plan, -supporting academic service, -having short-term training course and providing the need of community, -opening opportunity for people in participating in decision making and sharing knowledge, -promoting and developing community's leaders to be able to truly apply knowledge in community according to faculty/college/institutions, and developing learning system across culture. **Maintenance of art and culture -**Implanting the learners to have awareness in preserving the original culture and traditions, restore beloved local culture, proud of culture and realize the importance of art and culture of the nation. **Research** -Promoting research, providing budget sources, creating network both national and international, supporting the implementing of the research, developing research for teaching and learning development, creating cooperation in academic in order to develop the university into universal status, developing capacity, having management according to the governance coorperate.	Continue performing, integrating the quality assurance by employing technology in administration and using innovation

Core Activities: graduate production, social and academic service, research, culture and art maintenance			
Administrative procedure	Amalgamation phase		
	Pre Amalgamation phase	Amalgamation phase	Post Amalgamation phase
organizing	Performing mission according to the formal mission	Setting the administrative structure to be flexible by allowing all personnel to be able to work in various duties; -emphasizing on small organization, creating community participation from internal and external organization, and aim at the maximizing the resources.	Continue performing, integrating with the main mission; specifying strategy, integrating the quality insurance, creating the cooperation network, and produce graduate into universal.
direct		The administrators have a high leadership, governance cooperate; manage by participating and teamwork which emphasize on effective communication; and manage conflict.	Continue performing in quality management, and effective communication
controing		Applying the quality innovation equipment by using the quality assurance as a driven force.	Using the quality assurance system as a controller and a drive force

3. Support,Infrastructure & Administrative Activities

The university set the internal department in order to promote the administration of the university which is very important in driving the university administration. These included twelve departments: 1) Quality assurance, 2) research, 3) library, 4) university council, 5) security, 6) information technology and basic structure, 7) building, 8)center for assisting victims from unrest in southern border province, 9) students welfare, 10) public relationม 11) international affairs, and 12) personnel welfare

4. Impact Tracking Measures

The impact tracking measures consisted of: 1) Blueprint for the Amalgamation entity, 2) Joint steering group, and 3) Amalgamation Phase

(1). **Blueprint for the Amalgamation entity** or the university development plan which is said to be a prototypical plan and very important as a key for developing the university

Blueprint for Amalgmation Princess of Naradhiwas University entity			
Administrative procedure	Amalgamation phase		
	Pre Amalgamation phase	Amalgamation phase	Post Amalgamation phase
Planning	The MUA managed Blueprint	Blueprint was prepared by the university	Blueprint was prepared by the university
Organizing	Five groups of the committees were set for the developmental planning, physical structure and administration, academic structure, public relation structure, preparation, and transformation of assets, liabilities and personnel.	-Having informally start the dividing of government sectors - Having the announcement of the Ministry of Education on the dividing of government sectors in Prince of Narathiwas University 2007 - establishing the department for supporting.	- Having the announcement of the Ministry of Education on the dividing of government sectors in Prince of Narathiwas University 2007 - preparing on the department for supporting
Directing Controlling	MUA	University council, chancellor, committees	University council, chancellor, committees

(2) **Joint steering group**

The higher administrators who drive the administration of Prince of Narathiwas University were consisted of three main groups: the chairman of the university, the vice chancellor, director of the office of president, the director of divisions, deans, directors of college and director of institution as illustrated in figure 2
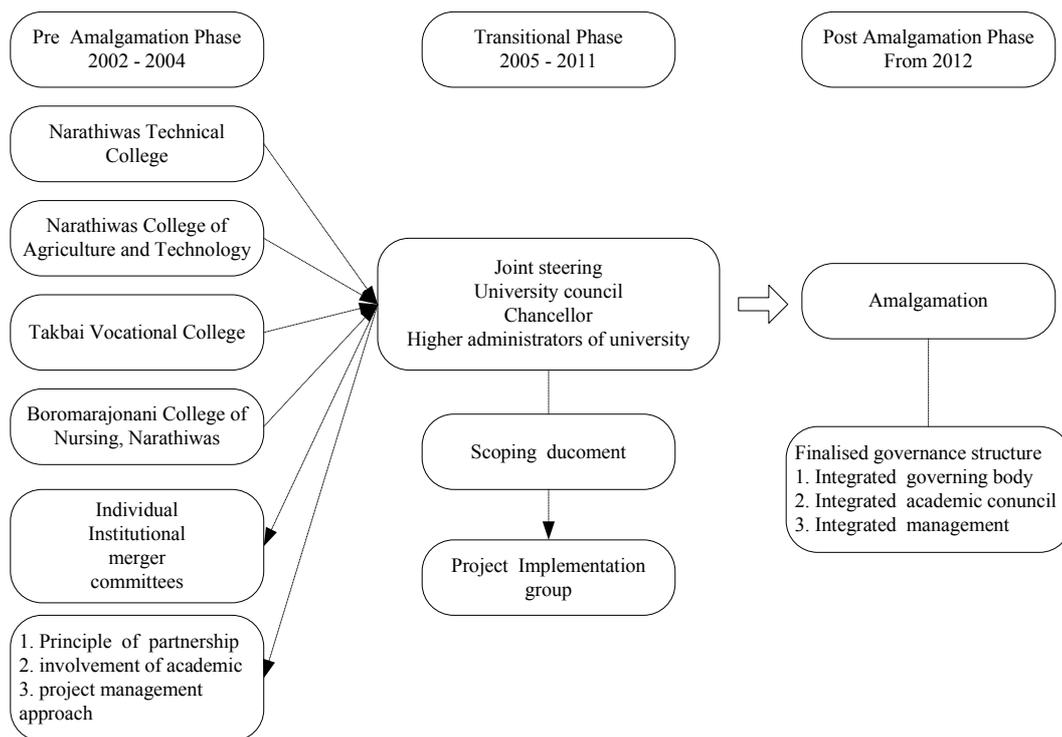
Figure2. Phases of the Pre-Amalgamation /integration process,Joint steering group

The admistration of Prince of Narathiwas University

	Crisis Management Including the process of amalgamation, a model of administration according to the mission, the quality assurance, performing according to a model of university, and the adjustment of organization, and personnel development	New Competitive Long-term planning Creating cooperation in academic Resource recruitment Producing Innovation for community
Extirpated changing		
Slow changing	Damage Control The process of preparation in amalgamation of higher education institution consisted of the explanation of the facts, important information, rights, privilege; some personnel quit their jobs, transferred, learning working process.	Strengthening Existing Competitive Position Having the development of university by employing the participating procedure, the spreading of administrative authority, the multidisciplinary academic service
	The change on solving problems	**The change on preventing problems**

(3) Amalgamation Phase

The amalgamation was divided into three phases: Pre Amalgamation Phase year 2002-2004 , Amalgamation Phrase 2005 – 2012, and Post-Amalgamation Phrase year 2013 onwards

(3.1) Pre Amalgmation Phase, 2002 – 2004

The need for change in the Amalgamation of Education Institutions of Princess of Naradhiwas University including:

1) requesting for the need to establish the university in Narathiwas province by residents and community's readers

2) Regarding the national reformation of higher education institution which not allow to establish a fully new higher education institution

3) Regarding the education reformation which is a necessity to expand the opportunity in higher education

4) The guideline for establishing higher education institution according to the research on the specification of the location of higher education institution which showed that it is unsuitable to establish the higher education institution because of a huge of budget. Instead, the resource should be maximized and emphasized on the integration between a model of amalgamation, the total collapse, raising position, as well as the management of sub-system or network between institutions.

Before the implementing of Prince of Narathiwas Act, there was MUA who prepared the model scheme in Narathiwas province and managed the establishment and physical structure by appointing subcommittees who work on physical tasks, administrative structure, and academic.

(3.2) Amalgamation during period 2005-2012

This stage started from the initiation of Prince of Narathiwas Act 2005 and the chancellor who was from the recruitment for the administrator of the university, perform the university establishment, specified the committees to support the education of local community according to the Prince of Songkhla University Act 2005 and the regulation of Prince of Narathiwas University; and appoint the committees in various groups according to the Prince of Narathiwas University Act 2005, in order to drive the university in the future.

(3.3) Post-amalgamation since 2012 onwards

The post-amalgamation period starts from 2012 and this stage has began with the university management since the beginning of the Prince of Narathiwas University Act 2005. Until today, it was found that the university has progressed gradually according to the evaluation in three dimensions. In addition, the 1st dimension measured the satisfaction by the stakeholders and it was found that the university was accepted by students, residents, graduates' employers, and organization from both private and government sectors, at a good level of satisfaction. The 2nd dimension showed that the university achieved the goal at 90%. Finally, the 3rd dimension was related to the assessment on the education quality assurance by Kor Por Ro, Sor Mor Sor, MUA which indicated that the university has gradually developed, progressively.

DISCUSSION

The study of Model of Higher Education Institution's Administration resulted from Amalgamation of Princess of Naradhiwas University can be discussed as follow:

1. According to the data from the Direction Governance, Resourcing & communication part, it was found that the finding was correspond to the study by HARMAN, KEY (2002) which was an Introduction to special issue: "Merger revisited: international perspectives on mergers in higher education". In addition, the finding showed that a variety of different models and mechanisms have been used by higher education systems in many countries in order to achieve restructuring and increase levels of institutional collaboration. There were many and various drivers concerned in these efforts, however, the important point was a pressures to increase efficiency and effectiveness. Besides, according to Aarrevaara, Timo & Dobson, Ian R. and Camilla Elander. (2009)- Brave New World: Higher Education Reform in Finland, it was indicated that the reforms expected of new Universities Act currently before parliament and a set of institutional mergers. When passed, the new act will provide universities with various advantages such as the providing of independent legal status; change their relationship with the government in several ways; affect university governance arrangements; and alter the relationship between staff and their university employers. Moreover, this study was similar to the study by Grant, (1960) - Institutional Mergers in Australian Higher Education since 1960, which showed about key factors in enhancing the chance of success including a strong commitment to merger by participating institutions and their staff with strong leadership from heads of participating institutions, and a shared view of a threat facing the current institutions and/or a shared vision of the future potential benefits from the merger. Besides, there was a wide consultation with staff and their involvement in planning and integration processes, and transparency in key decision-making processes. Then, garantees were given as soon as possible to staff about the security of employment and to continuing students about continuity of their courses, well thought out plan for merger negotiations and implementation of any merger agreement, and speed in achieving the merger once agreement had been reached, A decision as early as possible about the name of the merged institution; and strong efforts to build a sense of loyalty to the new institution and a common culture. This findings were related to the finding of MOK, KA-HO, (2005) which was a Globalization and educational restructuring: University merging and changing governance in China. It was found that the educational restructuring in China under the amalgamation and restructuring of educational structuring at a university level in China consisted of the stage of transformation and the debt's adjustment. However, the establishment of controlling must be relied on the leadership under the

leading of the government unit. The change in the early 1970s, which was a "Globalization, new Policy Trends and university merging", started from the globalization which resulted in a new Policy management & Structural Adjustments. This led to the Policy Style & Trends: Marketization, Privatization, Coporatization which caused the University merging. However, according to this study, it was confirmed that the model of higher education institution resulted from the amalgamation can be developed into the effective and efficient administration which, in turn, resulted in a better educational quality.

2. In relation to the data concerning the Core Activities, it was found that the finding was similar to the study of HATTON, J. ELIZABETH (2002) in Charles Sturt University: A case study of institutional amalgamation. The results revealed the four elements including:1) Direction Governance, Resourcing & communication, 2) Core Activities, 3) Support, Infrastructure & Administrative Activities, and 4) Impact Tracking Measures. On balance, CSU's amalgamation can be judged successful. This is not so much because the university has achieved substantial

3. According to the data in Support, Infrastructure & Administrative Activities, the finding was found to be similar to the study on the amalgamation in the higher education sector, moving in the right direction (2012). Moreover, the results showed that key issues for consideration in advance of any proposed amalgamation consisted of: 1) Blueprint for the merged entity – vision, mission, goals and objectives, 2) Governance and organization structure –pre merger phase which composed of three main phases involved in the merger or integration process: 1. Pre merger phase, 2. Transitional phase, 3. Post merger phase, Joint steering group, and 3. Governance and organization structure –transitional phase, Project implementation group, Focus on merger integration, and 4) Governance and organization structure –post merger phase, and 5) Quality Assurance.

4. Regarding the finding from Impact Tracking Measures, it was respond to the work of Koontz, Kristen, (2009)- the Impact of Mergers in Higher Education on Employees and Organizational Culture. In addition, the corporate mergers and report the impact these mergers have on organizational culture when they occur in institutions of higher education. Without a clearly defined and concisely communicated vision, mission, and well defined and obtainable goals, mergers can have a profoundly negative impact on the students, faculty, and staff of the educational institutions brought together by restructuring. The potentially negative impact that poorly structured mergers can have an effect on individuals and organizational culture which can jeopardize the success of the merger. Once, there was a case study of the Minnesota higher education institutions was presented together by restructuring in order to follow the University of Auckland and Auckland College of Education Proposed Amalgamation Public, April (2004) Consultation. Accordingly, it was found that the implementation on the proposed amalgamation between the two institutions and the creation of a new Faculty of Education set an ambitious agenda for change. In recognition of the scope of change required and the large number of legal and operational tasks that will need to be implemented should Government approve the amalgamation, implementation planning has commenced. A three-phased approach to the proposed amalgamation has been developed: 1). Preparatory planning and transition phase focusing on the work to be done prior to amalgamation, 2). Implementation phase spanning a two year period from amalgamation through to the introduction of new academic programs, 3). Transition from project to faculty management phase occurring when new programs' development has been completed, and the faculty operating model is fully implemented. Similarly, the finding showed that the study of Mabokela, R.O.& Evans, Monica A, (2009)- Institutional mergers and access: The case of North-West University, was found the vision to attain access and equity. These tensions are evident in the three core themes that emerged from this study: 1) language and its impact on the culture of the post-merger institution; 2) the continuing impact of race in hiring decisions; and 3) access issues for students. By the study of M.M. Botha. (2001): "Models for mergers in higher education South African, it was showed that a study during the period of amalgamation, as well as, the study by Chen, David Y, (2002) which was the amalgamation of higher education institution in China and can be categorized into three stages including: the brewing stage, during year985-1992, 2) exploration stage: 1992-1997, 3) The full-scale advancement stage: 1998-2000, and the amalgamation of institutions which strengthening the academic and it was quite huge with a limitation in course offered in order to support the status of world-class university. Also, the study found the opposing of amalgamation in five aspects.

CONCLUSION

The biggest reform of Thailand university has now been fundamentally concluded. The reform reflects the advancements of the new millennium, the revolutionary changes in Thailand society, and an emulation of the general trend to further development in university occurring throughout the world, albeit it taking place in the

unique local circumstances of contemporary Thailand. It also indicates that in a bid to keep a system of higher education sufficiently adaptable and flexible it is imperative to keep the system open and restructure it continuously according to needs over time. The model of higher education institution's administration resulted from amalgamation of Prince of Narathiwas University from document data and interview can be divided into four elements including: 1) Direction Governance, Resourcing & communication, 2) Core Activities, 3) Support, Infrastructure & Administrative Activities, and 4) Impact Tracking Measures. For the Amalgamation universities requires a great deal of care, should be the result of the active interaction of governmental encouragement and the willingness of the institutions themselves.

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DEVELOPMENT OF THE INDICATORS OF DESIRAABLE HUMAN CHARACTERISTICS IN ACCORDANCE WITH THE PHILOSOPHY OF SUFFICIENCY FOR STUDENTS AT THE SECONDARY LEVEL

Kunton Ngajua[1]
Vandee Sangprateeptong[2]
Ratchaneekool Pinyophanuwat[3]
Bancherdporn Susansuk[4]
[1, 2, 3, 4]Sukhothai Thammmathirat Open University, Thailand.
[1]M.1Soi watnoensai, thumbon noensai, amphor maung, Trat, Thailand 23000
[1]e-mail address : ngajua55@gmail.com

Abstract

The purpose of this study is to develop the indicators of desirable human characteristics in accordance with the philosophy of sufficiency economy for students at the secondary level. According to the office of the permanent secretary, ministry of education (2007), it is agreed that the awareness - building and the emphasis on the importance of children and youths of the nation will eventually lead to the population's self – reliance in which the majority of people's sufficiency in possession, consumption, spending and living conditions can be adequately maintained under the principles of moderation, reasonableness, self - immunity against an excess of greed and the moralistic direction that provide a living – framework for good citizenship. A working group on integrating the philosophy of sufficiency economy with school instructions, ministry of education (2009) has recommended that this philosophy be instructed in the school curriculum with a view to promote and implant the desirable human characteristics to the students with the three elements, they are ; (1) knowledge and understanding , (2) knowledge and skills in living , and (3) the practice of the philosophy of sufficiency economy in real life situations. This study relies on a focus group meeting technique. The expert opinions have been drawn upon 14 knowledgeable and experienced persons involving in some aspects of this philosophy at higher education institutions or as those responsible for the application of this philosophy in communities. Three of them have bachelor degrees or above. Four persons are teaching supervisors, five school executives and teachers, and two community leaders, the practictioners of the philosophy.

We have found that the knowledge and understanding of the philosophy consist of three major components and nine minor elements. For the knowledge and skills, there are four major indicators and ten minor indicators. For the practice in living situations, there are five major indicators and fourteen minor indicators. These components and indicators will be applied further in constructing a model of desirable human characteristics in accordance with the philosophy of sufficiency economy for students in the secondary schools.

BACKGROUND AND SIGNIFICANCE

As a result of the 1997 economic crisis, Thailand was devastated by negative economic and financial impacts; yet, at the same time, Thai youths' way of life was exposed to rapid changes mostly in undesirable ways in terms of morality, virtue, and ethics held highly in the traditional Thai ideals now coming under the onslaught of materialism and consumerism. It has been still fortunate for Thailand to have His Majesty the King as Head of state who, on His Majesty's celebration of the birthday anniversary on the fourth of December, 1997 at Dusidalai Hall, Chitlada Palace, advocated the current critical problem – solving under the title "Sufficiency Economy," as an antidote the on – going crisis. Its principles can be summed up in the following : People should have enough to live and consume, sufficient to nuture one's own self and some remaining be used to help others out. Thus, a society where members help one another is created to make a secure and sustainable living suitable for Thai values. Afterwards, His Majesty the King has taken many opportunities to constantly remind the Thai people of the materialization of sufficient living. His Majesty has pointed to the modernization emphasis on the national development at the expense of natural resources and Thai culture. The development going on without a careful consideration of social circumstances and fair returns to the Thai majority presently becomes problematic. The development without taking into consideration of the spiritual aspect, knowledge without reasonableness, the acceptance for changes that lead to insufficient living, selfishness and harms done to others : all these have persistently brought about many problems to the society.

Office of the National Economic and Social Development Board (2006 : ง – ญ) has sought His Majestly's allowance for the inclusion of the philosophy of sufficiency economy as the guiding principle in the national

development and administration as appeared in the Ninth National Economic and Social Development Plan (2002 – 2006). The Plan has an emphasis on the people's self – reliance, the realization of local wisdom, the upholding of virtue and value worthy of The social identity, all of which are aimed at a balanced national development sustainability and stability. Subsequently in the Tenth National Economic and Social Development Plan (2007 – 2011), the commitment and responsibility are based on the "Green Happiness Society" under the guiding practice of sufficiency economy philosophy applied to all sectors of Thai society aimed at the overall national development. The strategic action has to be implemented to propel the projects of sufficiency economy. Thai children and youths receive good attention as a major component in the projects. Naturally, they could be instilled with the value of natural resources conservation, practical skills in social living with others, hospitality and sharing, awareness about good environment and cultural value, social value and maintenance of Thai identity.

Lastly, the Ministry of Education in the National Education Plan (Improvement) (2009 – 2016) has included the philosophy and principles of the sufficiency economy in the plan based on the middle path of equilibrium, moderation, reasonableness, global perspective towards making the sustainability, good living and happiness of the Thais (http://www.moe.go.th/websm/2010/jan/003.html: Online 8/05/53). It comes with the imparting and training of the children and youths in the areas of balanced economic growth, society, environment and culture in order that they will live a balanced life in the sufficiency economy, realization of the value of resources, co – existence with others, readiness for sharing and hospitality, awareness for the good environment, cultural value, and Thai values. The application of the sufficiency economy must be suitable for each particular local area. The fundamental virtue permeated within the learning process creates the linkages among educational institutions, families, communities and religious institutions which form the stakeholders' participation in education management. The process runs along the indicators combined in the success of the strategy which propels the sufficiency economy to work in schools (Ministry of Education 2007 : 5 – 13). The Ministry of Education has set a vision to direct the sufficiency economy philosophy towards educational institutions. (2007 – 2011) as expressed in the following statement : "The Ministry of Education aimed at improving education with the use of the sufficiency economy philosophy to manage it in an effective and efficient fashion through the constant practice in way of life among students, teachers, executives and education personnel," (Ministry of Education 2007 :4). It has been a collaboration with the sub – committee on directing the sufficiency economy philosophy, the National Economic and Social Development Board, chaired by Dr. Jirayu Israncula Na Ayudhya. The working committee drives the sufficiency economy to educational institutions and youths, giving a correct explanation on its principles and for the its appropriate application. It is also applicable for improving the line of development, setting up the national education policy and laying down a standardization for each of educational levels. The principle of basic virtue in learning process becomes networking for cooperation among educational institutions, familial institutions, communities, and religions institution; all these have respective shares in educational managements. Hopefully, the learners with knowledge, skills and right attitude will be able to apply the philosophy of equilibrium and sustainability to the point of a complete human being according to the purpose of education reform (Ministry of Education 2007 : 2).

In the academic year 2009, Office of the Basic Education Commission of Thailand, laid down the six strategies for the education management. "The first strategy consists of the cultivation of virtue, awareness of Thainess and way of life for every Thai student in accordance with the sufficiency economy philosophy." The core – curriculum for basic education for 2008 was also declared to determine student's core – competence in five areas ; skills in communication, proficiency in thinking, skills in problem – solving, ability to apply skills in living and competence in technology applications. Also the eight desirable characteristics are as follows : (1) the principle of patriotism, religion and loyalty to the King (2) honesty, (3) discipline, (4) desire to learn, (5) sufficient living, (6) work ethics, (7) valuing Thainess, and (8) public mind

The driving moves of the sufficiency economy philosophy have been implemented along with the Sufficiency Economy Research Project headed by Dr. Priyanut Piboolsravut, Bureau of the Crown Property. The development of learning materials and mass media has been given an emphasis as important mechanism for learning instruments in thinking, speaking and working of children and their parents. In eventuality, children and youths can absorb the sense of attitude or values, skills, knowledge in their living sufficiently, the most important of all the principle of sufficiency economy. The Ministry of Education has made an overall operation report that propels the sufficiency economy philosophy to schools in the fiscal year 2006 – 2007 with four

aspects of the indicators, they are; 1) the management of school, 2) curriculum and instructions 3) activities to develop learners, and 4) personnel development. Subsequently, in the fiscal year 2009, another indicator for evaluation of schools was added, that is : outcomes/successes based on the characteristics of school sufficiency, executives of schools' sufficiency and school personnel and students' knowledge and application of the sufficiency economy practice in their balanced life and readiness to meet materialistic, economic, social, environmental and cultural changes, (Ministry of Education (2009 : 2 – 10).

The Ministry of Education reports on the results of sufficiency economy operations aiming at evaluating the overall picture of administration, curriculum, instruction, developmental activities for learners and personnel development, which has not been found a development model for systematic evaluation of desirable human characteristics of learners. If this model can be built, it will be useful and valuable as a center of thinking on desirable characteristics of learners which can be used to explain the nature of evaluation for the characteristics and to propose a guideline suitable for the education context. Thus, there will be the developmental process for knowledge concerning the assessment of desirable characteristics in accordance with the philosophy of sufficiency economy. Due to the assessment becoming a collection of data information for decision – making of education development. In addition, the research bringing about the assessment model for desirable characteristics of learners can be the national education apart from building the knowledge of assessment science. With the above – mentioned reasons and for the preparation of recognition of the outside assessment by the Office of Nation Education Standards and Quality Assessment (Public Organization) in the third round which gives priority for education management to the learners with the desirable characteristics according to the philosophy of sufficiency economy. Therefore, it gives researchers to take interest in developing the indicators of desirable characteristics of the philosophy among secondary school students within the research and development process.

LITERATURE REVIEW

The philosophy of sufficiency economy, both in main ideas and practices, as expounded by His Majesty the King, has been an instrumental guidance for Thai people's living and national development for more than the past thirty years. Since 1974, His Majesty's royal guidance and speeches with the clear vision has been presented on a continuing basis especially during 1995 – 1997. In 1999, the National Economic and Social Development Board (2006 :) collected and reviewed the royal speeches on the sufficiency economy philosophy and the other related speeches given on many occasions and made them into the "Philosophy of Sufficiency Economy," revised by His Majesty the King himself and allowed to be published on the 29th November, 1999 to be a practical guide followed by those involved and the general public.

"The sufficiency economy is a philosophy guiding the existence and living practice of the people in every level, from the community to the state in the development and administration of the country in a manner of moderation, especially in the economic development, stepping in time in the age of globalization. The sufficiency means moderation, reasonableness, and necessary immunity adequate for self – protection to meet possible impacts brought about by changes from both outside and within. It must rely on knowledge, discretion, carefulness in the use of various sciences in planning and implementing on every step of the way. At the same time, the basic spiritual quality of the people in the nation must be fostered, especially among state officials, theorists and business executives at all levels to reach good sense of morality, honesty and appropriately well – rounded quality. They must carry on their life with tolerance, perserverance, wisdom and discretion to create the equilibrium and readiness in satisfactorily meeting rapid and widening changes of materialistic, social, environmental and cultural aspects from the outside world."

The philosophy of sufficiency economy can be termed as life fundamentals, a shining light forwarding on life paths and life guidance for Thai citizens. For a long time, His Majesty the King has pointed to the essence of sufficiency economy as providing a basic security for the nation and as constructed columns for the building. Since before the economic crisis and its aftermath, His Majesty the King emphasized some guide lines which could help the country out of the crisis and stand firm and perpetual under the rapid changes of waves of globalization (The National Economic and Social Development Board : 2005).

Suan Dusit Rajabhat University has conducted a survey and concluded that, initially the people had not understood the sufficiency economy philosophy: later on, after a serious campaign and implementation up to 2005 – 2006, they happened to know more about it. The United Nations Development Programme, keenly receptive to the philosophy, has proposed the following six point recommendations as driving moves for the sufficiency economy :

1. The sufficiency economy is a very important philosophy to help eradicate the poverty and the economic risk of the poor .

2. The sufficiency economy philosophy is the fundamental for community empowerment and enhancement of community strength, the foundation of national development.

3. The sufficiency economy helps raise the level of social responsibility of corporations in business practice which emphasizes long – term profits within the context of competition.

4. The sufficiency economy is utmost important in improving the standard of good governance for the state administration .

5. The philosophy of sufficiency economy is used as a direction of national policy to enhance immunity vis –a – vis rapid impacts of the situations and for strategic planning in promoting an even and sustainable growth.

6. The sufficiency economy is for awareness–building of sufficiency necessary for adaptability of values and individual thinking which facilitate human development.

The working committee on integrating the sufficiency economy to classroom instructions gives consideration on the five principles of the philosophy of sufficiency economy as follows (2009 : 2) :

1. Context : This philosophy guides the people at all levels-- family, community and state – to exist and observe accordingly in order that the national development and administration will go on the moderate path in economic development especially to keep up the pace of the globalization era.

2. Characteristics : The sufficiency economy can be applied to the practice on every level with the emphasis of moderation and proper steps of development.

3. Definition : Sufficiency consists of three kinds of quality :

3.1 Moderation which means adequacy not excess, no malice to the self or to other, i.e. moderate production and consumption.

3.2 Reasonableness which means determination of sufficiency being done with good reason by judiciously taking into account concerned factors and possible and possible consequences from prior actions.

3.3 Self – immunity which means adequate preparations for future impacts and changes by foreseeing possible situations which can take place in both short – and long – terms.

4. Conditions : The decisions and activities must be carried out within a sufficient level and based on knowledge and virtue as follows :

4.1 The knowledge condition consists of knowledge of various academic fields on a well – rounded basis. Prudence which brings all kinds of knowledge to work together will enhance planning and help check various steps of implementation.

4.2 The moral condition will add with the components of moralistic realization, honesty, perseverance and wisdom in life situations.

5. Practices and expected Outcomes : The application of sufficiency economy philosophy will bring along the balanced development and sustainability, preparedness for all kinds of changes : be they economic, social academic or technical.
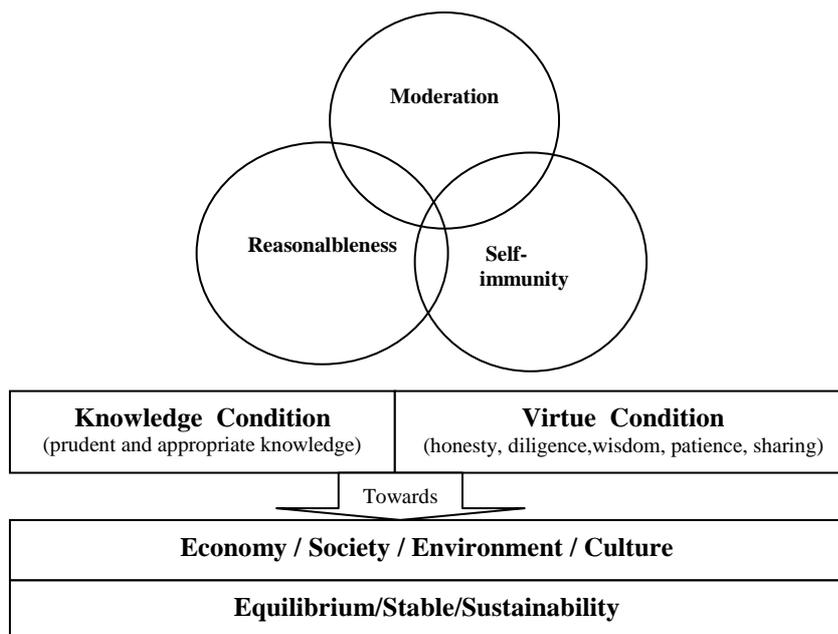
Chart : Summary of Sufficiency Economy Philosophy The Middle Path
(Source : Translation form Bureau of The Crown Property 2005 : 4)

In the brain – storming seminar on Sufficiency Economy : From Philosophy to Schools, arranged by the Konrad Adenauer Foundation at the Siam City Hotel, Bangkok, on the 27th December, 2006, Dr. Priyanut Piboolsravut working on Sufficiency Economy Research Project, Bureau of the Crown Property, suggested that Thai education should follow the Thai context and that teachers would have to teach students the principle of sufficiency economy which is clear virtue. She continued that those remaining oblivious must become knowledgeable with an understanding of adequateness. If people continue to cultivate themselves habitually, they will find the development of equilibrium, sustainability and readiness to enable them to firmly meet any rapid changes.

Dr. Priyanut Piboolsaravut also suggested to take into consideration the respective steps which will work in schools, (Institute of Public Policy Studies (IPPS). mht: online 10/03/5553).

THE PROPER STEPS IMPLEMENTED IN SCHOOLS

The implementation of the guiding principles of sufficiency economy in schools has the following steps :
    1.To establish a policy for managing the sufficiency economy as a main policy in schools.
    2. To develop the understanding of individuals, executives, teachers, education personnel and education committees in schools and to promote people's practice with the sufficiency economy philosophy.
    3. To advance public relations, disseminate information on the philosophy and make an understanding on the subject for all people concerned.
    4. To review and adjust the structure and development of management for the sufficiency economy philosophy.
    5. To prepare, update and reorganize projects, activities, strategies and plans of action in schools.
    6. To make an adjustment and development of school's curricula.
    7. To provide the instruction according to schools' curricula.
    8. To promote the atmosphere and environment which facilitate learning.
    9. To organize the supervision system, monitoring, evaluation and report of results of operations.
    10. To encourage parents and communities to participate in every important step of education management.

A summary of the overall success of the implementation of the implementation of the sufficiency economy philosophy in schools is as follows :

1. Schools introduce the sufficiency economy into schools and provide actitivies useful for communities /society.

2. Executives, teachers, and education personnel take part in promoting knowledge, understanding and practice by setting themselves a good example of the sufficiency economy philosophy.

3. Students receive knowledge, skills, practice and living which grow according to the sufficiency economy philosophy.

4. Parents and communities go on living the sufficiency economy philosophy.

Education is an important instrument in human resource development towards social development on every level. The implementation of the sufficiency economy philosophy to the education sector is very significant because the application of the philosophy to daily life creates the balanced development, security, sustainability, preparedness for all kinds of changes, economic , social, environmental, conscious, and technological.

In fostering human characteristics in a desirable social mould imprinted in children and youths, it is expected of sustainability. In a meeting of the committee on implementing the philosophy of sufficiency economy to schools, Bureau of Policy and Strategy, Office of the Permanent Secretary of Ministry of Education (2007) realized the importance of awareness – and conscience – building among children and youths; therefore, the working committee on integration of the sufficiency economy to schools, Ministry of Education (2009), set up a guideline for arranging the sufficiency economy philosophy in schools to promote learning and further learners to reach desirable characteristics in accordance with the sufficiency economy philosophy in the following manner .

1. In terms of knowledge, understanding, awareness, and living situation according to the sufficiency economy philosophy, there will be the following qualifications.

1.1 Learners obtain knowledge and understanding in way of life following the sufficiency economy philosophy.

1.2 Learners obtain an understanding of the sufficiency economy philosophy and its relations to general economic systems.

1.3 Learners realize the utility and become aware of living condition fitting the sufficiency economy philosophy and be able to apply its philosophy in enhancing oneself, his or her own groups, school, communities and the overall social development.

2. Knowledge and basic skills in making a living with the guideline of sufficiency economy philosophy.

2.1 Learners obtain knowledge and basic skills in living and occupational development – producing and distributing products, servicing and operating small business, expending and saving in agriculture etc. -- to be able to take care of oneself and his or her own family.

2.2 Learners achieve skills, values and ethics in co – existing with others in societies with hospitality, non – violent relationship, peace and unity.

2.3 Learners can use and develop resources and environment in a beneficent way and with sustainable happiness.

2.4 Learners carry on the cultural and arts, local wisdom, national heritage preservation and pride in Thainess.

3. Practice and life – carrying according to the sufficiency economy philosophy are concerned with the following.

3.1 Learners behave with moderation, self – recognition, knowing self – capacity and awareness of community environment, society and neighborhood.

3.2 Learners behave reasonably on the basis of righteousness, wisdom, knowledge ; discretion in thinking, speaking and doing on the middle path practice.

3.3 Learners are well - immuned and ready to meet impacts and various changes from within and without under the circumstances of globalization.

3.4 Learners become knowledgeable on concerned matters, capable of analytical thinking and practice with circumspection.

3.5 Learners behave and carry on their life with the sufficiency economy philosophy coupled with honesty, tolerance, diligence, sharing, wisdom, self – discipline, self – reliance and generosity. They become are responsible and co – exist happily with others.

The development of evaluation tools and evaluation model must be studied to develop indicators that are encompassing and distinct usually before anything else.

An indicator

An indicator means a component or value which demonstrates characteristics or quantities of thing under study. It tells status, quality, or criteria of the things with enough clarity to be compared with a set of rule to assess studied characteristics precisely.

Padungchai Phupat (2001 : 170) defines that an indicator is used to evaluate things composed of many related variables in order that the general characteristics will be presented under such surrounding circumstances of the system. It can be used to pinpoint a quantity in terms of quantifiability or numerical measurement, not to be just a description. The indicator can change through time.

Essence of indicators

1. An indicator can be employed in any system to help executives, planners, researchers and involved individuals to comprehend their respective work conditions which can be beneficial to future planning and policy – making.

2. An indicator can be used for monitoring working systems.

3. An indicator becomes important for developing a working system, research on operating development i.e. cross – section analysis and long – term studies.

Determination of an indicator, success of implementation on the sufficiency economy philosophy in schools must take into consideration His Majesty the King's remarks clearly pointing to the four virtues which Thais should follow in order to have happy living, adequatness, suitability, moderation and reasonableness in carrying out effective activities. An indicator is an important factor in assessing to determine the extent to which works can be called successful. Therefore, the determination of indicators pointing out successes of projects must accord with the built factor which directly or indirectly impact it.

METHODOLOGY

Development of desirable human characteristics in accordance with the philosophy of sufficiency economy in secondary schools will take the following steps. They are major indicators.

1. Pertinent documents and information from various sources must be consulted including analyses and synthesis of those documents concerned with the sufficiency economy philosophy. This is done with a view to reach a conclusion which enables a way to determine desirable human characteristics in accordance with the sufficiency economy philosophy. Relationship among these characteristics and conditions of knowledge and virtue are defined within the context of "the philosophy of sufficiency economy" in respect to the documents of the National Economic and Social Development Board with royal approval of promulgation.

2. A content analysis is followed with the analysis of informative context concluded from studies. This is done by relying on logical and theoretical principles. Further, analyses of the content will bring about a framework of desirable characteristics according to the sufficiency economy philosophy.

3. A draft for a guideline of components of the desirable characteristics follows.

4. A monitoring system for components of desirable characteristics in respect to the sufficiency economy philosophy consists of samplings from fourteen experts who understand and are engaged in teaching of the sufficiency economy philosophy in the university level; they also propel this philosophy in communities. Three of them received post – graduate education. Four of them are teaching supervisors and another five executives and teachers; they all are engaged in implementing the philosophy in schools. The last two are a community leader and a practitioner of the philosophy in real life situation.

RESULTS

Focus Group Meeting
Development of minor indicators born of the major ones has resulted in the following components.

The First Component has to do with knowledge and understanding of the sufficiency economy philosophy and realization of the importance of living conditions in accordance with the philosophy. These are the following indicators.

1.1 Knowledge and understanding of the sufficiency economy philosophy are related to the other four dimensional factors.

1.1.1 Knowledge and understanding of the sufficiency economy philosophy as related to the economic dimension.

1.1.2 Knowledge and understanding of the sufficiency economy philosophy as related to the social dimension.

1.1.3 Knowledge and understanding of the sufficiency economy philosophy as related to the environmental dimension.

1.1.4 Knowledge and understanding of the sufficiency economy philosophy as related to the cultural and religious dimension.

1.2 Knowledge and understanding of the sufficiency economy philosophy as related to the following minor indicators.

1.2.1 The principle of way of life based on adequateness, moderation, reasonableness and self – immunity.

1.2.2 The understanding in way of life based on self – reliance.

1.2.3 The problem – solving based on the principle of the sufficiency economy philosophy.

1.3 The realization of the importance and the utility of way of life in respect to the sufficiency economy philosophy and its guideline for self – development and the development of groups, schools, communities and the overall social development as appeared in the following minor indicators.

1.3.1 Realization of utility and importance of way of life according to the philosophy.

1.3.2 Application and practice of the sufficiency economy philosophy as carried out for self – development, the development of groups, schools, communities and the overall social development.

The Second Component consists of knowledge and basic skills in living according to the sufficiency economy philosophy as appeared in the following indicators.

2.1 Knowledge and basic skills in living and occupational development appropriate for individual potentials and in unison with social landscapes as demonstrated in the following minor indicators.

2.1.1 Knowledge and skills in living according to the sufficiency economy philosophy.

2.1.2 Appreciation of the guideline with the application of the sufficiency economy philosophy in occupations commensurate with one's potentials and social landscapes.

2.2 Skills, values and basic virtue necessary for living with others in societies with hospitality, no malice, peace and unity as demonstrated in the following minor indicators.

2.2.1 Generosity and a more public – centered than self – centered attitude.

2.2.2 Practice with respect to values and ethics of hospitable co – existence.

2.2.3 Love of unity and kindness to one another.

2.3 Utilization and conservation of natural resources and environment to the optimal interest and sustainability. The minor indicators are as follows.

2.3.1 Utilization of natural resources and environment with the utmost interest and sensibility.

2.3.2 Conservation and restoration of natural resources and environment.

2.4 Perpetuation and development of arts, culture, local wisdom and with care of national heritage. There are the following minor indicators.

2.4.1 Realization of the values of arts, culture and local wisdom.

2.4.2 Perpetuation of traditions and local cultures.

2.4.3 Pride in Thainess and possession of global perspective.

The Third Component consists of practice and living according to the sufficiency economy philosophy as appeared in the following indicators.

    3.1 Self- practice according to moderation, self – estimation, acknowledgement of one's own potentials and the environment of community, of social landscape. There are the minor indicators as follows.

        3.1.1 Self – estimation of one's own potentials.

        3.1.2 Practice according to one's own potentials based on moderation.

        3.1.3 Living in commensurate with potentials and social landscapes.

    3.2 Practice sensibly based on righteousness with apperception, well – rounded awareness in thinking, speaking, doing in accordance with the middle path. There are the following minor indicators.

        3.2.1 Decisions in thinking speaking and doing in daily life based on the sensible practice.

        3.2.2 Use of reasons and flexible problem – solving.

    3.3 Self – immunity ready to meet impacts and changes from within or without under the circumstances of globalization. There are the minor indicators as follows.

        3.3.1 Apperception in self – adjustment to live happily in society.

        3.3.2 Prepared knowledge to meet impacts and changes from within and without.

    3.4 Well – rounded knowledge as related to other matters, ability to analyze and practice with discretion, carefulness. There are the following minor indicators.

        3.4.1 Well – round knowledge in practice.

        3.4.2 Discretion in practice.

    3.5 Virtue in self – practice in accordance with the sufficiency economy philosophy. There are the following minor indicators.

        3.5.1 Honesty.

        35.2 Diligence.

        3.5.3 Tolerance.

        3.5.4 Wisdom.

        3.5.5 Sacrifice and sharing.

CONCLUSION

His Majesty the King has taken many opportunities to constantly remind the Thai people of the materialization of sufficient living. His Majesty has pointed to the modernization emphasis on the national development at the expense of natural resources and Thai culture. The development going on without a careful consideration of social circumstances and fair returns to the Thai majority presently becomes problematic.

Developed to a sustainable happiness, the people must know sufficiency for everything, learning skills, life skills, knowledge and values . Thai children and youths receive good attention as a major component in the projects. Naturally, they could be instilled with the value of natural resources conservation, practical skills in social living with others, hospitality and sharing, awareness about good environment and cultural value, social value and maintenance of Thai identity. We hoped that the development of the indicators of desirable human characteristics in accordance with the philosophy of sufficiency economy for students will be used to develop the students with integration learning, specific activities and projects are learning processes that provide access to value and self-reliance.

Therefore, it gives researchers to take interest in developing the indicators of desirable characteristics of the philosophy among secondary school students within the research and development process. This study found the minor indicators and the student's behavior which we can use to develop the evaluation model for evaluate the students.

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LIFELONG LEARNIG THROUGH MEDITATION: A SPIRITUAL PERSPECTIVE

Seema Singh
Assistant Professor, Department of Humanities & Social Sciences, IIT Kharagpur, India - 721302
seema1308@gmail.com

Abstract
Abstract: "Education" springs from the Latin word, "educe" which is to draw out of ourselves our own latent potential, skills, and wisdom – that which is already buried deep within ourselves, in our karma, in our genes. And John Patterson says: "Formal education will earn you a living; self-education will earn you a fortune." Learning is the output of education. In a sense therefore, Lifelong Learning is about learning the Life Skills. Life Skills prepare the individual for a satisfactory personal life as well as successful performance at the workplace. It gifts the learner with certain soft / life skills which should necessarily be an integral part of one's demeanor.

The present paper proposes the benefits of including meditative practice in the Lifelong learning process. It aims to offer an insight into how the spiritual practice brings into fruition the phrase *Yoga karmeshu kaushalyam* (Yoga is skill in action). It examines the spiritual roots of the meditative practice and then proceeds to examine how meditation makes learning possible. Meditative practices offer an answer to the why and how? Because apart from the "tell" and the "show' of learning, meditation is a practice which "involves "one in self-change and self-improvement.

Key Words: Learning, Lifelong Learning, Meditation, Psychology

INTRODUCTION

To begin with, some thoughts on how to make positive changes in behavior. Anything that we do in life starts initially as a thought. This is bound to be followed by action as we think about ways to execute the thought into action. Thought is thus the forerunner of all action. By proper utilization of thought therefore, one can effect changes in action, and consequently in behavior as well. In a sense therefore, it is understood that we need to bring discipline into the ways in which we think. Then, what is the source of our thoughts? It is believed that the mind is. A related question then is: what is the mind? Mind is the intangible entity that we ultimately identify the individual with. If one were to then try to identify the source of the mind, there appears to be a void in material science. One has to finally resort to the existence of something which governs all these without being limited by them. This is what the spiritualists call the soul. The question now is how to bring this entity to act in a balanced way so that the effect may translate into our doing what we must (since it is right, and there is only one right) and in our not doing what is wrong? This is where a practical system such as *Sahaj Marg* can help. It is a meditative practice aimed to bring balance into our lives.

Our everyday life is so full of distractions that we are not even tuned to the soul's existence, leave alone training it to become perfect. We have to first become tuned to its presence. Meditation is the process by which one becomes tuned to this core being within. It is nothing but the training of the mind to become focused, so that the object of meditation is revealed. We use it in our everyday life all the time. We think again and again about things that we want to achieve and in due course we find that it is revealed. In meditation, as we focus on this soul, its nature is revealed and we find that it is connected to the infinite source. When this connection is a matter of personal experience, we are no longer able to restrict ourselves to our limited selves for we are now personally aware of the inter-connection or, in other words, we have universal consciousness. Possessing this, we automatically will be different and more in tune with what we ought to be. Thus transformation of our personality (or personality betterment) occurs without external pressure.

Coming next to the thrust of this paper, that is education and lifelong learning. "Education" originates from the Latin word, "educe" which means to draw out of ourselves our own latent potential, skills and wisdom, which are already buried deep within ourselves, in our karma, in our genes. It is like the birth, growth, and survival of an organism in the sense that it is an internally driven mechanism. And the nourishment selectively taken by theorganism from external sources is only to assist this internal process. Same is the case with organizations, nations, and societies.

So, to enable us to maximize the effectiveness of learning to our own selves, we have to develop and improve our skills and faculties of memory ability, concentration, creativity, motivation for learning, love of the subject of education, and so on. Value systems are also important to effectively utilize the benefits of education for our own advantage and the benefit of society, country, and finally humanity as a whole.

In this context, even though modern theories of educational psychology and its practical aspects have developed many techniques to develop all or some of the above-mentioned faculties and skills, they have perhaps sometimes ended up as piecemeal, partial, and temporary in their effectiveness. However, the ancient science and technology (or even the "therapy") of *Yoga* has withstood the test of time, over so many millennia, or even eras, and epochs. Out of these, *Hatha yoga* (including asanas and pranayama) and *Raja yoga* (or meditation) stands out as the two foremost techniques. Since *Raja yoga* suits our topic best, we will discuss it here.

The value of systematic meditation had been recognized by the ancient *Rishis,* Dravidian Siddhas, Desert Fathers of Christianity, Sufis of Islam, and several others. The ancient sages and "seers" of all societies could "see" any subject or object and go instantly to the "heart of the matter" and know its essence. This ability included the knowledge of the past, the present, and the future. And there is no second opinion than that these abilities were developed by meditation, or what is usually called the *Raja Yoga.*

The word Yoga itself comes from the Sanskrit root *yuj*, which means to yoke or unite. This union describes the goal of yoga, to unite us with the Ultimate consciousness, which is sometimes called the Absolute, the Self, God, or the Creator. *Raja* means king, and this form of yoga is called *raja yoga* because the mind is supposed to be the king among the organs. Its origins go back long before any written texts. It is the old system or science followed by the great *rishis* (seers) to help them in realizing the Self or God through meditation and associated practices. It was first introduced by a rishi who lived thousands of years ago. He discovered a practical method so people could evolve to their highest nature. He then started to train others (Ram Chandra, 1989). Later, around 2000 years ago, the ancient practices of yoga were compiled and summarised by Patanjali (Sri Swami Satchidananda, 1978), in his *Yoga Sutras*. While *raja yoga* encompasses all eight steps of Patanjali's *yoga – yama, niyama, asana, pranayama, pratyahara, dharana, dhyana and samadhi –* the focus is on the last two steps: the mind, meditation and diving into the inner universe. Over the centuries, and up to the present day, *raja yoga* has continued to evolve, thanks to the practical experience of great sages.

All the great prophets, sages and yogis have found divinity and wisdom through inner experience, and *raja yoga* teaches us to uncover those experiences by observing the internal states through the daily practice of meditation. The instrument is the mind itself. The mind studies the mind and illuminates it. From our childhood onwards we have been taught to pay attention to the external world. Most of us have little awareness of our inner world, but the process is not complicated, as the same methods of observation are needed for understanding the inner world as for the outer, external world. In *raja yoga*, we rely on observation, use discrimination, and learn from experience, as in any other science. It is like sunlight shining into the caverns of the mind which have been kept in darkness – illumination comes. There is nothing secret or mysterious in this. In fact, Swami Vivekananda writes: "Anything that is secret and mysterious in this system of *Yoga* should be at once rejected. The best guide in life is strength. In spirituality, as in all other matters, discard everything that weakens you. Have nothing to do with it. Mystery-mongering weakens the human brain. It has wellnigh destroyed *Yoga*, one of the grandest of sciences." (Swami Vivekananda, 1982)

Meditation is the continuous, systematic thinking about one object which results in making us capable of concentration. The mind is focused on any object of our choice and extracts the "essence" of it. To develop that ability of concentration, one meditates on one's own inner self seated within the heart as a "Divine presence". This is only a means to improve the ability to concentrate, which results in the revelation of knowledge. The key is a state of "deep relaxation," a state of relaxed attention from the conscious, subconscious, and super-conscious levels of the self, wherein revelation takes place. This deep relaxation is what helped Archimedes discover his famous principle in the bathtub or Newton his principle of gravitation under the apple-tree. Therefore, it is said that meditation helps creativity. Thus, Meditation practice helps not only the ability to concentrate for developing the skill of learning, but also the faculty of creativity which can utilize that learning for our benefit.

The next, and the most valuable benefit of Meditation, is the restoration of value systems, which alone can be our evolution and prevent our degradation. When this meditation on the "Inner self", or "Divinity", or "Life essence" inside us results in an experience or vision of that "Divinity", we realize that the Inner self is our real self and that "we" (our body, our senses, intellect, mind, etc.) are only the vehicles or instruments for the real boss or self within. Then only, those values which are conducive to harmony and evolution gain a natural and spontaneous attraction for the individual. In such matters, moralizing may never succeed. An inner motivation, to improve one's happiness and skills, eventually results in a higher motivation of harmonious living for the "good of all". This can come only when one can realize one's inner-self as the same as another's inner-self or what is called the Universal-Self. It is then that the greatest motivating force in the human species (namely, LOVE) takes over. This force helps to develop all the earlier skills of Concentration, Creativity, Revelation, self-motivation, value-judgment, even the art of meditation itself.

And whereas the subatomic nuclear forces (known as the strong forces) extend only over minute atomic distances; gravity (known as the weak force) extends over interplanetary or even interstellar or inter-galactic distances, love is capable of spanning infinite distances. Love, describable as a "forceless force" or apparently weak force, but actually the subtlest force, extends over infinite distances of time and space. This force alone can save humanity, or even life itself on this planet. This alone we have to tap. And in Meditation that is possible.

THE SPIRITUAL ROOTS OF THE MEDITATIVE PRACTICE

Now, we enter the Realm of the Spiritual practice, where meditation is generally understood to be simply a mental practice. Let us continue to examine what is this practice by the "Spirit" or "Soul" and how it can be incorporated into the Lifelong learning process.

According to the Masters, the human existence consists of bodily existence, mental existence, and spiritual existence. There is that mysterious "substance" or "substance-less substance" called LIFE inside the body. When life leaves the body, we cannot see it, hear it, or feel it, in the physical sense of the term. But body mechanisms fail and bio-matter decays rapidly. Similarly, when life enters the mother's womb, no one can "see" it with physical eyes. This substance or essence is called as Soul or *Atman* since the ancient times. Now let us analyze the idea - If soul gives life to body, what is it that gives life to the soul?

The answer in Spirituality is: "The soul of the soul or atman of atman, namely *Paramatman*. This essence is the same for man or woman, animal or insect, or anything else for that matter.

The "body" and the "soul" within are connected by the interface called "the mind". Of course, there can be semi-arbitrary classifications or boundaries in the body-mind-life-spirit continuum. Saints talk of *Kosas* (bodies) made of *anna* (matter), *prana* (breath and vital force), *manas* (mind), *vigyana* (intellect and buddhi), and *anandha* (bliss). Or, in other words, physical (*sthoola sarira*), astral (*sukshma*) and causal (*karana*) bodies.

The Masters tell us that unless one travels from the mental practice of meditation to the spiritual practice of Constant Remembrance and Love, one's success is only partial. To make that essential transition from mind to spirit, the Masters recommend Prayer from below (from us) and Transmission of *Prana* from the Master, who receives Grace from above, from God. And the best time to do this prayer is just before sleep so that the subconscious mind is tuned to the meditative state, and achieves Constant Remembrance during the sleeping / night time (6-7 hours). From there, the next transition of 24 hours of Constant Remembrance is possible. That will be a condition where conscious mind does the worldly duties skillfully, while the deep subconscious or super-conscious mind is immersed in the meditative state in the heart and receive the Master's Transmission. The *summum bonum* or ultimate accomplishment of all meditative-contemplative-spiritual practices is that dissolution of the limited self into the Divine Unlimited Self.

Now, the selection of the object of meditation, technique of meditation, of the teacher-the goal we fix up, will help us to choose the rest. If the goal is health and exercise, yoga and *pranayama* are the means. If the goal is knowledge of *shastras*, the means are *pandits* or scholars, and we should study under them. If the goal is evolution up to the level of God Himself, we must then pray to the Divine source or power to send us a suitable

guru or Master. The Master will knock on our door and come to us when we are ready. And our heart will give us a signal - but neither by logic nor by the head. We can meditate on it and confirm it by intuition.

THE SAHAJ MARG PERSPECTIVE ON MEDITATION

Sahaj Marg (the Natural Path) is a system of practical training in spirituality of the Shri Ram Chandra Mission. It is in essence the well-known raja yoga (yoga of the mind) remodelled and simplified to suit the needs of modern day life. Its goal is inner perfection – God realization. According to the teaching of Shri P. Rajagopalachari (the current President and spiritual head of the Shri Ram Chandra Mission), God is infinite yet simple, and therefore the way to reach Him must be simple. By proper regulation of the mind through meditation, under the practical guidance and support of a spiritual master, one can evolve to the highest.

Sahaj Marg Meditation or "the Natural Way" of the Spiritual Practice is based on the following factors:
     1. Since the focus of meditation is Divinity, the blood flowing through the heart to all parts of body gets charges with Divinity. And we get accustomed to the inflow of Divine energy. The heart is therefore a better center to meditate than any other point or *chakra.*
     2. When the idea of cleaning and purifying the mind and the heart comes, the thinking apparatus and the emotional-cum-feeling apparatus are cleaned. Then, it becomes easier to improve our emotional quotient (EQ), side by side with the IQ. EQ is more important than even IQ for success in life. Character is more valuable in heart, than brilliance in the head.
     3. The idea of percolating the sleeping consciousness and dream consciousness (*sushupthi* and *swapna*) with the practice of prayer meditation on the Divine appeals to most. Also, the awakening of the Fourth State ("*Turiya*" or "transcendental" state, *pragna*) is more likely and faster when the practice of meditation percolates to the other three states of consciousness - walking, sleep, and dream states.
     4. The idea of a living spiritual Master sets an example to practitioners. The Master teaches practitioners to become equal or even better than him. His life and human activities are transparent and He holds up a life of idealism as a beacon light for human evolution.

CONCLUSION

In meditation, we gather ourselves at one point, our minds cease wandering, and we return to our own centre, the Self. To support this, the teacher directs the flow of Divine current towards the heart as *pranahuti,* awakening and nurturing our spiritual growth. We have only to prepare ourselves to receive it. Swami Vivekananda writes: "The power that can transform life in a moment can be found only in living illuminated souls, those shining souls who appear among us from time to time. They alone are fit to be gurus. … The guru is the bright mask which God wears in order to come to us. As we look steadily on him, gradually the mask falls off and God is revealed."(Swami Vivekananda, 1982) What required such labour and hardship for the ancient rishis can be achieved now so simply, thanks to the service of the teacher, who lies at the heart of *raja yoga.*

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A FEASIBILITY STUDY ON G-LEARNING CENTRE ESTABLISHMENT FOR SCIENCE AND TECHNOLOGY IN PRINCESS OF NARADHIWAS UNIVERSITY

Rugchanok Puwaphut[1]
Ritthiwut Puwaphat[2]
Princess of Naradhiwas University
[1]Ritthiwut.p@pnu.ac.th
[2]Rugchanok.p@pnu.ac.th

Abstract

The objective of this research is to study the feasibility to establish G-learning centre for science and technology of Princess of Naradhiwas University. The scopes are : (1) The administration of G-learning centre, (2) The manage pattern of G-learning centre, (3) The manage budget of G-learning centre and (4) The process of G-learning centre by using questionnaire created for the population and sample as executive broad, lecturers and students by specific selection of the sample. The result showed that executive board and lecturers agreed the opinion for G-learning centre establishment and gave it to the academic affair responsibility. There are 21-40 computers and service from 8 a.m. to 6.30 p.m. The duty of G-learning centre is to produce computer lesson, seminar service about knowledge development and management server system. For the opinion of the students showed they chose the subject with using computer because they though they would receive the development in their life, used the knowledge for solving the problem. They prefer the subject with computer, search data to develop their knowledge and understood G-learning centre. The level of the opinion in 3 samples was the same trend.

Keywords: G-learning, Princess of Naradhiwas University, level of the opinion

INTRODUCTION

The development of human resource is an important factor which effect to the efficiency in processing and economic system of the country. Then, the planning to develop human resource must to use population, social and economic factors which were responded by government. The government has to manage the education agreeable with economic and social change.

Princess of Naradhiwas University is an institute where response for educational management agreeable with the National Education Development Plan by emphasizing of the changing of administrate opinion and novel government management freedom. There are variety of educational management with good quality and fair for people in the society. It responses to the individual need, social and country rapidly up to the changing of situation.

Nowaday, more than 60% of students in Thailand including students in Princess of Naradhiwas University be the important power to develop country have the increased trend rapidly (Nakrontub, 2006) also encounter the problem about game with effect to the absence of the students in studying time, aggress behaviour which effect to retry during semester and made problems to the social.

From the social and technology changing, Princess of Naradhiwas University has to bring many types of technology to apply in the teaching and solves many problems especially in Game addiction of the student which be serious problem. Then, it is necessary to study the feasibility study on G-learning centre for science and technology in Princess of Naradhiwas University to change problem into the chance by finding answer from many sources such as studying of available source both inside and outside building, person and material by realizing of saving and advantage in this period of country including saving in all resources, study the need of the community and study the trend of game technology in the future.

LITERATURE REVIEW

The researcher is to studied the principle, theory and result with be applied to use by separation into many topics:

Research Knowledge
Research is the systematic and regularity analysis with clear in the objective go to development the general significant conclusion or principle and theory with using to forecast. It can solve the problem to success in ultimate goal, focus on developing the generalization of the conclusion, principle or theory which give advantage to forecast the event in the future and finally, research must be on the basic of observable experience or empirical evidence.

Knowledge of feasibility studying
The pattern of the feasibility studying in this study is considered into 3 types up to the analyzer use individual way or many way to analyze the trend for successful are: (1) The explorer in the feasibility of the project or explored research, (2) The feasibility experience of the project or experimental research, and (3) The feasibility study of the processing of the project or processing research.

Knowledge of G-Learning
G-learning is a multimedia of the online game in the studying which be used to persuade in the student studying. It started by Ministry of Education and Ministry of Culture of South Korea. It was cooperated by the company where developed many online games. Nowadays, South Korea create the project to use G-learning for the primary school in Seoul. And video game is a computer software which be one type of entertainment for taking game to apply into many languages of computer and is created by creator style to realistic, graphic pattern or real picture multimedia by animation. The general characterization of game is the situation for user to solve the problem by many principles and targets in each game.

Knowledge of the questionnaire design and data collection
Questionnaire is the set of questions which be the tool in data collection. It is used in quantitative social research and consist of 3 parts are: (1) Introduction, (2) Direction and (3) Questionnaire detail.

Table 1 Benefit and Limited scope in questionnaire desire

Benefit	Limited
(1) Save of the time and payment, including can estimate the time for sending questionnaire to receiver.	(1) If there is not good plan, it will lost budget especially for sending data via mail because there is not more than 30% of questionnaire sending coming back.
(2) The answer person can answer freedom.	(2) Can not observe the response from the answer person and there is a chance to receive error for the objective of questionnaire
(3) The same standard in questions for every answer person.	(3) Can not use complex question because it has to use the same standard.
(4) Suitable to the data which the answer person doesn't want to explore to the other.	(4) The answer person might not be the real target group especially related with benefit able questions.
(5) Can collect data for many samples convenience.	(5) Using with limited scope only the person who can read and write. There is the trend to receive back the questionnaire less than expect.
(6) Not necessary to use the expert for collecting data.	(6) The problem for the questionnaire designer to design only easy question, clear and there is the test of questionnaire before using.
(7) There are clearly evidences for detecting data in the future.	(7) If there is not good in questionnaire design or too many questions, the answer person may bore and not interested in the answer, then there is not benefit data (GIGO, Garbage In, Garbage Out)

The agreeable research
(Phongpoonsak, 2003) studied the factor to establish the study achievement of student in business computer science of Diploma, College of Commerce, Department of Vocational Education about the factor of computer at student house. The students who have computer at their house showed the achievement higher than the students

who have no computer. This result agreeable to (Teeratanakul, 1998) which showed in the book "The teaching for technician" as taking novel technology in study promoting was made the student interested and trained their studying up to individual person. The students of computer science have necessary material for their studying at their house, they can search data to create their skill and expertise in computer and finally effect into good achievement in their study.

Summarize
To study the feasibility of the project could be considered into 3 ways are: (1) Explore the feasibility of the project or explore research, (2) Trial to the feasibility of the project and (3) Process research which gives the advantage to estimate the feasibility and go to permanent planning especially a feasibility study on G-learning centre. G-learning centre is the learning centre with electronic game and automatics distance centre processing, Intranet, Internet and Extranet network, visual system and other media with no related with time and place. It is necessary to plan to success in target of the organization.

RESEARCH METHODOLOGY

In the study of "A feasibility Study on G-learning centre for science and technology in Princess of Naradhiwas University" For correct result and success in the objectives of the study, researcher establishes the research step are: (1) Determination of population and sample, (2) Creation of tools in the research (3) Data Collection, and (4) Data analysis.

The researcher analyzed data from complete questionnaire which returned back by using statistic value as
     (1) Questionnaire of the status of respondents and reliable factor with G-learning centre establishment by using percentage.
     (2) Questionnaire of opinion in G-learning centre establishment by using mean and standard deviation. By following below :

The answer	Score
The highest	5
High	4
Moderate	3
Less	2
The least	1

(for the 2nd part of executive board and student questionnaire)

Table 2 The translation of meaning by holding the principle of Beat

Score Level	Meaning
1.00 - 1.49	Population response the least important to the questions.
1.50 - 2.49	Population response less important to questions.
2.50 - 3.49	Population responses moderate important to the questions.
3.50 - 4.49	Population response more important to the questions.
4.50 - 5.00	Population response the most important to the questions

(3) The formula to calculate the relationship by Pearson r formul

$$r = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\left(N\sum X^2 - (\sum X)^2\right)\left(N\sum Y^2 - (\sum Y)^2\right)}}$$

N refers to the number of population
     $\sum XY$ refers to the sum of every pair of x score times with y score
     $\sum X$ refers to the sum of x score

$\sum Y$ refers to the sum of y score

$\sum X^2$ refers to the sum of the x square

$\sum Y^2$ refers to the sum of the y square

RESULT

The research is a feasibility study on G-learning centre for Science and Technology in Princess of Naradhiwas University by using questionnaire. The result was divided into 3 parts are:

(1) The result from executive boards

This part is general analysis and data in administration, pattern, budget and operation of G-learning centre of Princess of Naradhiwas University.

The result showed that 15 executive boards (100%) agreed to establish G-learning centre at Princess of Naradhiwas University and 9 executive boards (60.0%) agreed to establish this centre with academic affair responsibility. There is the need to set 21-40 computers and service from 8 a.m. to 4.30 p.m. The scope of G-learning centre service, most of executive boards need to service the study in part time for the students who have the problem, service to 12 lecturers (80%) who is busy in the working time, 10 lecturers (66.6%) need to give the service from outside network and 13 lecturers (86.6%) need G-learning centre to produce the lessons for institute first, seminar and training about lesson development and server area management enough to the need respectively, Most executive boards have the opinion that the officer of G-learning centre should be available for 3-4 people and 14 lecturers (93.3%) need to provide.

Table 3 The opinion of executive boards in the administration of G-learning center

Administration	Mean	Standard Deviation	Opinion Level
G-learning centre should be institute.	3.64	0.96	High
G-learning centre should be department.	3.62	1.11	High
Head of G-learning centre is recruited by executive board.	3.80	1.08	High
Head of G-learning centre is recruited from direct knowledge person in G-learning.	4.76	0.43	The highest
Total	3.955	0.0895	High

Table 4 The opinion of executive board for the pattern of G-learning center

Pattern	Mean	Standard Deviation	Opinion Level
There are special officers at G-learning centre.	4.47	0.66	The highest
The special officers at G-learning centre should graduate in Computer Science.	4.60	0.62	The highest
The special officers at G-learning centre should graduate in Information Technology Science.	4.29	0.66	High
Total	4.45	0.646	High

Table 5 The opinion of executive board in the budget of G-learning centre management

Budget Management	Mean	Standard Deviation	Level of Opinion
G-learning centre should receive the budget from the institute.	4.56	0.66	The highest
G-learning centre should receive the budget from the college.	3.56	1.29	High
G-learning centre should receive the budget from tuition fee of the college.	3.20	1.10	Moderate
G-learning centre should receive the budget from private organization.	3.76	1.10	High
Total	3.77	1.01	High

(2) The result of data analysis of the questionnaire in the part of executive board.

This part of data analysis is general data analyse and status about the support factor in G-learning centre of Princess of Naradhiwas University.

The result showed 21 lecturers (84.0%) agreed to establish G-learning centre at Princess of Naradhiwas University. 20 lecturers (80.0%) wanted to establish G-learning centre with the academic affair responsibility, 21-40 computers and service during 4 a.m. to 4.30 p.m. In the scope of G-learning centre service, most lecturers agreed to service in teaching over the time to 19 students who has problem (76.0%). There is overtime teaching for 10 lecturers (40.0%) who busy at the working time, 21 lecturers (84.0%) wanted to get the service over the schedule time. 18 lecturers (72,0%) wanted to connect the computer from outside system and 20 lecturers (80.0%) wants about the responsibility of G-learning centre should produce lesson to the institute first and follow by 18 lecturers (72%) wanted to receive the server area system enough of their need.

The result of data in the need of support factor in G-learning centre showed that 22 lecturers (88.0%) wanted to use G-learning centre in media pattern and 20 lecturers (80%) wanted to use G-learning via Internet and 21 lecturers (84%) wanted to present the content of G-learning in basic multimedia pattern.

(3) The result of data analysis of the questionnaire in the student part.

The analysis in this part is the general data analysis and status about support factor in using G-learning centre of Princess of Naradhiwas University.

The result showed 79 parent income (58.51%) of most student is lower than 8,000 baht per month, 34 parents (25.18%) parents get 8,000-12,000 baht per month and 22 parents (16.29%) get more than 12,000 baht per month. 92 students (68.14%) have computers at their house and 36 students (26.66%) work over the study schedule.

Table 6 The student opinion about support factor in G-learning using

Support factor in G-learning using	Mean	Standard Deviation	Level of Opinion
Understand the curriculum of studying with computer in good level	3.07	0.63	Moderate
Choosing the studying subject by computer because it make the good development of life.	3.75	0.71	High
Use studying skill with computer to solve the problem.	3.17	0.75	Moderate
Understand principle and technique of working by computer.	3.04	0.60	Moderate
The subject with using computer is interesting.	4.04	0.79	High
Apply to use when graduate.	3.93	0.79	High
Computer is up to date technology and separate of using.	4.55	0.60	The highest
Active to study for getting more knowledge.	3.78	0.70	High
Hope to success in the study.	4.41	0.72	High
Always search data for develop knowledge.	3.47	0.74	Moderate
Like to self study to create high confidence in study	3.44	0.81	Moderate
Always realize that the graduate in studying is the main point to estimate the future.	4.18	0.88	High
Good knowledge in computer	3.00	0.71	Moderate
Good knowledge and understand about G-learning	2.78	0.76	Moderate
Total	3.615	0.727	High

CONCLUSIONS

 This research show the opinion in G-learning establishment in the executive board part with agree to the lecturer opinion, agree to establish G-learning centre in Princess of Naradhiwas University as the related value as 1. This centre response by academic affair with the related value as 0.992777 and the need to set 21-40 computers with related value as 0.848963, the service time in 8 a.m. to 4.30 p.m. with related value as 0.879359. All values are very high level. For the part of responsibility of G-learning centre, the opinion from most of executive boards want G-learning centre produce computer lesson for the institute, secondly, seminar and training about lesson development and thirdly, server area management enough for the need and provide G-learning room with 3-4 permanent officers.

In the lecturer part showed the opinion agree with executive board opinion. They agreed to establish G-learning centre in Princess of Naradhiwas University by academic affair responsibility. There is a need to set 21-40 computers and give service time at 8 a.m. to 4.30 p.m. For the scope of service, most of lecturers agreed to give the service over time to students who have study problem, service to teach for the lecturer who service overtime and service to connect with the outside system. The responsibility of G-learning in support factor showed the

lecturers need to use G-learning in the multimedia pattern, use via internet and present G-learning data via basic multimedia.

In the student part showed that they chose the subject via computer because they think to make them to develop their life, can use knowledge from computer skill to solve problems. They are interested in the subject which use computer, like to search data to develop themselves and they understand G-learning with related opinion from 3 groups.

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A MEDIATOR VARIABLE INFLUENCING THAI LAND LOCAL TAXPAYERS COMPLIANCE BEHAVIOR ON STRUCTURAL EQUATION MODELING (SEM)

Nichapat Boonyarat[1]
Mahamad Tayib[2,3]
Omar Othman[2]
Muzainah Manzor[2]

[1]Accounting Program, Faculty of Management Science, Songkhla Rajabhat University, Thailand
[2]Accounting and Taxation Department, College of Business, Universiti Utara Malaysia
[3]Deputy Vice Chancellor, Academic and Research, Universiti Tun Abdul Razak, Malaysia
e-mail : tubskru@hotmail.co.th, mohamad@uum.edu.my, omar@uum.edu.my, muzainah@uum.edu.my
handphone: +66835195581, +60124709198, +60195654364, +60133469628

Abstract

The objectives of this research were to explore tax fairness perception, to investigate tax knowledge and understanding, to determine attitude towards taxation, to examine service quality, and to identify the association among relevant factors affect taxpayers' satisfaction and then effect to Thai local land tax compliance behavior. Multi-stage random sampling method in determining target group of local taxpayers for in-depth interview in Local Administrative Organization (LAO), and the systematic random sampling technique were used for select local taxpayers from the lists of LAO. The pilot survey was done with 200 units of sample and the actual collection was done in 830 units. The SPSS, statistic package for social science was used in this research to derive the fundamental and intermediate statistics. For the advance statistic, the LISREL software program for LInear Structural RELationship was adopted, in order to confirm the right selection of indices which SPSS can not measure perfectly. Structural Equation Modeling (SEM) was used in making the analysis of the relationship of the latent variables in the model. It had two steps as the Confirmatory Factor Analysis (CFA) and the path analysis. The research instruments were the semi-structured interview form and the questionnaire measures the detail point for eleven levels from level zero to ten. The results of this study informed that the antecedents had affected tax compliance behavior. The result also showed that the revised causal structural model achieves very well fitted. And its indicated that an indicator for tax compliance behavior of the relative importance of taxpayers' satisfaction is influenced specifically of tax fairness perception, knowledge and understanding, attitude towards taxation, and service quality.

Keyword : mediator tax Thai LISREL SEM

INTRODUCTION

Dynamic of changes caused by globalization has lead to be both opportunities and threats in the world. Economic crises at the past time make three economic superpowers as United State of America, Europe, and Japan need to solve problems in their countries. The new state strategy for the new world will be changed to be more locality oriented. Thailand also needs to reconstruct the national strategy towards local community, in order to, strengthen Thai local to be more self-reliance for capable of withstanding the new waves of the economic cycle. No more dependence on money from abroad. Thus, local government authority or Local Administrative Organization (LAO) in Thailand have to plan the strategic for increasing performance efficiency. Finance Ministry's policy of local well-being, be able to fortify the financial status of local at village level in LAO areas. But now Thai local people are still lack of participation in drawing the plan and in the process of forming the strategy (Puang-Ngam, 2009). From literature review, the conclusion of the compliance word in Thailand can be separated into two elements. They are Thai participation and willingness by voluntary.

STATEMANET OF PROBLEM

All data and information that the researcher have investigated and collected a lot, beside of qualitative research techniques of this study can summarize 5 problems. It is name "ecosociorevenewpolitax", consist of economic, social, revenue of government, a new land local tax, and political problems.

Economic Problem: The last 3 world economic crises have affected Thai economy a lot since 1977 until now. Total revenue has been deceasing, incurring a lot of international debts of Thailand. If the government can bring in the new taxe will surely make the financial strength in the long run. Especially, those local levied taxes should be administered by LAOs because they truly understand the problems and needs of people in the areas. In doing

so, LAOs do not need to wait for financial support from the central administration and more money will be left for the national government to be used for more development.

Social Problem: The empowerment of grassroots people through upgrading well–using of them, attaining self reliable, being inter-dependent in the community, will strengthen long term economic stability. Through the guidance of royal idea of sufficiency economy, LAO will gain more revenues for sufficient development. It means that they do not need to incur debt from outside because there are sufficient resources of various kinds, wisdom, cultural, craftsmanship etc. in the locals for their own uses. These valuable endowments should be protected and organized by the locals to sustain them. Cooperation among local administrations should be sought in order to seek and share more income such as through public schools, hospitals, child-care centers or other public services and goods, which needs shared burdens of investments.   One Tambon (village) One Product (OTOP) profect or local sightseeing spots of LAOs are also good sources of revenues.

A New Land Local Tax: New sources of incomes may be raising tax rates, initiating new taxes, taxes of commonly used facilities, of toxic or harm inducing activities; e.g. garbage creation tax etc. These taxes may involve the creation of some public goods such as, public bus stops, sewage ditches, fresh markets, reading corners etc.

Revenue of Thai Government, and Political Problems: The Decentralization Administration Law has stipulated that financial decentralization needs to be implemented in support of self-reliance of the local administrations. It has targeted that in the year 2006, local administration should attain 35% revenue, while at present it is only 25% including the subsidy from the central government. Without the subsidy, the local administrations still have the local levied tax less than 10% in the year 2008 as shown in table 1 and 2 (Commission for Decentralization to Local Administration, 2009: 1-6).

Table 1 : Compared Revenue of Local Administrative Organization in the Fiscal Year 1997 – 2000.

Types of Revenue	Fiscal Year (million Baht)			
	1997	1998	1999	2000
1. Local Levied Tax*	16,985.60	17,626.20	17,516.80	19,475.30
Percentage	18.09	18.02	17.92	19.51
2. Surcharge Taxes	47,380.20	48,831.70	42,731.60	45,527.50
Percentage	50.48	49.91	43.72	45.62
3. Shared Taxes				
Percentage	-	-	-	-
4. Grants	29,507.60	31,378.90	37,499.30	34,800.00
Percentage	31.43	32.07	38.36	34.87
Total Local Revenue	93,873.40	97,836.80	97,747.70	99,802.8
Total Percentage	100.00	100.00	100.00	100.00
Revenue of Government	843,542.30	733,136.90	708,826.00	749,945.00
Proportion of Local Revenue to Revenue of Government	11.13	13.34	13.79	13.31

*Local Levied Tax: Taxes collected by local authorities.

Table 2 : Compared Revenue of Local Administrative Organization in the Fiscal Year 2000 - 2008 (After the Act of Decentralization plan and procedure).

Types of Revenue	Fiscal Year (million Baht)			
	2001	2002	2003	2004
1. Local Levied Tax	17,701.88	21,084.47	22,258.28	24,786.27
Percentage	11.08	11.99	12.09	10.24
2. Surcharge Taxes	55,651.90	58,143.52	60,217.71	82,623.37
Percentage	34.84	33.06	32.72	34.15
3. Shared Taxes	12,669.00	19,349.00	35,504.44	43,100.00
Percentage	7.93	11.00	19.29	17.81
4. Grants	73,729.80	77,273.30	66,085.72	91,438.00
Percentage	46.15	43.94	35.90	37.79
Total Local Revenue	159,752.58	175,850.29	184,066.15	241,947.64
Total Percentage	100.00	100.00	100.00	100.00
Revenue of Government	772,574.00	803,651.00	829,495.56	1,063,600.00
Proportion of Local Revenue to Revenue of Government	20.68	21.88	22.19	22.75

Table 2 (continued)

Types of Revenue	Fiscal Year (million Baht)			
	2005	2006	2007	2008
1. Local Levied Tax	27,018.00	29,110.41	32,021.45	35,223.60
Percentage	9.20	8.90	8.96	**9.35**
2. Surcharge Taxes	102,520.34	100,189.59	120,728.70	128,676.40
Percentage	34.90	33.69	33.78	34.16
3. Shared Taxes	49,000.00	61,800.00	65,300.00	65,000.00
Percentage	16.68	18.89	18.27	17.25
4. Grants	115,210.70	126,013.00	139,374.00	147,840.00
Percentage	39.22	38.52	38.99	39.24
Total Local Revenue	293,750.00	327,113.00	357,424.15	376,740.00
Total Percentage	100.00	100.00	100.00	100.00
Revenue of Government	1,250,000.00	1,360,000.00	1,420,000.00	1,475,000.00
Proportion of Local Revenue to Revenue of Government	23.50	24.05	25.17	25.20

Source : Office of the Decentralization to Local Government Organization Committee (2009).

Democracy should be mentioned that people compliance to self-governing. Independence of income is "pre-requisite" before the fiscal autonomy. Freedom of administration to LAOs successful administration is not simply (Louwthammathat, 2008; Ruechupanth, 2008). Researchers need to do this research because local governments should make more effort in tax collection to increase revenue in order to be more independent in deciding how to spend the money accordingly to local needs and necessities. We want to know cooperation among the public which is very crucial for tax base augmentation in an attempt to increase local revenue, will be cause of more taxpayers' expenses. Therefore, it involves tax compliance of the public who have to change the taxpaying behavior.

RESEARCH OBJECTIVES AND BENEFICIAL

The objectives of the study are to evaluate the perception on tax justice, to survey the knowledge and understanding about Thai land local tax, to study the attitude towards local taxation, to measure tax compliance satisfaction of the taxpayers towards the service quality of LAO, to study taxpayers' compliance behavior in rural Thailand, and to point out the factors relating between the perception on tax justice, tax knowledge and understanding, attitude towards taxation, service quality, taxpayers' satisfaction and compliance behavior on Thai local land tax.

The purposes of this study were to know taxpayers' compliance satisfaction. Especially, the coming new tax having higher tax rate and wider tax base, may it make more dissatisfaction cause from taxpayers' revenue for expense reducing. we needed to know the compliance satisfaction and the compliance behavior of the old one, as well as the problems and the opinions to be forwarded to the government.

LITERATURE REVIEW

According to the definition of "tax" in the law, it means the money collected from people without any obligation of returning direct benefit to return them. Thai government likes other country, use tax revenues for providing public utilities to development local well-being. The reason underlying need to link a mediator variable to four different aspects of the determinants.

Taxpayers Satisfaction and Compliance Behavior
In Thailand, through the literature survey, it was found that satisfaction factors had been studied in almost areas of education and occupation. Thus, satisfaction was chosen to mediating variable, an important causal factor in this study. It served to link the determinants that leads to a resultant variable, the compliance behaviors as tax fairness perception, tax knowledge and understanding, attitudes toward taxation, and service quality. And each aspect was distinguished three elements as detail.

1. Tax Fairness Perception
The perception tax fairness arises when people make the comparison between tax the cost they pay and what they have got reback. Adam Smith, the father of Economics, who wrote related with local land tax theory, had said that the best tax was the tax levied from land rent. The improvement of land will cause the rise of rent. Therefore, the landlord will gain (http://www.econlib.orgh/LIBRARY/Smith/sm_WNtoc.html). Local land taxpayers always consider tax satisfaction through the Principle of Equity. From the literature survey, it was found that Thai taxpayers had perceived tax fairness in three areas; they were:

1.1 Distributive Justice
Thai people maybe happiness in satisfaction level had arisen from the utilization of public utilities and facilities or public goods (Tayib, 1998; Walster & Berscheid, 1978 as cited in Eichenberger & Frey, 2004). Distributive justice means the well-being of people in the locality where could seen by comparing people in surrounding areas. There are roads, ports, ditches, canals, temples, mosque, schools, hospitals, sanitation stations, police stations, incinerators etc. They were provided through tax money from people. Some were contradictory to people's opinion. This had caused people dissatisfaction.

1.2 Procedural Justice
This variable involves many units of authority through many levels, as well as many departments and ministries. There had been many criterions which had been adjusted almost every year of budget allocation by Thai national or central government, currently, is still quite complicated (Chayabut, 1993: 215; The office of the Commission for Decentralization to Local Administration Organizations, 2008: 6-17). Moreover, the Provincial office allocated the budget to LAOs in their province according to per head of population or per collected tax in area (Prachuabmoa, 2001). However, if the people are informed by satisfied. It will have no drastic problems.

1.3 Retributive Justice
Penalty imposed to those who evade tax. If the people perceived the actual penalty that was justice of fairness, they will be happy to pay tax. Retributive justice conceived as crimes, are the notions of merit. Punishment is thought to reinforce the rules of international law and to deny those who have violated those rules any unfair advantages (Martha, 1998). Perceived appropriateness of sanctions in cases of norm breaking (Tayler, 2004). From the in-depth interview in Thai rural area, it was found that there were many tax evaders caused by filling the tax form with the lessen numbers of land and buildings than the real numbers being rented.

2. Tax Knowledge and Understanding
This factor is the selective memory, including the ability to use facts, ideas, and insight to link with the phenomenon in conformity with psyche condition within that will ultimately cause the human behavior (Pilantaowat, 2009: 35-36). Tayib (1998) studied the efficiency of local tax collection in Malaysia. He had added the variable of tax knowledge in his framework to study Malaysian taxpayers' compliance behavior, found that increased when tax structural system was good for them understanding easily.

2.1 Tax Law

Tax laws and regulations are angles aspect in tax administration (Kelly and Oldman as cited in Tayib, 1998). From the literature survey, could summarize that a variable Thai local land tax law should be included in this study. Because of the content of the tax law consist of two elements as tax bases and tax rates. Tax base will be used as the base for tax evaluation; e.g. local development tax is levied from the base of being the land owners. For the building and land tax, land rent will be used to calculate as has been filed for paying tax by the landlord. These tax will be calculated from the area of land owned and notified in tax filing. This tax base will be multiplied by the land tax rate of LAO (Puang-Ngam, 2006: 136).

2.2 New Tax Public Relation

The new tax will be a local land tax may its call "land and structure tax" name. At the present time, local taxes in Thailand are many kinds of them. They are Building and Land Tax, Local Development Tax, Signboard Tax, Slaughter Tax, etc. They are not summed up as a single local tax or property tax like some countries (Vlassenko, 2001; Gilligan & Grant, 2005; McCluskey & Franzsen, 2005; Anderson, 2006; McCluskey & Bevc, 2007; Smith, 2008; Bahl, 2009; Gaffney, 2009). a new tax in Thailand, Actually, has been in the process of drafting. It involves the local land tax (Pornchokchai, 2009). It has been expected that after the promulgation, will be automatically replaced the building and land tax as well as the local development tax, are quite long-use and obsoletely. During the last decade, the government had done publicity is new land local tax, in order to inform the people and to know about opinion. A two-way communication as the publicity was done. LAO with the government organized Tax experts had met the people in the meetings each region of the country. .

2.3 Financial Information Disclosure

Transparency of Thai government is being watched closely under the idea of Good Governance principle. It will support Thai taxpayers' compliance whenever they realize their tax money was used truthfully and equitably. They will be satisfy affect tax compliance behavior (Tayib, 1998).

3. Attitude towards Taxation

There were research works relating to taxpayers' attitude towards tax compliance. Variables included were the population characteristic, tax structure etc. (Jackson & Milliron, 1986 as cited in Tayib, 1998). Attitude towards taxation is one of variable directly effect to the compliance behavior. Therefore, we should study its in tax compliance behavior framework of this research.

3.1 Tax Complexity

Tax becomes the revenue of the country. Some people have attitude that tax must be paid without any evasion. Tax complexity is the importance of obstacle to paying tax (World Bank, 2004: 53). The long time strong belief of the people that it is difficult in paying tax had caused reluctance, difficulty to understand, having many steps, being easily mistaken; e.g. making the copies of the deeds, measuring the land area, filling the tax forms, doing tax calculation, etc. (Hanefah, 1997). All of these activities had caused attitude not good.

3.2 Tax Policy Setting

Participation of taxpayers in setting the policy, especially, tax rate. If they have taken participate in setting tax rate, then maybe satisfied to pay tax by compliance.

3.3 Tax Motivation Activities

Maslow stipulated that theory of needs motivation will be cause of compliance behaviors. Satisfaction is a physical need, before being praised need. Tax motivating activities in Thailand had been organized to stimulate taxpayers' eagerness to pay tax. It supports LAOs in obtaining more local tax. The festival paying tax month activity with the opening ceremony, distribution gifts to taxpayers who come on the first day, drawing the prizes among taxpayers within tax period, giving prizes to communities where sends local tax in time, etc. as pictures below.

ภาพประกอบ

4. Service Quality

A factor dictating satisfaction is service quality. From the literature survey, the selection of three key variables relating to service quality being appropriate to land local tax in Thailand. There were empathy, reliability, and tangibles.

4.1 Empathy

Responsibility sense in empathy services includes being energetic to solve problems, being polite, considerate immediately, showing pleasant, impress taxpayers for the aim of having to coming in the next time and paying tax by satisfaction.

4.2 Reliability

Taxpayers expect reliability form tax collection of LAOs. Reliability involves finishing service within time limits, no time wasting, not long waited time, service equitably. Tax officers have enough to know tax laws and regulations. They should be able to answer questions with right tax data and information. Taxpayer also expected to received tax documents, as well as, neat and appropriately.

4.3 Tangibles

Tangible treated as benefits back to land local taxpayers. It deals the facilities providing for tax collection, include modifying the environment of LAO office where impress positively to local land taxpayers inducing satisfaction to pay tax by willingness. Facilities will include adequate instruments and materials, as well as technologies, office buildings, room, and space decoration both inside and outside. Modern Laos should appropriately provide electric fan for air ventilation, air conditioned room, drinking water, newspapers, magazines, especially, various forms.

RESEARCH METHODOLOGY

Data were collected from the multi-stages random sampling technique of the area representing the medium value of the local revenue as collected in the budgeting year 2008, prepared by the Department of Local Administration. Sample units of taxpayers were randomly chosen from the taxpayers lists of LAO by systematic random sampling technique. If LAO can collect the local development tax will be more revenue for rural area where there is larger area of Thailand. With a low tax rate, comparatively, this tax was not much money. Besides, in some areas, there were no owners to be responsible for the tax. This tax basing on the ownership of the property or the area owned, in some countries, it is called land tax. Therefore, researchers selected the local development taxpayers in LAO rural for were collection data to process of quantitative analysis.

A team of graduates, native to the area, from various universities were selected and had been trained collection data in area by Department of Labor in Ministry of Interior. Questionnaire was three parts. Part 1: questions for

breaking ice: to lesson stress arising from answering the questions. Part 2: questions for asking their opinions about compliance behavior the valves ranging from zero to ten. And part 3: opinions open ended part.

RESEARCH FINDING

The general characteristics of population who answered questionnaires, descriptive statistics were used in explanation and result interpretation. They were basic statistics: means, percentages. SPSS computer program was used to analyze data. The precision and reliability values were high appropriate for use and justification of the results. Reliability value before and after data collection were 0.9313 and 0.874 respectively. The precision values were received from five Thai experts in local community, public administration, statistics for research and evaluation, LISREL, money and finance. The 0.7952 value was obtained from IOC form, shown that questionnaire had content precision validity at a good level suitable to use for collecting data in Thai rural area. Eight hundred and thirty respondents were 51.4% males, quite a balanced distribution among gender. The majority of local land taxpayers were between 50-59 years, 28.3%. The lesser group was 40-49 years as 19.4%, and 60-69 years as 18.1% respectively. Distribution of data obtained was quite symmetrical. Most of local land taxpayers owned land in rural area, had finished primary education as 63.7%, and had monthly income at 5,000-10,000 Baht as 51.6%. More than a half of them lived outside of the land they owned.

The study results showed that the local development taxpayers in LAO areas had the compliance satisfaction behavior at the medium level. The derived structural equation can be used in the further research in the future. Though there will be changes in the economic, social, political conditions, as well as the government revenue and new tax, tax fairness perception, tax knowledge and understanding, attitudes towards taxation, and service quality of people in local areas always affect their satisfaction which eventually will result in compliance or non-compliance behavior in paying local land tax in Thailand.

HYPOTHESES TESTING

The perception on tax justice, tax knowledge and understanding, attitude, and service quality are related to resulting in taxpayers' satisfaction, will directly, affect the taxpayers' compliance behavior on Thai land local tax in this study. To verify the hypothesis, it can be concluded that four antecedents; e.g. tax fairness perception, tax knowledge and understanding, attitude towards taxation, and service quality, had the impact to taxpayers' satisfaction, eventually resulted in tax compliance behavior. The study results, had conformed very well analyzed from the data collected, with the hypothesis. The model used was thoroughly fit with every variables that can be used to forecast the result variable with high reliability in the future.

DISCUSSION AND CONCLUSION

Willingness intteracts satisfaction (Tayib, 1998). Satisfactory compliance is very crucial for raising tax revenue of the government without any opposition. This is actually the result of the taxpayers satisfaction. Locality is made modern through the improvement of public utilities, social facilities, or Public Good are infrastructure in local area such as transportation, tourist spots, public parks, ditches, canals, markets, schools etc., causing the increases of land values in the areas, the land owners will be happy to pay local land tax. So far these infrastructures had been supported to LAO uniformly throughout the country without consideration of differences in the people needs and suitability. Thus, Thai land local taxyapers' perception toward tax fairneess was mediam level. From the in-depth interview, there were some evaders omitting to notify the renting deals, or the ownership of the lands. Especially, had caused a large area of vacant land in rural Thailand where LAO cannot know whose owners' vacant land.

The new tax in this study, will affect taxpayers' expenses, due to the higher tax rate and wider tax base. It also has the wider coverage, including the vacant land areas where were not make whatever wasting of land. These attempts were done simultaneously with the decentralization of power program, especially in the area of budgeting and finance for local authority. The result of this attempt will depend on the success in enacting this law. Two years time will be needed for preparation before bringing this law into action. The publicity is still under taking with a quite limited budget. Adam Smith had said about the good tax system that to laid justice for a society in tax collection, tax rate should be a fixed one (Dhammano, 2005: 84). Tax base and tax rate directly

affected the taxpayers' satisfaction. They determined the amount of tax money they had to pay. An increase or decrease in the tax money being calculated will cause satisfaction or dissatisfaction to the people. Compliance satisfaction will be high if they thoroughly understand tax system, and then lead to compliance behaviors. However, Thai land local taxpayers' perception taword tax knowledge and understanding were low level.

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PRACTICE OF ISLAMIC POWNBROKING (AR-RAHN) SCHEME IN MALAYSIA: TRENDS AND DEVELOPMENT

Anis Pattanaprichawong[1]
MuhammadDeen Mohd.napiah[2]
MuhammadNaim Omar[3]
[1]Lecturer at Princess of Naradhiwas University. (anis_10104@yahoo.com)
[2]Lecturer at International Islamic University Malaysia.(drdeen_61@yahoo.com)
[3]Lecturer at International Islamic University Malaysia.(naimomar@yahoo.com)

Abstract
The purpose of the study is to investigate the weaknesses of conventional pawnbroking and the development of Islamic pawnbroking (ar-rahnu) in Malaysia, by documentary and field study .The study will focus on trends and development of Islamic pawnbroking in Malaysia, Furthermore, the result of this study should be first step to practice the Islamic pawnbroking in Thailand. The emergence of conventional pawnbroking operating side by side with the Islamic pawnbroking (dual system) provides an option to the customers to choose the best pawnbroking service based on the features offered. Malaysia ran the first Islamic pawnbroking (ar-rahn) in the world operating parallel with the conventional pawnshop within its dual financial system. At the end of year 2004, Malaysia had 242 licensed pawnshops regulated under Ministry of Housing and Local Government.

Keyword : Islamic pawnbroking in Malaysia, ar-rahn,Trends and Development

THE DEVELOPMENT OF THE PAWN BROKING SERVICES IN MALAYSIA

Pawn broking is a form of secured money lending by pawnshops in the conventional pawn broking system. It has been a fast source for short-term cash borrowing. In the past generally Muslims all over the world and specifically in Malaysia did not have an alternative to access an interest-free and low cost short-term cash advance. This situation has improved after the introduction of the shariah based Islamic pawn broking system called Ar-Rahnu which is an interest free source of micro credit. The existence of the conventional and Islamic pawn broking services has given clients the choice to choose the best service provider in order to get fast and easy access to cash compared to getting loans from commercial banks or finance companies.

Pawn broking is a means where the lower income group and small scale traders could seek shortterm financing to manage their cash flow problems. The word Ar-Rahn means a pledge or security for a loan.

1.1Background of Study

In developing any product, competition is normal in any market. Health competition helps customers to choose the best goods or services providers. In pawnshop activities there are several kinds of small loan providers who basically provide same services. Basically there are six different types of organization that provide same services such as:

   i)   Bank Rakyat - Ar-Rahnu Scheme
   ii) Bank Islam Malaysia Berhad – Ar-Rahnu Scheme
   iii) Terengganu – Scheme Muassasah
   iv) Kelantan – Ar-Rahnu Scheme
   v)   Pawn shop – Conventional pawnshop
   vi) Middleman - Simple Loan.
   vii) AgroBank Malalysia – Ar-Rahnu scheme

Most of the above bodies provide retail loan by taking gold as collateral accept activities played by middleman. Islamic pawnshop is not new in the market. Islamic pawnshop had been introduced by Terengganu State Government, known as Muassasah scheme in 1994 and its objective was to help poor people to get short term fund by pawning gold as collateral.

Then it followed by Kelantan. Only one Muasasah scheme is practiced in Terengganu.Bank Rakyat with the cooperation of YPIEM than introduced the scheme in 1993 and followed by Bank Islam also with the cooperation with YPIEM in 1999. The recent news by Bernama November 25(2010), Bank Rakyat, through its fully owned subsidiary, Rakyat Management Services Sdn Bhd, is aiming to open 15 branches of the Islamic based pawn franchise outlets, Ar-Rahnu X-Change, in the next three years Its managing director Datuk Kamaruzaman Che Mat said the chain of Ar-Rahnu outlets will be expanded to various locations in the Klang Valley area, as well as in the northern and east coast region. Ar-Rahnu scheme in BIMB has started in 1997 with 52 branches. Its policy is different compared to Bank Rakyat. In BIMB, to apply loan by pawnshop service, original receipt of gold purchased or declaration letter from the gold shop to qualify the gold must be attached.The recent news by BIMB web June 16 2010, Bank Islam gained an instant entry into the Ar-Rahnu market when it bought an 80 per cent stake in Islamic pawn broker Farihan Corp Sdn Bhd (FCSB), which operates an Ar Rahnu outlet in Pasir Puteh, Kelantan, with an annual turnover of RM6 million. Bank Islamanaging director Datuk Seri Zukri Samat said the current market penetration of Islamic pawn broking in the country was still less than 50 per cent. The cumulative financing for the Ar-Rahnu market totaled RM5.4 billion to date, with more than 4.3 million people having benefited since it was introduced by the Malaysian Islamic Economic Development Foundation (YaPEIM) in 1993.

Based on the achievement of those organizations, AgroBank had implemented Ar-Rahnu scheme in year 2002. AgroBank system is similar with Bank Rakyat. Memorandum of Understanding had been made between Bank Rakyat and AgroBank as an agreement that Bank Rakyat agreed to be its consultant.

1.2 Literature review

1.2.1 Importance of Ar-Rahnu

Previous studies have documented on the importance of pawn broking system in our society (Sanusi and Johari, 2006; Mohammed et al., 2005; Lao, 2005; Ismail and Ahmad, 1997; and Rugayah, 1986). The authors of these studies have explored the issue of Shariah view in terms of the pricing system, assets pledged, customer service and the locality of Islamic pawn broking activity.

Ismail and Sanusi (2005) studied on the important of shariah rules in the implementation of Islamic pawn broking system. They argued that the Islamic principles such as wadiah, qardhul hassan and ujra must be given a careful consideration in establishing Islamic pawn broking.

Similarly Mohammed et al. (2005) argued that wadiah, qardhul hassan and ujra makes Ar-rahnu clearly different from the conventional pawnshop. The element of riba and gharar are eliminated in Ar-rahnu system.

Studies by (Mohammed et al., 2005; and Ismail and Ahmad, 1997) have examined the important of the pricing associated with the pawn broking transactions. Specifically, Mohammed et. al. (2005) documented that the service charge imposed by Ar-rahnu is relatively cheaper than the conventional pawn broking system (imposed 2 percent). This would mean that the cost of borrowing cash in Islamic pawn broking system is lower than the conventional pawn broking.

This evidence is also consistent with evidences documented by Ismail and Ahmad (1997). On the basis of these findings, it is important to have Ar-Rahnu shop which offered competitive rate, to reflect the average pricing system in the market.

There are also studies on Islamic pawn broking system that have researched on the types of items accepted as a pledge (Sanusi and Johari, 2006; Mohamemd et al., 2005 and Ismail and Ahmad, 1997). Sanusi and Johari (2006) claimed that Islamic pawn broking system only accepts gold and jewelry made of gold. Comparatively the conventional pawnshops accept items beyond the gold jewelry that includes Rolex watches, diamond and other valuable electronic items. Islamic banking institutions which offer Ar-rahnu schemes such as Bank Rakyat, customers can only use gold as a pawn item.

There is no evidence that these institutions have accepted any other valuable items as a pledge for short term loans. This finding is similar with studies conducted by Mohammed et al., (2005) and Ismail and Ahmad (1997). Mohammed et al., (2005) mentioned that pawned items including gold and platinum while Ismail and Ahmad (1997) mentioned that the normal pawned items include jewellery and electronic assets. According to Ismail and Ahmad (1997), the gold items maintain their value over a reasonable period of time and have high liquidity.

Since 1960 there has been an effort to establish interest-free credit firms for the well being of Muslim community in Malaysia as well as around the globe (Hamidullah, M. Ma' Arif)

Another interesting turn of events that underlined the development of Islamic pawn broking in Malaysia is the legal barrier imposed on conventional practice in Kelantan. In 1995, the state government of Kelantan ordered the cessation of all riba or interest based conventional pawnshops in its jurisdiction. Nonetheless, the conventional pawnshops primarily owned and operated by non-Muslims may continue to operate if they were to deal in accordance with the Ar-Rahnu principles (Shaari and Azlina, 2003).

1.2.2 Marketing implementation

Marketing Implementation is the activities involved in putting <u>marketing strategies</u> into action in order to achieve <u>marketing objectives</u> and one of the marketing strategies is promotion of the services or product.

Promotion is defined as sales promotion, advertising, personal selling, public relations and direct marketing (Borden, 1984). According to Duncan (2005), promotion is the key to the market exchange process that communicates with present and potential stakeholders, and the general public. Every firm or store must cast itself into the role of communicator and promoter. Hakansson (2005) reports that promotion appears as an issue of how to create an optimal mix of marketing communication tools in order to get a product's message and brand from the producer to the consumer.

Advertising, sales promotions, personal selling and publicity can influence what consumers think about products, what emotions they experience in purchasing and using them, and what behaviours they perform, including shopping in particular stores and purchasing specific brands.Since consumers receive so much information from marketers and screen out a good deal of it, itis important for marketers to devise communications that offer consistent messages about their products and placed in media that consumers in the target market are likely to use. Marketing communications play a critical role in informing consumers about products and services, including where they can be purchased and in creating favourable images and perceptions.

Promotions pertaining to price offers are important tactics used to influence consumer behaviour in retailing both with regard to retailer and manufacturers' brands. According to Grunert (2006), several empirical studies have shown that price information is important for the consumer decision making process, and these consumers are very price conscious. Ferle and Steven (2006) find that the effectiveness of product advertisement in television is still doubtful. Ailawadi, et. al (2006), find that the net impact of promotions is still negative.

In another research, Gendek, K. and Scott (1999) report that in-store price promotions are associated with negative purchase event feedback compared to non-promotion purchases. Promotions such as price discounts and buy one get one free are effective promotional tools for encouraging consumers to buy more (Shi, Ka-Man and Gerald, 2005). Hung, Le Hong (2005) recommends that plans for promotions should be top-down strategy built plans with tactical bottom-up purchase analysis and that they should be monitored frequently. Steinberg, Jules (2001) points out that a successful promotion often comes from a good imagination. There are mixed findings from past research that promotion considerations either have an impact or no impact on customer motives in retail store purchases. It all depends whether the promotions support private-labelled or national brand products.

It is a known fact that pawn broking businesses had started since the 15 century with the coming of the Chinese traders to this country. It provided a speedy cash service to consumer who needed money without having to follow procedures which needed a long processing period.

Briefly, the number of conventional pawn broking licences approved between 1985 and 2006 had experienced an increase of 40 licences. In 1985, the number of conventional pawn broking licences had totalled 194 licences, while in 2006 the figure has increased to 234 licences. Among the states which have the most conventional pawn broking shops are Perak, Selangor, Johor, Kedah and Penang. The states with a high non Malay population have the tendency of having a larger number of conventional pawn broking service compared to states having a high Malay population.

The development of the Islamic Pawn Broking Ar-Rahnu scheme since 1992 started with the formation of the first Islamic pawn broking in Malaysia, MGIT, who has given an alternative to the people to make a choice in order to get a speedy cash and at the same time adhere to methods which are considered halal by sharia regulation. Business by MGIT has increased at a high rate since its first formation which started with 12,732 customers in 1992 to 26,632 customers in 2005. The value of pawned items has increase from RM9.85 million in 1992 to RM28.9 million in 2005.

This situation created a stiff competition to the conventional pawn broking scheme because customers felt that the Islamic pawn broking scheme is proftable to them compared to the conventional pawn broking scheme. Based on the MGIT business analysis, the increase of transaction exceeding 150 percent during the duration of 13 years of operation. The market development is also showing the same trend that is, the increase of participation in Islamic pawn broking service. Nevertheless, it is difficult to estimate the real value of the increase of ar-rahnu services as there is no authoritative body keeping the data related to the business at every shop throughout Malaysia formally as the requirement to submit standard financial statement for companies and banks to the Security Commission and Malaysia Central Bank (*Bank Negara Malaysia*), respectively.

The Malaysian Islamic Economic Development Foundation (YPEIM) continuously plays a vital role in the development of the Ar-Rahnu Islamic pawn broking services. YPEIM has collaborated with Bank Rakyat and Bank Islam Malaysia Berhad for the implementation of the Ar-Rahnu counter at every branch of each bank. Until 2003, the number of Ar-Rahnu branch/counter at Bank Rakyat was 106 whereas the number of branch/counter at Bank Islam Malaysia Berhad is 26. YPEIM has also opened 16 of its own Ar-Rahnu counter through YPEIM co-operatives.

The number of transaction performed at Bank Rakyat, Bank Islam Malaysia Berhad and YPEIM co-operatives also showed a positive increase. Since the implementation of the Islamic pawn broking system by YPEIM at the above mentioned institutions, the number of transaction in general in 1999 was 204 thousand transanctions involving total financing of RM191.58 million. Whereas in 2003, it has increased to 1.38 million transactions involving total financing of RM1.31 million. This development shows an increase in financing more than six times in 2003 as compared to 1999. This situation shows that the development of the pawn broking services with an Islamic concept has diversified and has become a great competitor to the conventional pawn broking system in Malaysia.

2. Data Collection Method

As notes by Sekaran (1992), these are two sources of data. It can be primary and secondary data. The primary data are gathered from the interview and assembled specially for the research project at hand while secondary data are the data that have been previously collected for some project.

The information in the literature review has been gathered from the financial literature and scientific articles found at the university library and through the internet. This was in order to get the necessary theoretical grounds about classic financial theory as well as more recent study results before analyzing and discussing the empirical information. It also gives a reader a deeper picture of the difficulties that this study is built upon.
In this study, primary data or direct method is used. This type of data is being collected from answer that respondent given by questionnaire prepared by researcher.

2.1.Primary Data

Primary data is defined as data originated by the researcher for a specific purpose of addressing the research problem (**Malhotra, 1999**). Primary data is the final stage of the collection process. The data is gathered from the questionnaires.

2.1.1Questionnaire

Questionnaire is one of the methods that have been used by the researcher in this study. A set of questionnaire has been distributed to Agrobank,Bandar Tun Razak customers.

2.1.1.1.Sampling Technique and Target Population

The probability sampling is used for this research because the respondents will be selected by the list. The method used is the simple random sampling. A simple random sampling is either a selection of respondents from Telekom Malaysia customers' list. In this study, the researcher chooses 150 respondents, which are selected among customer that come to the Agrobank,Bandar Tun Razak and who come to deal business with Agrobank,Bandar Tun Razak.

Table 1 : descriptive statistics test

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
customer perceptions	150	1.00	10.00	7.8200	1.87198
customer awareness	150	1.00	10.00	7.1867	2.37545
marketing implementation	150	1.00	10.00	6.7667	2.56307
Valid N (list wise)	150				

From the table above, the result showed that among these three independent variable, the most factor that influences customer acceptance toward Ar-rahnu scheme in Agrobank are customer perceptions which indicates mean of 7.8200.The second factor is customer awareness with result of mean, 7.1867 and the last factor is marketing implementation by Agrobank with mean value of 6.7667.Thus, from descriptive statistics test, researcher concluded that customer perceptions affecting customer acceptances towards Ar-rahnu scheme in Agrobank Bandar Tun Razak.

Based on the development, growth and important of the pawn broking service, there is a requirement to establish the pawn broking institutions. Some policy implications that can be focus are:

1. The enforcement of law in the conventional pawn broking system

There are a few pawn broking shops which imposed interest rate exceeding 2.5 percent per month to customers, thus making it the duty of the authority bodies (KPKT or PBT) to monitor and to take serious action against such shops. During the duration of the field work, there were few shops which were operating without license, and we can verify this claim based on the list of companies prepared by the government agency (KPKT).

2. The need of the Islamic Pawn Broking Law

Based on the current situation, institutions which carry out the Islamic pawn broking activities operates based on the procedure formulated by the respective institution. The operation by different institutions implemented different procedure as long as the procedures and rules are in accordance with the syariah rule. Therefore there is a need to establish special regulation and act for Islamic pawn broking or consider as a section under Pawn Broking Act 1972 with amendment 2003.

3. Storage charge

Most of pawn broking customers are individuals who do do not have access to a formal financial system, hence there is a requirement to the pawn broking institutions not to impose storage charge as practised by *Muasassah Gadaian Islam Terengganu* especially pawnshop owned by the state government and banking institution. Compared to the conventional pawn broking institution, storage charge imposed by the Islamic pawn broking institution is by far very low. Nevertheless, consideration should be given to low income customers or a husband who is a sole breadwinner. For instance, a different branch of the banking institution in each state will not impose storage charge to customers. The selection of this branch that refrain from imposing storage charge depended on the social economic factor of the locals.

4. Variety in mortgage items

It has become a necessity to diversification items that can be accepted by pawn broking institution as mortgage items. For example, in Indonesia, vehicles are accepted as mortgage item, in fact, livestock can also be accepted as mortgage items. The practice in Malaysia, only valuables such as gold, bronze and wrist watches are accepted. In fact, some banking institutions only accept gold without putting value to the dimond or gem. Maybe we should consider accepting homes and land of the customers as items that can be mortgaged.

Concept of Ar-Rahnu
Islamic pawn broking is based on a combination of four concepts.
(a) Qardhul Hasan (Benevolent loan)

A financial institution will grant a benevolent loan (interest-free) to the applicant who wishes to pawn his valuable item. The loan issued under the concept of Qardhul Hasan requires the borrower to pay the same amount borrowed to redeem the valuable item at the maturity of the agreed period.
(b) *Wadiah Yad-Amanah*(Trustworthiness)

The borrower is required to produce returnable collateral to ensure repayment of the loan. The borrower entrusted the lender to look after the belongings during the loan period. If an unthinkable event happens to the collateral item <u>not </u>due to the lender's negligence, the lender is <u>not </u>required to replace the item.
(c) Al- Ujrah (Safe keeping)

Al- Ujrah concept states that lender is allowed to charge a reasonable fee for the services rendered in keeping the pawned items safe and in good condition. The financial institution accepts custody of the valuable asset on a *Wadiah* concept whereby the bank promises to keep the valuable asset in a safe place and return when the time comes. The lending institution takes the precautionary measure such as providing security and insurance to ensure its safe returns once the customer pays his debt. Under the Wadiah concept, the bank will charge the customer for the services rendered in keeping the valuable asset.
(d) *Wadiah Yadhomanah (Safekeeping with guarantee)*
The lender will be responsible to replace the missing or stolen items to the owner if lender fails to keep the agreement due to own negligence.
The benefits of Islamic Pawn broking system:
-Based on Syariah principles which are an interest free form of loan.
-Easier to apply, faster approval, and guaranteed safety of the jewellery.
-Cheaper fee than conventional pawn broking.
-Longer financing term.
-No penalties.
-Surplus auction receipts are returned to the customer.
-Fixed storage fee.

The weakness of conventional pawnshop

(Adnan, 2004 : 5), has listed nine weaknesses faced by the conventional pawnshop.

Firstly, the most number of complaints received from customers is related to the decreasing value of pawned goods. Many had reported that their gold jewellery had decreased in weight or length after the pawning period. According to the Federation of Consumers Association (FOMCA), this happened because under the Pawnbrokers Act 1972, it is not compulsory for the pawnbrokers to write down the weight, length or type of gold of the jewellery to be pawned. The customers who had complained suspected that the pawnbrokers had tampered with the jewellery. However, it could be difficult for the customer to prove this matter.

The second weakness is that pawnbrokers are likely to offer a higher interest rate compared to the rate stated in the Pawnbrokers Act 1972. This often happens to illiterate customers or impoverished people and villagers from rural areas.

Thirdly, pawnbrokers are likely to give a low collateral value during the valuation process. This usually happens because the Pawnbrokers Act 1972 does not state a certain
value or criteria to determine the value of the collateral. Unscrupulous pawnbrokers will refuse to give out loans of more than RM200 for jewellery valued at RM400. As stated in the Pawnbrokers Act 1972, pawnbrokers are allowed to take possession of any collateral valued less than RM200 if the customer fails to redeem it in the specified period.

The fourth weakness is that unscrupulous pawnbrokers would often issue an illegible pawn ticket. This happens when the pawnbroker offers a much higher interest rate or does not complete the information needed as stated in Pawnbrokers Act 1972. The pawnbroker tries to cover his misconduct by using a large rubber stamp so that the receipt could not be read. The pawnbroker also uses a language or technical jargons not usually understood by the customers. The receipts were also made of poor quality paper and could be easily torn.

As for the fifth weakness, it has been reported that some unscrupulous pawnbrokers had asked for 50 cent for each replacement of pawn receipts and extension of the pawning period. According to Section 21, Pawnbrokers Act 1972, customers are allowed to get a free replacement for any torn, destroyed or lost pawn receipts. However, some pawnbrokers neglect to follow this guideline when customers ask for an extension for the pawning period.

The sixth weakness is that some immoral pawnbrokers will auction pawned goods worth more than RM200 without the customer's knowledge. Even worse, the pawnbroker does not auction the goods off and takes possession of the goods instead. This is against Section 23(1) (b) of the Pawnbrokers Act, in which any collateral worth more than RM200 should be auctioned off by a licensed auctioneer.

As for the seventh weakness, it has been reported that pawnbrokers do not return the surplus after the goods have been auctioned off. This irresponsible act will no doubt be a burden to the customers who need the money. As such, the customers should enquire to the pawnbroker the surplus that has been taken by the pawnbroker after the auction of the goods.

The eighth weakness of the conventional pawnshop system is that many customers do not know when their collateral will be auctioned off. The notices about the auction are only publicised in Chinese and English language papers. Usually, these notices will be overshadowed by other more interesting notices. This is a disadvantage to the pawnshop customers who are usually Malays from the villages or Indians from the estates. Only a handful of them read the English or Chinese papers, and some of them are

illiterate. This will cause them to lose the opportunity to reclaim their goods. Lastly, some pawnbrokers will ask for advance payment from the pawnshop customers although this is against the Pawnbrokers Act 1972. This will add further burden to the customer's misfortune.

Modus operandi of Islamic pawnshop

Generally, the modus operandi for conventional and Islamic pawnshop transaction is quite similar. Despite the similarities, the contract (*aqad*) in the Islamic pawnshop is different from the conventional pawnshop. The loan granted is based on four concepts, *i.e. al-qardhul hassan* (loan without interest), *al-wadiah yad dhammanah* (keeping valuable goods by guarantee), *al-ujrah* (storage fees) and *ar-rahn* (collateral). The storage fee is based on the value of gold and not on the amount of the loan. This fee is charged differently by each Islamic pawnbroker.

In the Islamic-based pawnshop, gold is the only permitted item. Gold have several advantages as collateral over other items.

Firstly, gold is easily resold and so there is potentially auctioning the collateral should the borrower not redeem the pledge.

Secondly,gold's purity can be easily determined and so the risk of mispricing the collateral can beminimized. Thirdly, gold chains and rings typically require only a small flat envelop forstorage and so can be kept securely in the bank safe at little, if any, additional cost.

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LIFELONG LEARNING - A BRIEF SURVEY IN PROFESSIONAL AND CONTINUING EDUCATION CENTRE (PACE) UNIVERSITI UTARA MALAYSIA 2008-2012

Mohamad Ainuddin Iskandar Lee Abdullah
Fairol Halim
Hasnizam Shaari

Abstract
'Lifelong Learning' is interpreted as engaging people with learning throughout all stages of their lives. Despite the country's initiatives in developing various education blueprints, access to tertiary education is insufficient to meet the increasing demands of the society and nation. Professional and Continuing Education Centre (PACE) Universiti Utara Malaysia as one of the lifelong learning centre pursue the challenge to cater the need of the people. This paper aims to provide an extensive literature data on lifelong learning especially the off-campus program in Malaysia especially in Universiti Utara Malaysia. The aim was to explore the admission pattern of enrolment among the LLL candidates in the past five years record based on documents research. Significant of finding is to achieve some goal by National Higher Education Strategic Plan (PSPTN) of Malaysia towards to create the knowledge based society.

Keywords: Lifelong Learning, off-campus program, admission pattern.

"Anyone who stops learning is old, whether at twenty or eighty. Anyone who keeps learning stays young. The greatest thing in life is to keep your mind young."

Henry Ford

Lifelong learning defined as the continuous building of skills and knowledge throughout the life of an individual. It occurs through experiences encountered in the course of a lifetime. These experiences could be formal (training, counseling, tutoring, mentorship, apprenticeship, higher education, etc.) or informal (experiences, situations, etc.) Lifelong learning, also known as **LLL,** is the "lifelong, voluntary, and self-motivated" pursuit of knowledge for either personal or professional reasons. As such, it not only enhances social inclusion, active citizenship and personal development, but also competitiveness and employability.

Why is Lifelong Learning so important? Lifelong learning can be socially invigorating while also improving memory and cognitive abilities. Activities such as volunteering can be a learning experience while making the life of the volunteer meaningful and at the same time offering benefits to society. Lifelong learning allows us to continue to use our minds, one of our most important "muscles" we often forget to exercise as we age! Over the past ten years the term 'lifelong learning' has become ubiquitous in education policy documents and it has been interpreted in various ways, ranging from 'second chance' education, or linking secondary and tertiary education with industry, through to a much broader interpretation that concerns ways of engaging people with learning throughout all stages of their lives.

" Lifelong learning must become a premier pursuit in the country in its bid to produce a knowledgeable society"

Higher Education Minister Datuk Seri Mohamad Khaled Nordin.

In Malaysia, 269,375 students have enrolled themselves as lifelong students in 2011 compared to 220,000 in 2010 at various Higher Learning institutions and private Higher Learning institutions such as Open University Malaysia, Universiti Tun Abdul Razak, Universiti Teknologi Mara and Universiti Teknologi Malaysia.

The National Lifelong Learning Master Plan 2011-2020 was launched on Nov 14 2011 with the objective of making lifelong learning a way for Malaysians to equip themselves with knowledge and skills. In this context, community colleges have also been entrusted with the responsibility of being lifelong learning hubs and implement skills-oriented programmes such as apprenticeship training for people without a strong academic background.

Accessibility to education has been a long standing discussion among policy makers. However, there are several issues and challenges in tertiary education particularly in the lifelong learning access in Malaysia. Despite the country's initiatives in developing various education blueprints, access to tertiary education is insufficient to meet the increasing demands of the society and nation. Enrolment in the first degree, diploma and certificate programmes at the public and private universities is imbalanced and does not meet the national demands for the skilled and semi professional workforce.

Furthermore, the diversified geographical feature of the country which is also another issue leading to inaccessibility to higher education. In particular, it is quite clear that the distribution of private higher education institutions are located mostly in major cities; Kuala Lumpur, Penang, Kota Kinabalu, Kuching or Johor Bahru. Naturally, this leads to the low participation of individuals who are located away from these places and this condition is worsen especially for individuals who are located in the interior parts of the country (for example, in Sabah or Sarawak) where transportation is one of the major problems. The low level of accessibility to tertiary education will deter lifelong learning in the society.

Professional and Continuing Education Centre (PACE), Universiti Utara Malaysia was established on 1st April 1999 cater the demand in line with National Higher Education Strategic Plan (PSPTN) of Malaysia towards to create the knowledge based society. The off campus program was created to assist the society in acquiring knowledge through the distance-learning programme which serves as alternative for education. Planning and designing of programmes which are to be offered in cooperation with the Academic Colleges. Accountable in all matters pertaining to distance-learning: students' affairs and academic performance. Planning of future programmes which have attributes to fulfil the current market needs by using the current technology sources. Now, the off campus program of PACE has nine centres throughout Peninsula Malaysia and Sabah and Sarawak.

Table 1: Pattern of Enrolment off campus program, Professional and Continuing Education Centre (PACE) Universiti Utara Malaysia 2008-2012

Admission year of 2008	Gender	Academic Qualification	Courses Taken
JA 081	M : 120 F : 149	Dip : 62 nd. int. : 83 SPM : 83 STPM : 39	B. Comm. 29 BPM 168 BBA 72
JA 082	M : 117 F : 139	SPM : 47 nd. int. : 44 SPM : 125 STPM : 39	BPM 225 BBA 31
JJ 082	M : 103 F : 151	Dip : 39 nd. int. : 57 SPM : 90 STPM : 77	B. Comm. 26 BPM 204 BBA 33
Total			788

Admission year of 2009	Gender	Academic Qualification	Courses Taken	
JJ 091	M : 89 F : 108	Dip. : 55 nd. int. : 84 SPM : 52 STPM : 6	BPM 153 BBA 44	
JA 091	M : 128 F : 142	Dip. : 52 nd. int. : 107 SPM : 92 STPM : 11	B. Comm. 5 BPM 215 BBA 50	
JA 092	L : 150 P : 135	Dip. : 54 nd. int. : 54 SPM : 150 STPM : 27	B. Comm. 5 BPM 238 BBA 42	
JJ 092	L : 204 P : 218	Dip. : 94 nd. int. : 97 SPM : 207 STPM : 24	BPM 333 BBA 89	
Total				**1174**

Admission year of 2010	Gender	Academic Qualification	Courses Taken	
JA 101	M : 157 F : 159	Dip. : 66 nd. int. : 136 SPM : 99 STPM : 15	BPM 256 BBA 60	
JA 102	M : 91 F : 100	SPM : 49 nd. int. : 87 SPM : 53 STPM : 8	B. Fin 40 BPM 156 BBA 1	
JJ 102	M : 127 F : 135	Dip. : 65 nd. int. : 76 SPM : 110 STPM : 14	BPM 212 BBA 50	
Total				**775**

Admission year of 2011	Gender	Academic Qualification	Courses Taken	
JJ 111	M : 65 F : 88	Dip. : 32 nd. int. : 95 SPM : 23 STPM : 3	BPM BBA	152 1
JA 111	M : 137 F : 143	Dip. : 33 nd. int. : 162 SPM : 77 STPM : 8	BPM B. Fin	256 24
JA 112	M : 122 F : 105	Dip. : 34 nd. int. : 17 SPM : 166 STPM : 10	BPM	227
JJ 112	M : 93 F : 91	SPM : 111 nd. int. : 61 STPM : 12	BPM	184
Total				**844**

Admission year of 2012	Gender	Academic Qualification	Courses Taken	
JA 121	M : 106 F : 110	Dip. : 30 SPM : 171 STPM : 15	BPM	216
JJ 121	M : 157 F : 145	Dip. : 56 SPM : 224 STPM : 22	BPM	304
JJ 122	M : 139 F : 136	Dip. : 45 SPM : 214 STPM : 16	BPM BBA	247 28
Total				**795**

Based from the data, the pattern of the admission from year 2008 to 2012 is shown average 750 to 850 students per annum. The highest admission was recorded with the total number of 1174 students in 2009. Most of the students can be concluded that majority of the students admitted to off campus program are from the Malaysian School Certificate or SPM and Second Intake compare to Malaysian Higher School Certificate (STPM) or Diploma. Students were favor to Bachelor of Public Administrative (BPM) compare to Bachelor of Business Adminstrative (BBA). The total number during 2008 until 2012 were 3746, and most of the students were from the government sector.

Although our off-campus students number were small compare to Open University Malaysia, Universiti Teknologi Mara and Universiti Teknologi Malaysia but PACE UUM also playing the significant role to enhance

social inclusion, active citizenship, personal development, competitiveness and employability in line with the development and growth of the country.

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IMPLEMENTING OF AN ACADEMIC COMMUNITY SERVICES / TADIKA CENTER IN THE ASPECTS OF THE ACADEMIC OF ISLAMIC AND ARABIC TO COMMUNITIES THROUGH THE PROJECT BY "THE DEVELOPMENT OF TADIKA BY GRADUATED VOLUNTEERS" OF ACADEMY OF ISLAMIC AND ARABIC STUDIES, PRINCESS OF NARADHIWAS UNIVERSITY.

Matorhe Malee[1]
Tarmisi Salaeh[2]
Princess of Naradhiwas University
[1]Fir_daw123@hotmail.com
[2]aias_tarmisi@hotmail.com

Abstract

An Academic Community Services in three southern provinces of Thailand is a primary mission of the Princess of Naradhiwas University. Academy of Islamic and Arabic Studies (faculty equivalent) was assigned to represent the University's policy for the academic study of Islamic and Arabic to communities, especially the Islamic communities. The Islamic Academy and Arab Studies had provided an education system and a mechanism in Academic Community Services to the actual communities by utilized the process of assessment the performance and supported the implementing of the Academic Community Services. This study was implemented through the project "The Development of Tadika by graduated volunteers" in which was organized by the Islamic Academy and Arab Studies of Princess of Naradhiwas University.

The results were found that 1) the factors that influenced to the overall satisfactions from the participants to the Islamic Academic Services were high at the average 4.5. Thus,the indicators of satisfactions showed that overall satisfaction was at 4.3. The Community Connect Network between Tadika Center and the Princess of Naradhiwas University was at 4.3 while the personality of the graduated volunteers was at 4.1. 2) The factors of Islamic Studies in Academic Services to the communities. The overall satisfactions were high at average of 4.2. The indicators of satisfactions showed that Muslim Health Promotion was at average 4.4 . The Ethic and Moral was at average 4.3 while the Moral and Ethic in Health Promotion of Muslim was at 4.1. 3) The factors of the presenter of Islamic Studies services to the communities. The overall satisfactions were high at average 3.6. The indicators of satisfactions showed that the important of having the center for Tadika was needed by the communities was at average 3.9. The presenting the University's policy was at average 3.3 while the recommendation for improvement was at average 3.3. 4) The recommendation services from the participants. The indicators showed that conserving a tradition and a culture sustainability were at 57 percentage. All given activities were clear in the objective and maintained its identity was at 47 percentage while the survey and research needed more in the areas for the policy analysis information.

INTRODUCTION

The population of three southern provinces of Thailand Pattani, Yala and Narathiwat are Muslim majority. The word Tadika is the abbreviation of taman didikan kanak-kanak. so it means - Kindergarden for children aged between 5-12 years old. It has been taught on Saturday – Sunday .The mosque is a center for teaching and learning. The word "ta" is an abbreviation of the word "taman" refers to the garden, the park, the word "di" comes from the word "didikan" means training and the word "ka" comes from the word "kanak2" means a child when brought together, the term "tadika", it means a place for teaching small children which is compulsory education in Islam. Originally there was no proper curriculum and the classes were conducted at the mosque about 19:30 to 20:30 pm, it was informal teaching based on Islamic practice.

Islam formulates an important role in training children to understand and follow the principles of Islamic religion. Parents who are uneducated, they must find someone who knows best about religion. The classes were conducted by Imam and local scholars at the mosque's area and building. Every mosque where they are well prepared, they are determined to conduct this compulsory Islamic classes under Provincial Islamic Committee.

Tadika was formerly in charged by the Department of Provincial Administration, Ministry of Interior. It was named as Islamic children training and ethics center at the Islamic mosque. Lately it was in transferred to the Ministry of Education on October 25, 2005 and transferred to a local Islamic Training Center Mosque (tadika) in Pattani, Yala and Narathiwat and on August 28, 2007 in Satun province, Chana Saba Yoi Teapa and Nathawi

districts of Songkhla province due to not overlap Islamic educational management in the region which will provide learners be able to continue their education into a higher Islamic educational institutions.

Ministry of Education has issued regulations on governing Islamic Center Mosque (Tadika) in Pattani, Yala and Narathiwat 2005, Amendment of (No. 2) Act, 2007 of the Ministry of Education through the office of the Private Education Commission has cooperated with the Office of Strategic Studies, Ministry of Education area 12 and The local provincial and local district offices. They supported and contributed them with many different supervisions as well as helping to develop their local knowledge resources, which will lead children and local youth understanding and practicing their moral and ethics right based on Islamic religion. The classes were originally conducted at local mosque buildings with compulsory course in the evening from Monday to Friday. Students were from public primary school and private school

Tadika is known by the local people where basic education is provided for Muslim children learning and practicing their Islamic studies such as writing speaking behaviors morals ethics and traditions based on each different area. Tadika is currently supported by Thai government for learning and teaching management through the Office of Private Education Commission both on budgets and allowances provided

"Graduated volunteers Tadika project" was conducted by Academy of Islamic and Arabic Studies, Princess of Naradhiwas University since 2010-2012. Academy of Islamic and Arabic Studies aware and realizes the important and the benefit of the project at the post mortem meeting of academic community services of the Princess of Naradhiwas University On Tuesday, January 10, 2012 at the Princess of Naradhiwas University. The meeting suggested continuing on project and developing more competitive on academic activities as well as improving its curriculum and teaching methods for both class advisers and graduated volunteers. This is representing Tadika identity in the community matching with University's policy, research integration to developing sustainable and consistent with community needs. In collaboration with the Graduate at Academy of Islamic and Arabic students, teachers performing in weekend Tadika.This will lead to the development of attitudes, knowledge, ideas and visions of the children, who will become the new generation for future of the nation.

In addition, continuing the project and to providing academic services, the benefits are not only to contribute society but also can contribute to enhance the knowledge and experience from doing the project. This will lead to the development of the course, integrating in the teaching class and for further research.

Two years after serving of various academic Tadika centers for academic network collaboration with Princess of Naradhiwas University in Narithiwat Province and two districts in Pattani 2010-2011,there are 42 centers divided into 10 districts in Narathiwat province and they were divided into 6 centers in the Yi-ngo district, 4 centers in Reu-sor and Tak Bai district, 8 centers in Rangae district, two centers in Bacho Wang and Ja-nea districts, 3 centers in Saghai-padi district, 7 centers in Municipality, and one in Sughai-kolok and Coh-erong districts, and two districts in Pattani province consists of one center in Sai Buri district and Mai-keng district. The researchers have realized the importance of research to survey the satisfaction of the Tadika academic service center as information model , information seeking and knowledge for policy determination .

Abovementioned the researchers were interested to explore the satisfaction of the academic network Tadika centers . The result can be brought to improve its planning and development.

In addition, the Center for Academic Services Tadika / community is a primary mission of the institution which will lead to develop educational management, a better performance was driven into the peace and beauty of the southern provinces.

THE PURPOSE OF THE RESEARCH

1. To study the satisfaction of a Tadika center network towards the project.
2. To bring the conducted information as pilot information to develop the academic aspects of Islamic and Arabic Studies for the next project.

THE SCOPE OF THE RESEARCH

Population of the study
       - 42 of administrators teachers and students from each Tadika Center , totally were 126 samples.

METHODOLOGY

Tools used for data collection was a questionnaires for the satisfactions of the academic services to the community under "The Development of Tadika by graduated volunteers" Princess of Naradhiwas University, they were divided into 3 sections as follows

Part 1 Questionnaire based on   general condition of the respondents, including Tadika center / district, and subjects teaching groups
Part 2 The satisfaction view to the performance-oriented outreach to the community or Tadika Network Center.
Part 3 Comments.

RESULTS

1. The satisfaction of providing academic services   through project "The Development of Tadika by graduated volunteers" of the Academy of Islamic and Arabic Studies, Princess of Naradhiwas University was at a high level
2. Collaboration building and expansion network with Tadika center in the field of academic services to the community were at high level.

DISCUSSION

Tadika has been found that they were facing on teaching method problems and lack of child center teaching experience. Academy of Islamic and Arabic study has realized the importance of the problems. The educated volunteers and interested Tadika network were provided teaching methods in order to have a proficiency teaching and applied several teaching technique at the different contexts. They were also exchanged their knowledge through activity conducted. After the participants of the project have been trained, it was found that they satisfied with teaching and learning services as well as teaching techniques provided was at high level of satisfactions.

The evaluation have been conducted through the solutions of the Academy of Islamic and Arabic studies' meeting which provided the area zone for supervision by each authorized teachers. It was found that they have built a closer relationship between Academy of Islamic and Arabic Studies, moreover it become a great information to develop the future project

A reward is one of the important issues that we must not overlook. This is a kind of encouraging and motivating the graduated volunteers. Academy of Islamic and Arabic Studies has provided proper budgets in contributing them with appropriate rewards and this was found that their satisfaction was at moderate level

In connection with academic collaboration and networking expansion were at high level of satisfaction. Because Academy of Islamic and Arabic Studies is one of the government units under Princess of Naradhiwas University which be able to build a good understanding and working together in providing Islamic academic and Arabic language services

COMMENTS FOR FURTHER RESEARCH

1. Academic Community Services should be encouraged more funding.
2. Further survey and local research are required in the area.
3. More projects and develop ongoing activities are required.
4. Satisfaction should be evaluated continuously
5. Equipment and facilities should be well prepared.

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PROBLEM WITH TECHNICAL TERM LEARNING OF PLANT PATHOLOGY

Saithong Kaewchai
Faculty of Agriculture, Princess of Naradhiwas University, Narathiwat, Thailand
kaewchaii@yahoo.com

Abstract
This research aimed to study the problem in technical term learning of plant pathology subject and suggest the way to solve the problem. The sample of this research was the third-year students in an Agricultural program, Faculty of Agriculture, Naradhiwas University. The data was collected from questionnaire, interview, and midterm and final test of plant pathology subject. The results showed that the problem with technical term learning of plant pathology was poor English language knowledge including reading, writing, and speaking. This factor affected to do not understanding the meaning and makes the low marks of the test of plant pathology subject. The ways to solve the problem was tutoring, advising, homework taking, and learning by doing.

Key words: Technical term, plant pathology, problem

INTRODUCTION

Language is the method to communicate, to understand, to let other people know the idea. The skill in language must have theory, principle, idea, and acting to create the lifelong learning. There are many languages in the world especially English language which is international communication language. The problems with English language learning for Thai student are writing, reading, listening, and speaking. They cannot communicate with foreigners in English language (Laksana, 1998). There are many researches for improving the language skill for Thai student both in primary and secondary school and in University. Kumpeng (2011) found that her student could not read vocabulary in the standard level and could not tell the meaning, could not spell and could not write. Pongsuseni (2011) also found that the reading skill in English of the first year student in vocational college was in moderately level.

Plant pathology is one of the subjects of Agricultural program in undergraduate level. This subject is enrolled in the sixth semester by the third year student of Plant Science. It is about history and economic importance of plant diseases, termology, symptomology, epidemiology, plant defenses, Koch's postulation, dissemination, plant diagnosis and control. The studying is in Thai language but some part or some detail of this subject must be in English language especially technical term. The examples of technical term of plant pathology are aggressiveness, ascogonium, avoidance antheridium, basidiospore, chlamydospore, coenocytic hypha, dissemination, endemic disease, facultative parasite, host, incubation period, infection, oogonium, obligate parasite, pathogenicity, saprophyte, sclerotium, septate hypha, systemic symptom, etc (Arneson, 2012; Agrios, 1997). The observation during teaching of technical term, the students cannot understand the meaning. The students make a few score of the test. Then this research aimed to study the problem and the way to solve the problem of technical term learning of Plant pathology subject.

THE SCOPE OF RESEARCH

This research aimed to study the problem with technical term learning of Plant pathology subject of students in Agriculture program. The students were the second year student (extended students) and the third year student. There were 9 students. They enrolled this subject in the first semester of 2010 of Faculty of Agriculture, Princess of Naradhiwas University, Narathiwat, Thailand.

DATA COLLECTION METHOD

Three data collection methods were questionnaire, observation during teaching, and technical term test. The questionnaire was consisted 3 parts as follows 1) generally data of the answer, 2) the problem of technical term learning, and 3) suggestion.

RESULTS AND DISCUSSION

Three data collection from questionnaire were found as follow:

1. Generally data of the answerer were 2 male and 7 female, 22-30 years old. They graduated from secondary school for 4 students, vocational level from Narathiwat College of Agriculture and Technology for 3 students, and Extended School for 2 students.

2. The problem of technical term learning of Plant pathology subject were found that the student could not understand the technical term because they could not read and write technical term in English. The technical term was too difficult for them. Their background of English language was not good.

3. The suggestion for helping their learning technical term were tutoring in English language, tutoring in Plant pathology, home work about technical term and remember the technical term very day (one word in one day) etc.

The observation during teaching was found that they could not answer the question although it was the simple question in plaTherent pathology. They did not respond to the teacher about technical term.

The score from the technical term test was found that the students were got the marks lower than the standard by lower than the half score from the full score (5 students). The full score was 30 and one student got only 1 score, two students got 7 scores, two students got 10 scores, and the rest got score between 15-17.

There were 3 students had studied plant pathology in vocational level from Narathiwat College of Agriculture and Technology. This subject was basic data in plant pathology and technical term in this level was also basic term. However, the student was not good in English then they still did not understand the detail. The studying in Plant pathology must learned biology, microbiology as a pre-requisite subject. Some students graduated from extended school or graduated from secondary school in generally program then their background knowledge was not good enough. The credit of Plant pathology was 3(2-3-4) these mean that this subject was 3 credits, 5 periods per week (2 periods for lecture and 3 periods for laboratory). The student studied by their self for 4 periods. The Faculty must support the materials and equipment for learning this subject. The other suggestion was the book that related to this subject.

CONCLUSION

In summary, the problem with technical term learning of plant pathology was poor English language knowledge including reading, writing, and speaking. This factor affected to do not understanding the meaning and makes the low marks of the test of plant pathology subject. The ways to solve the problem was tutoring, advising, homework taking, and learning by doing.

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APPLICATION OF GEOGRAPHIC INFORMATION SYSTEM IN DETERMINING APPROPRIATE AREA FOR GROUNDWATER WELL DRILLING IN MUANG DISTRICT, NARATHIWAT PROVINCE

Ilyas Mamah[1]
Preecha Salaemae[2]
[1] Lecturer, Faculty of Engineering, Princess of Naradhiwas University 96000 (ilyas.m@ pnu.ac.th)
[2] Asst.Prof., Faculty of Engineering, Princess of Naradhiwas University 96000 (preecha.s@pnu.ac.th)

Abstract
This research aimed to study geology hydrogeology and determine appropriate area for groundwater well drilling in Muang district, Narathiwat province. The study found that Geological conditions of Narathiwat province can be divided into three aspects: (1) Quaternary Unconsolidated sedimentary (2) Lower Silurian-Devonian metamorphic rocks: SDmm (3) Igneous rocks: Gr, for the hydrogeological conditions can be divided into two aspects: (1) Unconsolidated Aquifers (2) Consolidated Aquifers

The Geographic Information System: GIS was used to study the appropriate area for groundwater well drilling in Muang district and Arcview GIS Version 3.1. The data analyzed using of spatial and attribute data (Integrated Analysis of the Spatial and Non-Spatial Data) the area of the research was Muang district, Narathiwat province consisted of 7th sub district, there were kaluwor, Kaluwornea, Kok Kian, Bangnak, Bang Por, Manangtayo and Lam Phu. The quantitative and qualitative data were used in the study. The data showed that the appropriate area for groundwater well drilling were Kaluwor, Manangtayo, Kaluwornea, Bang Por and Kok Kian sub-district, but there were inappropriate area for groundwater well drilling were Lam Phu sub district: Ban Lam Phu, Ban Klongsai, Ban Kasoh village and Bangnak sub district is Kapong Takok village. The study has made local people receiving more information about geological and hydrogeological conditions. This available water resources area can be used for different benefit as well as for developing groundwater resources in the future.

Keywords: geology, hydrogeology, Geographic Information System: GIS, Groundwater well

INTRODUCTION

Water is a necessary for all of organisms' living. Two important waters are surface water and groundwater . Especially, groundwater is a significant resource that Thai people have utilized for consumption for a long time. Groundwater originated from that rain water falls to the earth and it absorbs altogether in the below water. If any areas provide water supply system, people can use tapping water. Whereas any areas are too far from the water supply system, they cannot utilize from it. This causes people utilize the groundwater instead because it is very comfortable to use and can use it whenever they want. Importantly the artesian well is not far from their residence.

At the present time Geographic Information System (GIS) is widely used due to special attributes of GIS that is area and time analysis and can show the result in the map form (Sanjai Klindao, 1999). As a result of this outstanding attribute as well as the data to study stored as area information which is available enough to be analyzed, GIS application is attempted in planning groundwater resource management, from the efficiency and potentiality of Geographic Information System being able to apply in spatial and time analysis by using an overlay analysis.

The area of this study is Muang district zone of Narathiwat province, consisting of seven sub-districts such as Kaluwo, North Kaluwo, Khok Khean, Bang Nak, Bang Po, Manang Ta Yo and Lam Phu. The reason why the researcher selected Muang district zone of Narathiwat province to study is because most of landscape in this area is a long-shore flat terrain. Most of the area is beach-sand deposits aquifer at 5-20 m³ / hr of water quantity and floodplain deposits aquifer at 10-20 m³ / hr. They are the high potential groundwater source being capable to be developed as groundwater source (Department of Groundwater Resources, 2001).

This study aimed to assign the appropriate area to drill to be artesian aquifer by using GIS to support people's better living. People can utilize the available groundwater resource and can apply in groundwater resource development in the future, leading to keep on durably groundwater management in the local.

OBJECTIVE

1. To study geology and hydrogeology of Muang district zone of Narathiwat province
2. To study the appropriate area for groundwater well drilling

METHODOLOGY

This is a survey research with the study steps as the followings

1. Instruments
This instruments used in this research was Geographic Information System (GIS), using Arc View, a program developed by Environmental System Research Institute (ESRI) of United States of America . The Arc View 3.1 version used to study is a program for presenting, searching for and analyzing data with simple and effective application. This is why it is widely used and also works on Windows operation system with information shown on the desktop and there is no problem for opening many windows at the same time.

2. Data collection
1) Society and Economy Data: administration boundary data (Digital Data in GIS form), population data (Digital Data in Sub-districts), landscape data (map 1: 150000)
2. Geology and hydrogeology data: data from map of groundwater, manual for groundwater map, regulation for artesian aquifer, data on groundwater level, water quantity expected to be developable and soil horizon-stratum.
3) Data of groundwater's quality: dissolved solids contents, chloride content, hardness content and iron content.

3. Data analysis
The research analyzed data of geographic information system by using Arc View GIS Version 3.1, analyzing data of geographic information system that have to take the details of spatial data and attribute data in database to analyze with the conditions assigned to find out answer or to predict what the answer is.

The data level consisted of a group of area data and property data. This data were categorized in groups to be convenient for users. In principle the data level could be categorized into the data similarity such as roads, rivers, irrigation area, administration boundary, huge waters and etc. Using functions to analyze the data can be divided into four parts as the following (Sanjai Klindao, 1999) :
1) Analysis of the Spatial Data
2) Analysis of the Attribute Data
3) Integrated Analysis of the Spatial and Non-Spatial Data
4) Output Formatting
This study used Integrated Analysis of the Spatial and Non-Spatial Data
The criteria used to assign an appropriate area in groundwater drilling are shown in the table 1.

Table 1 : The criteria used to assign an appropriate area in groundwater drilling

No.	Attributes of groundwater evaluated	Criteria
1	groundwater level	10-20 m
2	groundwater expected	$> 10 \text{ m}^3/\text{hr}$
3	total dissolved solids contents	<1500 mg/l
4	chloride content	<600 mg/l
5	hardness content	<500 mg/l
6	iron content	<1.0 mg/l

RESULTS

1. Geology and hydrogeology of Narathiwat Province
Narathiwat Province locates in the southern region with a distance of 1149 kilometers from Bangkok Metropolis. Narathiwat Province contacts to Pattani Province in the northwest (Department of Groundwater Resources, 2001). It contacts to Yala Province. In the southeastern and the southern regions, it contacts to the territorial fringe of Thai and Malaysia. The Northern area contacts to Gulf of Thailand. Narathiwat Province

governs the area of 4,170.9 square kilometers and divides the local administrative into 12 Districts (Amphoe) namely, Muang, Chanae, Tak Bai, Bacho, Yi-Ngo, Cho-I-rong, Ra-Ngae, Rueso, Waeng, Si Sakhon, Sukhirin, Su-Ngai Kolok and Su-Ngai Padi respectively. The main natural resources are forestry and mineral resources. Most of the people earn their lives from agricultural activities such as Para rubber plantation, coconut plantation, and rice plantation as well and some fisheries. Many areas have been found to be the high potential in groundwater but many areas are lack of this potential and need more detailed study on it to serve more social, agricultural and industrial needs in the very closed future.

1.1 Topographic Conditions of the Province

Narathiwat Province employs 3 distinct topographic conditions, namely, long-shore flat terrain, intermontane basin and mountainous area. The details of each condition are described as follows:

Long-shore flat terrain

This feature locates on the eastern region of the Provinceand lying as a long trend parallel to the province's shoreline. Long-shore flat terrain presents in some parts of A. Bacho, A. Muang, A Yi-Ngo, A. Su-Ngai Padi, A. Waeng and A. Su-Ngai Kolok. Another distinguish landform that found related to long-shore flat terrain in Narathiwat Province has been known as 'Pru To Deng (Pru To Daeng)', which performs perennial flooded area of brackish water. This landform is found at some parts of A. Muang, A. Tak Bai, A. Su-Ngai Kolok, and A. Su-Ngai Padi.

Intermontane basin

This landform locates at western part of A. Rueso, southern portion of A. Ra-Ngae, western and southern regions of A. Sukhirin, the majority of A. Waeng and A. Su-Ngai Padi.

Mountainous area

This landform presents as major part of Si Sakhon and A.Chanae. It also presents as western and eastern mountain ranges of A.Rueso and fringe area of A.Chanae, A.Ra-Ngae and A.Su-Ngai Padi. It employs nearly 55 percent of the province's area.

1.2 General Geology of Narathiwat Province

There are various types of rock units that cover Narathiwat Province, which are igneous rocks, sedimentary rocks, metamorphic rocks and meta-sedimentary rocks and the details of each unit will be described in chronological hierarchy of occurrence as follows.

Quaternary deposits

This unit has a range of age from 1.6 million years to the present time. Dependent to unit's lithography, this unit can be subdivided into 3 types of sedimentation, which are colluvial deposits, floodplain deposits and beach sand deposits.

Colluvial Deposits: Qcl

The unit represents the aggregate of gravel, sand, silt, clay and rock fragments. This type of sediment deposits at foothill by the influence of earth gravity and sometimes by run-off activity and normally performs poorly sorted strata. Colluvial Deposits In Narathiwat Province is normally composed of fragments of quartzite, quartz-schist, phyllite, granite and quartz.

Floodplain Deposits (Qfd)

The unit deposits along recent streams of rivers both in stream channel and back natural levees. The strata contain aggregate of gravel, sand, silt and clay particles deposits as a well-sorted layer of sediments.

Beach Sand Deposits (Qbs)

This type of deposition is formed by the activity of long-shore current and found as the aggregation of fine to coarse sand with some mixtures of gravel, which composed mostly of quartz particles. Some sediment have been transported by beach wind to deposit on land as Beach Sand Ridge, which generally lies parallel to shoreline and performs well sorted of rounded to well sorted of rounded to well rounded polished particles. The beach sand ridges that found in Narathiwat Province are both ancient and recent deposition and govern average thickness of 3-5 meters.

Silurian – Devonian Metamorphic Rocks Unit: SDmm

This rock unit is equivalent to Ban To Formation, the lower most unit of Tanaosri Group. The age of the unit is ranging from 438 to 360 million years, the oldest rock unit that found at the provinces. The formation represents quartzite, quartz – schist, phyllite and slate. The distribution of the unit is found at A. Si Sakhon, A.Chanae, A.Waeng and A.Sukhirin.

Igneous rocks (Gr)

This unit which dated Triassic Era (295-230 million years) represents the masses of biotite granite and tourmaline granite. The units that found around hill slopes are generally moderately to highly

weathered. The units cover nearly every district except A. Su-Ngai Kolok and A. Tak Bai and are found as western and southern mountain ranges of the province and also found as isolated mountains in A. Muang, A. Bacho, A. Yi Ngo, A. Ra-Ngae and A. Cho I-rong.

1.3 General Hydrogeology of Narathiwat Province

Water – bearing rock in term of hydrogeology has been called as 'aquifer', which is the groundwater resources and may present or absent related to geologic unit in each area. In Narathiwat Province most of identified aquifers conform to all geologic units. Groundwater resources in Narathiwat Province can be classified into 2 types based on degree of compaction and cementation, which are unconsolidated aquifers and consolidated aquifers (Figure 1).

1) Unconsolidated Aquifers

This means groundwater that is stored in unconsolidated sediments. Groundwater is trapped in voids between particles of gravel, sand, silt and rock fragments. There are 3 types of unconsolidated aquifers in Narathiwat Province, which based on environment of deposition.

Beach Sand Aquifers; Qbs

This type of aquifers consists of fine-grained to coarse-grained sand particles, which deposited along shoreline on both recent and ancient beaches including beach sand ridges, which deposit by beach wind activity lying parallel to shoreline. These shallow aquifers' average depth is 2-5 meters and are found along northern and northeastern shorelines of the province, which are the areas of A. Bacho, A. Muang and A. Tak Bai with the average yield of 5-10 m^3/hr performing good water quality (TDS<500 mg/L.). For exception, the areas that locate as some parts of T. Phraiwan, T. Cheme of A. Tak Bai that employ the TDS contents between 500-1,500 mg/L., which is fair water quality. Furthermore, some areas may express poor water quality (TDS>1,500 mg/L.), but with just small distribution. The static water level from wells that developed from this type of aquifers is noted at 1-2 meters.

Floodplain Aquifers: Qfd

This type of aquifers is found along floodplains and meander belts of recent streams. The strata comprise gravel, sand, silt, clay and small size of rock fragments. Groundwater is stored in voids between strata-forming particles. Groundwater resources from this type of aquifers in Narathiwat Province are found in the areas of A. Bacho. A. Muang, A. Yi Ngo, A. Su-Ngai Padi, A. Su-Ngai Kolok at depth varies from 30 to 70 meters. Average yields of floodplain aquifers is 10-20 m^3/hr., but in some areas such as T. Phron, T. Sathon of A. Tak Bai, T. Bang Po, east of T. Tanyongmat, north of T. Marubo Tawan Ok of A. Ra-Ngae and northern part of T. Palukasamo of A. Bacho, yield higher than 20 m^3/hr. Overall groundwater quality is good (TDS<500 mg/L.) except in some areas of T. Sala Mai, T. Cheme of A. Tak Bai and T. Lamphu of A. Muang that yield poor water quality (TDS>1,500 mg/L.). Static water level in wells developed from floodplain aquifers is 4-6 meters.
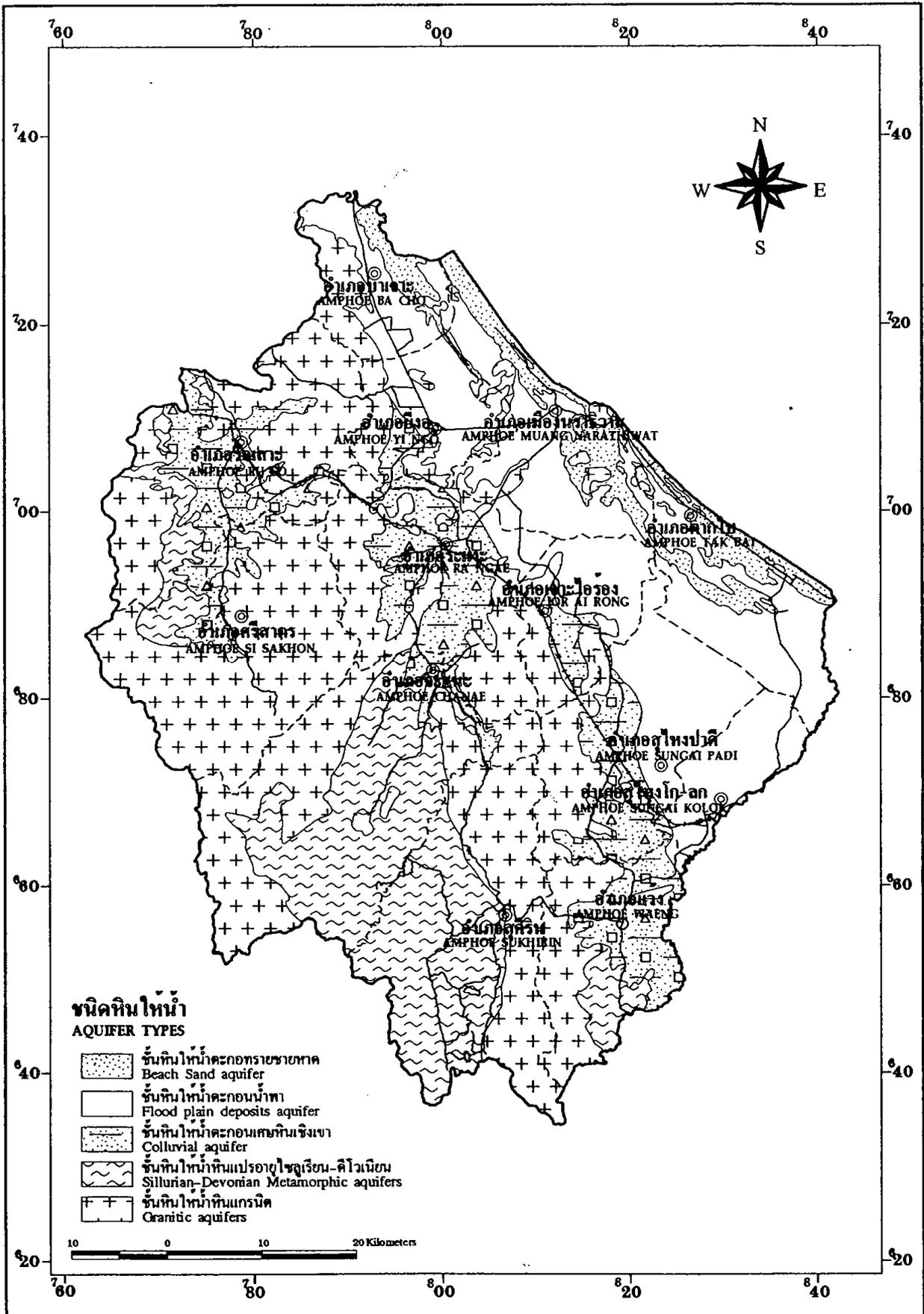
Figure 1 : Water Bearing Rocks Map of Narathiwat Province

Colluvium Aquifers: Qcl

This type of aquifers mainly consists of gravel, sand, silt and rock fragments. The main characteristics are poorly sorted strata and the variation of thickness. Groundwater is trapped in interstices between framework of particles, which are generally formed at hill slopes and intermontane basins of the province. Yield from this type of aquifer is noted at 2-10 m^3/hr. However, in some area may yield up to 20 m^3/hr. in place adjoining to recent floodplain. Groundwater quality is generally good. In Narathiwat Province, these aquifers can be found in the areas of A. Rueso, A. Yi Ngo, A. Ra Ngae, A. Su-Ngai Padi, A. Su-Ngai Kolok, A. Cho I-rong and A. Waeng.

2) Consolidated Aquifers

This type of aquifers can be litho logically divided into 2 types of rocks, which are metamorphic aquifers and granitic rocks.

Metamorphic Aquifers: SDmm

This type of aquifers is represented by the Silurian – Devonian metamorphic rocks unit, which composed of quartzite, quartz - schist, mica-schist, phyllite, gneiss and marble. Groundwater is stored in fractures, joints, fault zones and weathered zones. In Narathiwat Province, these aquifers are found in the areas of A. Rueso, A. Si Sakhon, A. Chanae, A. Sukhirin and A. Waeng. Depth to the aquifer varies from 20 to 30 meters, which depends on the location of drilling site. The aquifers' average yield is in range of 0 to 2 m^3/hr. and up to 10-20 m^3/hr. in some areas such as in some parts of T. Khok Sato and T. Batong of A. Rueso with overall good groundwater quality.

Granitic Aquifers: Gr

This type of aquifers represented by biotite-granite and tourmaline-granite. These aquifers that are found at foothill are generally moderately to highly weathered. Granitic aquifer can be found in every district except in A. Tak Bai and A. Su-Ngai Kolok and present with 2 types of landforms. Which are eastern and western mountain ranges of the province and isolated mountains in A. Bacho, A. Muang, A. Yi Ngo, A. Rangae and A. Cho I-rong. Granitic aquifers employ low potential for groundwater and in some areas perform non-availability. Groundwater that is generally found in fractures, joints, fault zones and weathered zones is in range of yield of 0-2 m^3/hr from depth of 15-30 meters with good quality.

1.4 Groundwater Potential of the Province

By overall evaluation of groundwater resources in Narathiwat Province, the highest potential sources are floodplain aquifers (Qfd) that locate at the northeastern parts of the province. Groundwater can be developed from depth 20-70 meters with range of yield of 10-20 m^3/hr. and may up to 20 m^3/hr. in some locality. Those areas locate in A. Bacho, A.Yi Ngo, A. Muang, A. Su-Ngai Padi, A. Su-Ngai Kolok and A. Waeng. Groundwater from this type of aquifers is generally good but mostly employs high contents of iron.

Groundwater resources that yield a little bit lower are the beach sand aquifers (Qbs), which can be found at depth 2-5 meters with yield of 5-10 m^3/hr and the colluviums aquifers (Qcl), which can be developed form depth 10-40 meters with yield of 2-5 m^3/hr, performing good water quality.

The lowest groundwater potential areas of the province are the areas that underlain by the Silurian – Devonian metamorphic rock units and Triassic granitic rock units. Groundwater from these 2 types of consolidated aquifers can be found at depth 10-30 meters with yield in range of 0-2 m^3/hr. For exception, in the areas of highly weathered or in the areas that employ geologic structures such as fractures, joint and fault zones, which may yield a little bit higher.

Groundwater yield that can be developed from various types of aquifers in Narathiwat Province is shown by Figure 2. Groundwater quality including TDS contents, iron contents, hardness contents and chloride contents is shown in Figure 3 to 6.

1.5 Groundwater Potential in Muang District

In Muang District's areas, there are 4 aquifer types. Which are beach sand, floodplain, metamorphic and granitic aquifers with the following details.

Beach sand aquifers, groundwater can be developed at shallow depth of 2-4 meters with the static water level of 1-2 meters. Rate of yield varies from 5 to 20 m^3/hr with good water quality (TDS<500mg/L.) and can be found along shoreline of A. Muang, for exception, in the northern part of T. Khok Khian, T. Kaluwo Nua and beach area in Bang Nak Sanitary of A. Muang that may yield fair to poor groundwater quality.

Floodplain aquifers can be developed at depth of 10-20 meters with range of yield of 10-20 m³/hr, but at T. Bang Po, yield is higher. Groundwater quality is quite good except some areas of T. Lam Phu of A. Muang, which have TDS contents higher than 1,500 mg/L.

Metamorphic aquifers are found as outcrops and isolated mountains in the area of T. Khok Khian and there is no record of groundwater well from this type of aquifers in Muang District.

Granitic aquifers are found as outcrops and isolated mountains in T. Kaluwo, T. Kaluwo Nua, west of T. Lam Phu and T. Manang Tayo. Aquifers locate at depth 10-20 meters with range of yield of 0-2 m³/hr except at the southern region of T. Manang Tayo, which yield 2-5 m³/hr. Groundwater quality from granitic aquifers is good at all.

2. Appropriate Area for groundwater well drilling

The analysis result of data with the criteria to evaluate areas appropriate for groundwater drilling can be concluded as the following

2.1 Analysis of groundwater level by average, each sub-district is in much approximated level. The deepest groundwater level was at Khok Kean sub-district with 28.2 meter deep and the shallowest groundwater level was at Kalu Wo sub-district with 17.4 meter deep as the table 2.

Table 2: Groundwater level of each sub-district in Muang district zone of Narathiwat province

No.	Sub-district	Average water level (m.)
1	Kaluwo	17.4
2	North Kaluwo	19.3
3	Bang Nak	18
4	Khok Khean	28.2
5	Manang Ta Yo	17.8
6	Lam Phu	25.9
7	Bang Po	25.3

2.2 Analysis of groundwater expected
The map shows groundwater expected in the figure 2. The yellow shows the area of groundwater expected as the criteria assigned (> 10 m³/hr) and the red shows the areas of groundwater expected less than the criteria assigned (< 10 m³/hr).

2.3 Analysis of total dissolved solids contents
The map shows total dissolved solids contents in the 3rd figure. The yellow shows the areas of total dissolved solids contents as the criteria assigned, not over 1,500 mg/l and the red shows the areas of total dissolved solids contents as the criteria assigned, over 1,500 mg/l.

2.4 Analysis of chloride content
The map shows chloride content in the figure 4. The yellow shows the areas of chloride content as the criteria assigned <600 mg/l and the red shows the areas of chloride content over than the criteria assigned (>600 mg/l).

2.5 Analysis of hardness content)
The map shows hardness content in the figure 5. The yellow shows the areas of hardness content as the criteria assigned (<500 mg/l) and the red shows the areas of hardness content over than the criteria assigned (>500 mg/l).

2.6 Analysis of iron content
The map shows iron content in the figure 6. The yellow shows the areas of iron content as the criteria assigned (<1.0 mg/l) and the red shows the areas of iron content over than the criteria assigned (>1.0 mg/l).

From the attributes analysis of groundwater with the criteria in the table 1 shows the analysis results in the items 4.2.1-4.2.6. The overly techniques using shows the results in the figure 7. From the data analysis it was found that the appropriate sub-districts for groundwater well drilling were Kalu Wo, Manang Ta Yo, North Kalu Wo, Bang Po and Khok Kean. However, Lam Phu sub-district, which all villages of them was appropriate for groundwater well drilling. However, some areas of Lam Phu and Bang Nak, not being appropriate for groundwater well drilling was Lam Phu village, Bang Po village, Klong Sai village and Ka Soh village in Lam Phu sub-districts as well as Kam Pong Tayoh village in Bang Nak sub-district. The research results caused

people in the local know about the utilization of available groundwater resource and application in groundwater development in the future.

DISCUSSION

From the study of application of geographic information system in determining appropriate area for groundwater well drilling in Muang district, Narathiwat province, this study is corresponding with the study of Weerasak Weerakant, (2002), who studied the use of geographical information system for water allocation aid in the Northern part of lower Central plain. Also it is corresponding with the study of Supansa Khemthong, (2010)ม who studied application of GIS for husehold water management in Suranaree subdistrict, Mueang Nakhon Ratchasima district Nakhon Ratchasima province. Besides it is corresponding with Saowaluck Tangkanasup, (2009), who studied geographic information system application resources management planning in Tumbon Sam Phrao, Amphoe Mueang Udon Thani, Changwat Udon Thani. Not only Japan International Coorporation Agency (JICA), 1995 studied the study on management of groundwater and land subsidence in the Bangkok metropolitan area and its vicinity but also Josef FURST, 1990 studied integration of GIS and groundwater modeling. However the study of Piyada Chunhnothi, (2011), who studied the application of GIS for village water supply in Amphoe Klaeng, Changwat Rayong และ Kitsakorn Khempilar, (2011), who studied development of GIS interactive program for potential area analysis of drinking groundwater water supply by reverse osmosis system in Amphoe Mueang, Nakhon Ratchasima, which are corresponding with this study

In this study it is corresponding with the study of Vilavan Thaisongkram, (2008), who studied the application of GIS to study groundwater resources potential and suitability for development for domestic water supply in Phra Thong Kham District Nakhon Ratchasima whereas the study of Wanphen Buarap, (2004), who studied application of GIS to the mapping of the sensitiveness for groundwater resource contamination in Lower Nam Phong watershed, and there is the study of Roger, C., and Johnson, 1998, who studied spatial analysis of the groundwater resources of the Lower Lamoi Valley, which is corresponding with Christian, E.W., 2001 who studied spatial analysis of shallow groundwater pumping for salinity control and potential conjunctive use: A case study of the Coleambally Irrigation Area. Also it is corresponding with the study of Sekkouri, I.H., 2002, titled an intelligent spatial data preparation system for groundwater modeling. Moreover, it is corresponding with of Moon, S., 2003, who studied spatial distribution or groundwater recharge in South Korea applying GIS and multivariate statistics to water-table fluctuation.
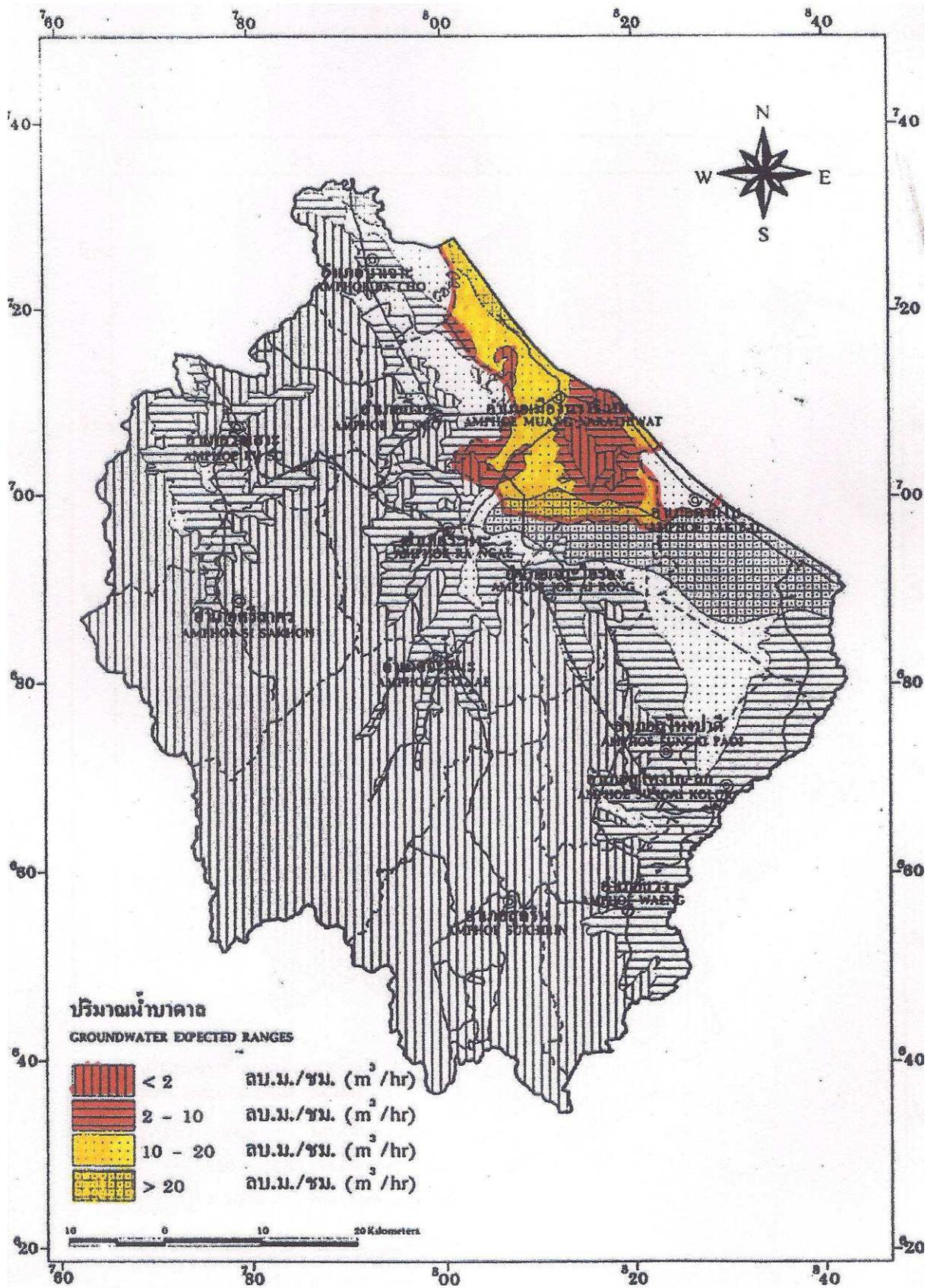
Figure 2 : Groundwater Expected Yields Map of Narathiwat Province
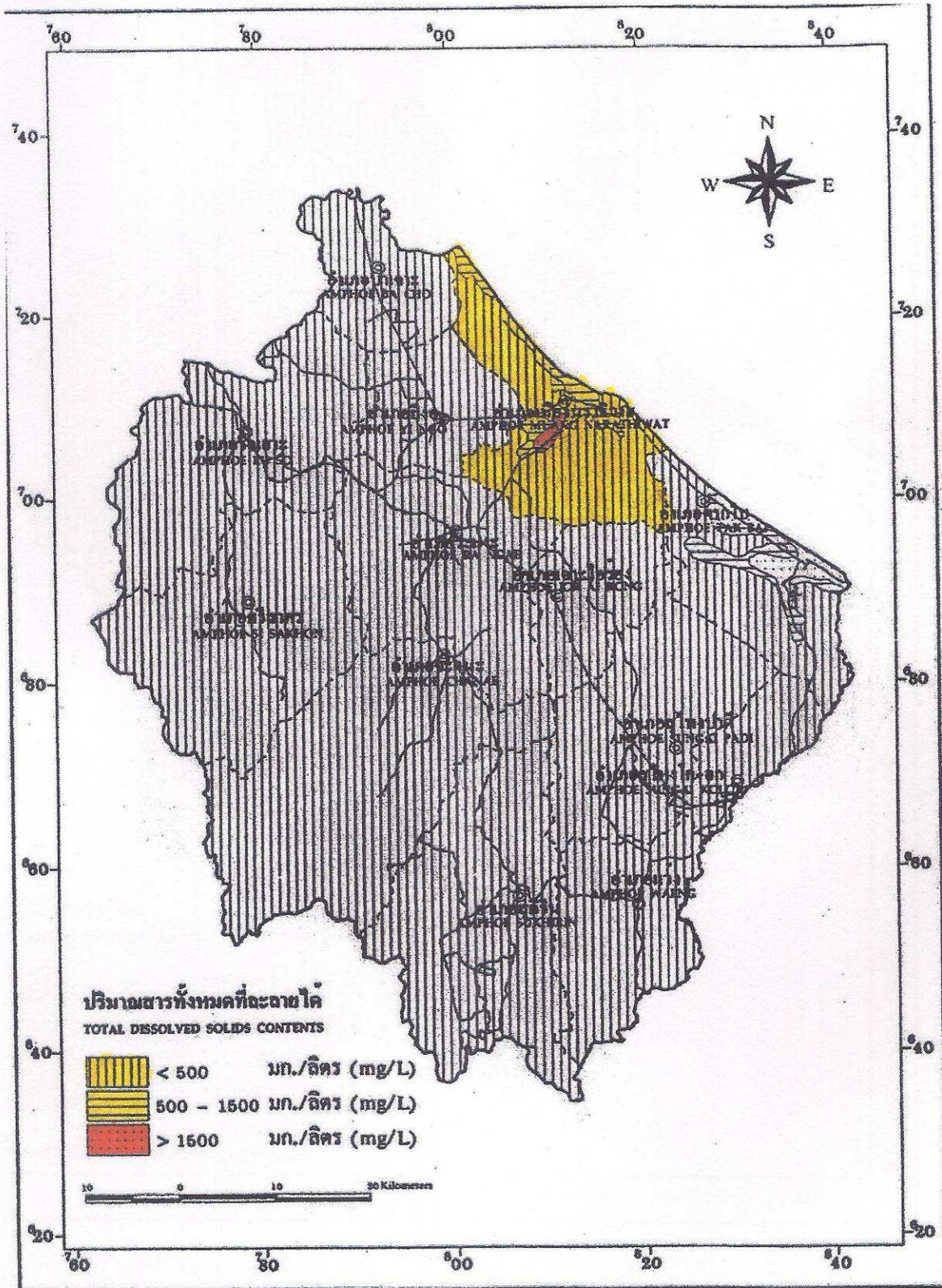
Figure 3 : Total Dissolved Solids Contents Map of Narathiwat Province

Figure 4 : Chloride Contents Map of Narathiwat Province
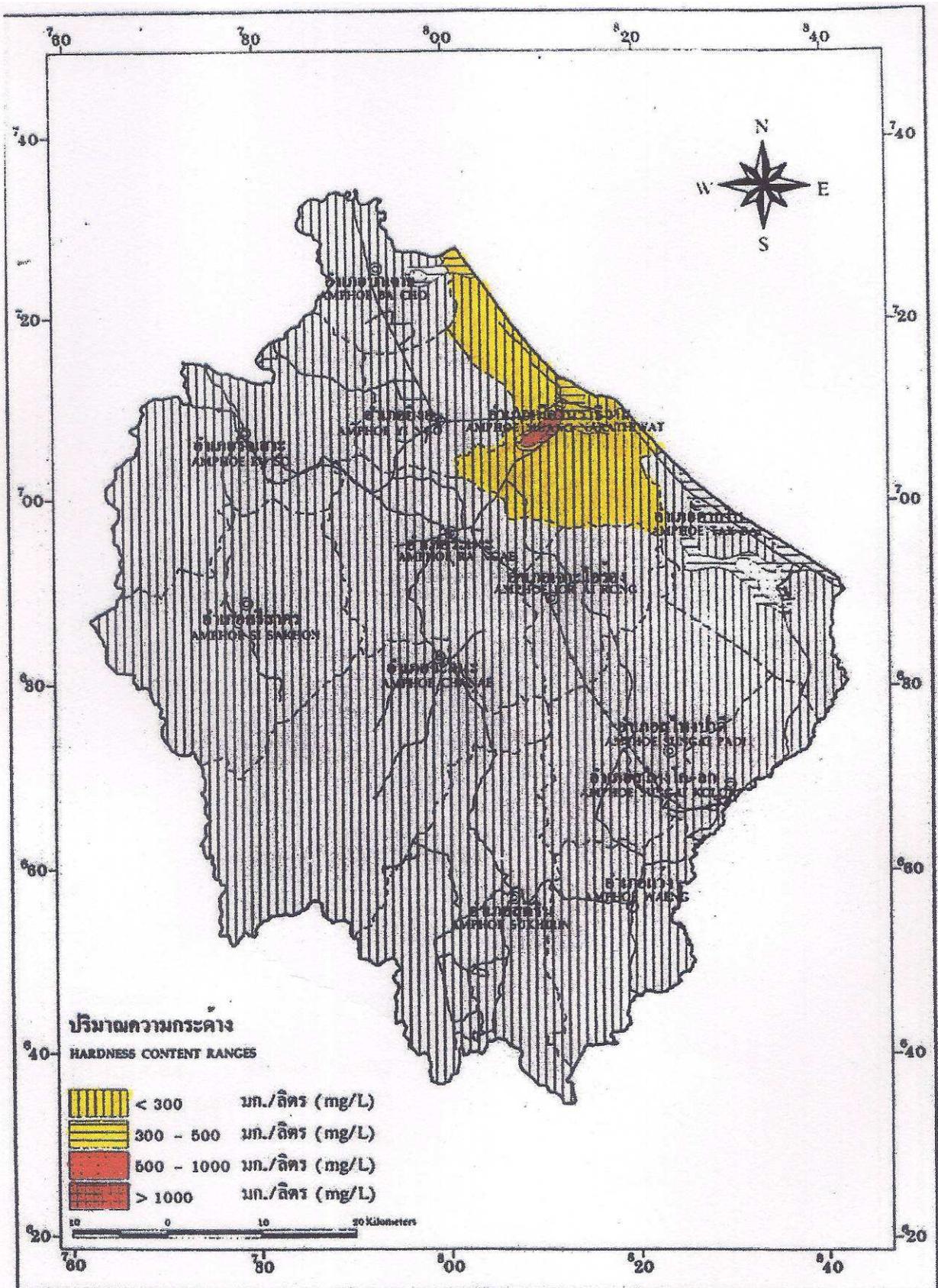
Figure 5 : Hardness Contents Map of Narathiwat Province

Figure 6 : Iron Contents Map of Narathiwat Province
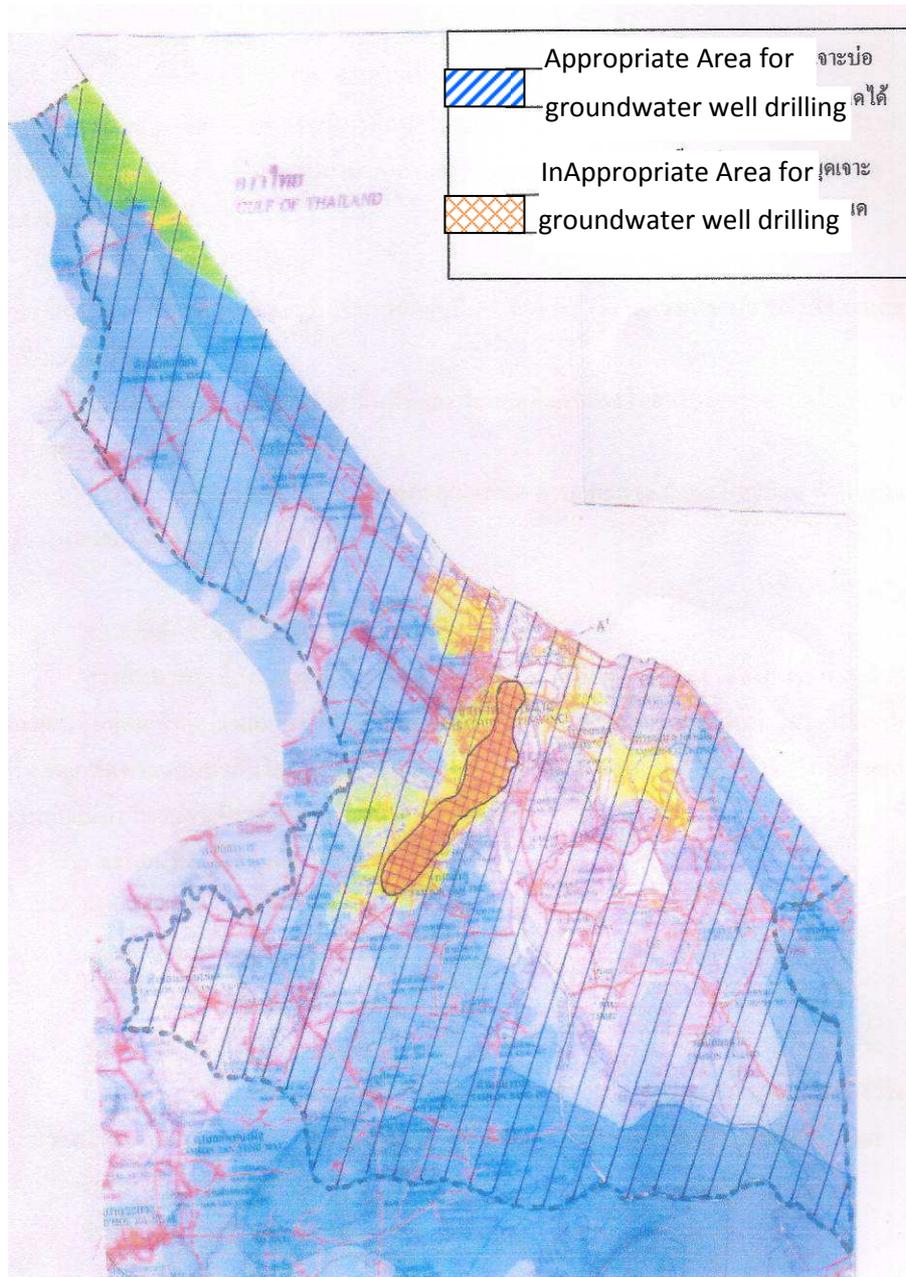
Figure 7 : Appropriate Area for groundwater well drilling

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FORMULATE SOCIAL MEDIA INTO INSTRUCTIONAL MODEL FOLLOW THROUGH MULTIPLE INTELLIGENCES THEORY ON WEB-BASE INSTRUCTIONAL (SMMI-WBI)

Natakorn Pramayan[1]
Soradech Krootjohn[1]
Charun Sanrach[1]
[1]King Mongkut's University of Technology North Bangkok
e-mail : natakorn.p@hotmail.com

Abstract

The implementation of social media in learning, teaching and cooperation is an innovation process which has implications at many levels in Education. This Article were present a development of an instructional model follow through Multiple Intelligences theory on computer network : Environment by learning about social media (SMMI-WB) to Strengthen Knowledge Understanding a development Computer Project for Vocational student.

This model is derived from the synthesis of the research, Confirmatory Factor Analysis in order to find Factor Loading of capability in Multiple Intelligences of Vocational student, the concept of the author's own and the framework for this assessment by Expert.

As a result of the SMMI-WB : The Expert evaluated that SMMI-WB's quality was a considered to be good level. This contribution to instructional was very successful because a consistent to the intellectual abilities of students with creating social media that is engaging, safe, and growth fostering for youth. The students have enjoyed learning, enthusiasm and the better achievement.

Keyword: Social media, multiple intelligence, Instructional Model, Web-Base, Education

INTRODUCTION

As the high-technology of telecommunication, learners could search any information via network systems in anytime both PC and Smart-phone. Social media is a significant innovation in educational management at the present time.

This paper focuses on the systemic understanding of the implementation process of social media into Instructional Model of Vocational student follow through Multiple Intelligences Theory on Web-Base Instruction. The concept of social media is associated with web services known as Web 2.0, which open rich possibilities for the use of the Internet. Social media and related services are essential facilitators for learning, teaching and educational cooperation.

To bring an instructional model on the computer network, it is regarded as a modern instruction. The instruction that operated on Web-based channel could be an accessible device into information seeking and knowledge construction. However, the web-based instruction distinguished to a normal instruction as it is called 'Traditional Classroom Environment' or Face-to-Face instruction. To gain the successful qualitative learning, the instruction needs to have compatible activities and supplementing to the model on web-based instruction.

Arranging environment on computer network through multiple intelligence theory would apply the theory into the web-based instructional operation to the different intellectual capability of learners. Web-page setting and activities would be suitable to each intellectual capability and the content also adjusted as the potential level of learners by technique of Intelligent Agent (IA).

LITERATURE REVIEW

Social media

The Social media consists of Internet technologies that allow users to create and share content, and to foster dialogues among other users. Examples include software applications for communication (blogging, social networking, discussion forums), collaboration (wikis, social bookmarking), and multimedia (sharing photographs, video, and livecasting).

The implementation of social media in learning, teaching and educational cooperation is an innovation process that has implications at all levels within the partner universities. Innovations are new, renewed or enhanced process, service, pedagogical improvements, research & development competencies, learning, practice of work, strategies, etc. The innovation process consists of 1) discovery of ideas, 2) development of ideas, 3) implementation of ideas.

Multiple Intelligences

Multiple Intelligence is a set of skills allowing individuals to find and resolve genuine problems they face. Multiple Intelligence includes verbal linguistic Intelligence, logical mathematical Intelligence, visual spatial Intelligence, bodily kinesthetic Intelligence, musical rhythmic Intelligence, interpersonal Intelligence, intrapersonal Intelligence, naturalistic Intelligence and existentialistic Intelligence of Howard Gardner.

WBI (Web-based Instruction)

Web-based Instruction is delivered over public or private computer networks and displayed by a Web browser. WBI is available in many formats and several terms are linked to it; on-line courseware, distance education on-line, etc. WBI is not downloaded CBT, but rather on-demand training stored in a server and accessed across a network. WBI can be updated very rapidly, and access to the training controlled by the training provider.

IA : Intelligent Agent

Intelligent Agent is Artificial Intelligence Technology or IA. IA means to the construction of intelligence which bring into a developed non-being object. The object has becoming the potential tool or significant technology of information system in the next future. Because of Intelligent Agent is developed to solve many internet using problems, information flowing and e-commerce. Thus, it helps computer program in an accession of huge data-based or capable to search a vast amount of information and select only essential information for users.

Intelligent Agent is the software unit which placed as a proxy to operate in any tasks. The models of knowledge management and knowledge presentation in various techniques are likely to apply for accomplished goal, user's demand and compatible to other programs.

To apply IA usage in this article, IA could support as a coordinator to User Interface and it was present as a linked agent between system and users excellently. Users would be able to access program system easily even though, the system has complex manipulation because IA has capacity to track and predict user's working activities.

RESEARCH METHODOLOGY

1. The conceptual framework designed by using social media for an intelligent instruction model as following Multiple Intelligent Theory on the internet.
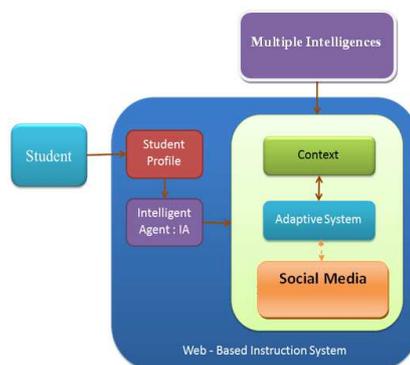
Figure 1 : Model of Conceptual framework

Using social media for an intelligent instruction model as following Multiple Intelligent Theory on the internet was shown on Picture 1 is the model which constructed in environment of web-based instruction through Multiple Intelligent Theory. The contents were adjust to the potential level of learners from excellent, fair and poor. IA would be used to cooperate with student profile.
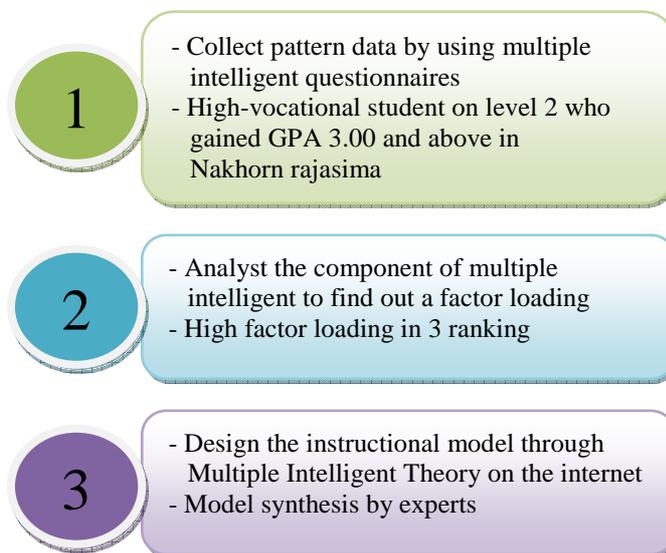
Figure 2 : Process of model synthesis

The questionnaires are set to evaluate intellectual capability in each part of Multiple Intelligence that consists of 8 parts. The sampled students selected from students who gained GPA 3.00 and above (only computer subjects). After selection of 153 cases, then bring the consequence of questionnaires to analyst confirmatory factor. Then, Factor Analysis Model was constructed to find out Factor Loading of each component in Multiple Intelligence Theory. The most three highest ranking of Factor Loading are selected by Lisrel program.

The consequence of analysis which has Factor loading of the highest ranking is Mathematics and Logic that matched together to Orawee Sanhachawee, 2000, she stated that for occupations which the multiple intelligence in Mathematic-Logic part is necessary consist of Mathematician, Accountant, Computer Analyzer, Programmer, Economist and Scientist, the instructor should provide appropriated instructional process to student's intellectual capability to support the strong point.

The second ranking of Factor loading is the relationship dimension that could get highly image reflection both external image and internal image. In educational process management should focus on using signal image or drawing picture because student who has capability in this dimension could learn efficiency by picture supplement.

The third ranking of Factor loading is musical dimension. An instructional strategy is likely to bring the content blending to music for teaching. Using CDs and MP3 files are key tools to operate with teaching activities. Bringing musical rhythm in teaching could helping in learning memory. This strategy would assist creativity of both instructors and students.

As a result of this research, it would take into the core model of Instructional Model as following through Multiple Intelligences Theory on social media network as shown on picture 3.
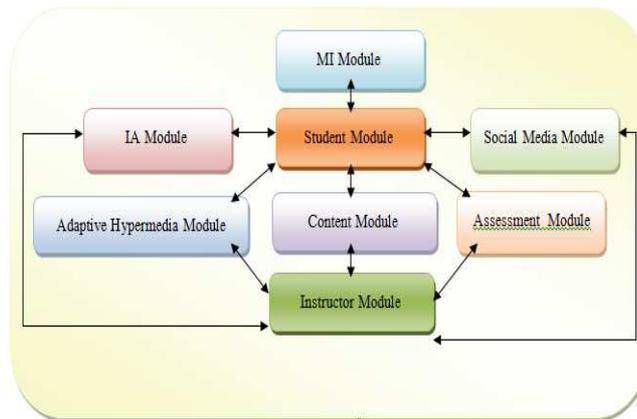
Figure 3 : Basic component of model

2. Basic component of model

1) Student Module has the function to record and collect learner's profile, learner's folder and learning pattern into data-base. The individual learner's characteristics are suitable for information and content that presented to respond individuals. The model is likely to divide characteristics of learners to the level of knowledge capability, learning pattern, experience, and referenced data of learners and also objective analysis of each subject's learning. The individual learner's characteristics would influences to personality, behavior, perception, memorizing, solving and interested.

2) Instructor Module serves as a recorder and a collector of instructors' profile and folder.

3) Content Module served as a content recorder and a content collector by dividing contents to three level; excellent, fair and poor.

4) MI : Multiple Intelligence Module has the function to learn behavior of student and then, manage proper environment on website to intellectual level of learners.

5) IA : Intelligent Agent Module perform in student's behavior learning to predict future behavior of students and able to respond student, furthermore, able to self-operate to accomplish the instructor's goal. IA is also analyst basic data of students to data presentation in different backgrounds, for example to a student who already has fundamental knowledge, the in-depth content would be displayed instead to let the student understands more details. However, for a student who has no basic background, the system is likely to begin with fundamental knowledge and continues to more details in the next step.

6) Social Media Module supports the online communication on social media that communicated by students and support the student to write the content from their experience and post articles, photograph and audio clips by their own or sharing from other media to other users on the network via social network from online service website.

7) Assessment Module performs to support assessment's tools and report learning progress as well.

CONCLUSION

SMMI-WBI is a combination of various techniques to support learners as intellectual capability of each person. It set the media pattern in flexible and suitable to individuals. Intelligence Agent would assist students and adjust the content to student's capacity. At the same time, SMMI-WBI provides the social media connection that compatible to living pattern of learners who share everything both they already knew, need to know and unknown to communicate together with instructor or other people on social network for information exchange. It includes strong points of social network to educational management.

SMMI-WBI was verified by experts to get a good level in assessment. It is a well-quality of teaching and influenced to students to get high learning efficiency.

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AVAILABILITY OF LITERATURE ON SOCIAL ENTREPRENURESHIP FOR SUSTAINABLE WEALTH CREATION IN INTERNET

Muhammad Husnee Benjasom[1]
Yusof Ismail[2]
Suhaimi Mhd Sarif[3]
[1]Freelance Researcher 9 M.5 T.Koutoom A.Yarang CH. Pattani 94160 Thailand Email: hkate21@gmail.com
[2]Department of Business Administration KENMS, IIUM, Jalan Gombak, 53100 Kuala Lumpur, MALAYSIA
[3]Assistant Professor Faculty of Economics and Management Sciences, International Islamic University Malaysia
Jalan Gombak, 53100 Kuala Lumpur, Malaysia Email: albanjari@yahoo.com

Abstract

Social entrepreneurship has been the key discussed issue for the last few decades. This paper examines relative availability of materials related to social entreprenureship for sustainable wealth creation in order to develop hands-on, professional, ethical, which is promoted by the various organizations around the world. The main objective of this study was to examine the relative frequency of social entreprenureship and sustainable wealth creation by the organizations and other related concepts that are available in the Internet search engines. The study attempted to assess the availability of materials on social entreprenureship for sustainable wealth creation on the Internet. The Internet was accessed on 03 April 2012 from 11:05 a.m. – 13:05 p.m.; 2.30 p.m. – 4:30 pm. Duration: 240 minutes, [Gombak Time] and 04 April 2012 from 9:30 a.m. – 11:00 a.m.; 11:30 p.m. – 1:00 p.m. Duration: 180 minutes [Hulu Langat Time]. Ratios are expected to reflect more statistically meaningful indices. The study is very significant for theoretical development of social entreprenureship in sustainable wealth creation for companies in Malaysia. The Internet search engine provides instant information on social entreprenureship for sustainable wealth creation that can developed further.

Keywords: Internet Search Engines, Social Entrepreneurship, Sustainable Wealth Creation

INTRODUCTION

Social entrepreneurship has been the key discussed issue for the last few decades. According to Dacanay (2005), social entrepreneurship involves the promotion and building of enterprises or organizations that create wealth, with the intention of benefiting the society. "The term social entrepreneurship (SE) is used to refer to the rapidly growing number of organizations that have created models for efficiently catering to basic human needs that existing markets and institutions have failed to satisfy" (Seelosa & Mair, 2005, p. 241). However, one should not confused with the social enterprises and private or traditional business enterprises as differences exists between these two in terms of their primary stakeholders or beneficiaries; their primary objectives and their enterprise philosophy (Dacanay, 2005). The social enterprise generates profit or surplus with due regard to social and environmental costs, and makes a proactive contribution to resolving social and environmental problems as part of its reason for being.

This paper examines relative availability of materials related to social entreprenureship for sustainable wealth creation in order to develop hands-on, professional, ethical, which is promoted by the various organizations around the world. Related terms are also searched for comparative purposes, i.e. based on the premise that rich databases of literature could imply that the concept is progressing rapidly (Jim, Gao and Wang, 2010).

The main objective of this study is to examine the relative frequency of social entreprenureship and sustainable wealth creation by the organizations and other related concepts that are available in the Internet search engines. It does not investigate the quality of the contents of the Web-based materials available in the ISE's. One of the results of the study will be able to answer this question: How many hits are produced when the term such as social, entrepreneurship, entrepreneurship theory, wealth creation, sustainability, social entrepreneurship, etc are searched.

1. Significance of the Study

The study is very significant for theoretical development of social entreprenureship in sustainable wealth creation for companies in Malaysia. The Internet search engine provides instant information on social entreprenureship for sustainable wealth creation that can developed further. The availability of hits promotes

visibility and professionalism on social entreprenureship for sustainable wealth creation because it contributes directly to internationally recognized sustainable development goals. Moreover, social entrepreneurship is still in its early stages (Lehner & Kansikas, 2012). Therefore, social entrepreneurship may also encourage corporations as this offers insights that may stimulate ideas for more socially acceptable and sustainable business strategies and organizational forms.

LITERATURE REVIEW

The literature review section discusses two important points: types of Internet search engines and extent of usefulness of different Internet search engines.

1. Types of Internet Search Engines
There are many Internet Search Engines (ISEs) that have been used widely in searching for information for the quantity as well as quality (Chau, Wong, Zhou & Chen, 2010; Xiang & Gretzel, 2010). Fluctuations or complications are characteristics of the performance of the Internet search engines (Thelwall, 2008; Uyar, 2009). The fluctuations in the search results do affect the efficiency of Internet search as a publication/communication medium (Chau et al., 2010; Prabowo & Thelwall, 1997; Pirkola, 2009).

2. Extent of Usefulness of Different Internet Search Engines
Dreilinger and Howe found that large data obtained from the ISE's might pose difficulties in the selection process (Dreilinger & Howe, 1997). It is also time consuming to filter them, which eventually may not render the results useful (Dreilinger & Howe, 1997; Prabowo & Thelwall, 1997). Prior to the preceding study, Tomaiuolo and Packer found that similar results in one ISE also appeared in the other ISEs (Tomaiuolo & Parker, 1996). The repetition can be used as checker against the accuracy of the information within and among the ISE's (Dreilinger & Howe, 1997; Prabowo & Thelwall, 1997). Leighton and Srivastana argue that these rich results give more confidence in terms of information accuracy but not so much of effectiveness of information retrieval (Leighton & Srivastava, 2010).

Wang, Xie and Goh contend that search engines are widely used as tools to find useful information from the Internet (Wang, Xie & Goh, 1999). However, most search engines were developed based on the technical requirements and without much consideration of the customer's perspective (Ismail & Sarif, 2011). Ideally, ISE's should be very helpful not only to the designers, but also to the users.

Sullivan identified fourteen Internet Search Engines (ISE's) which he classified as top choices (Google, Yahoo and Bing), strongly considered (Alltheweb, AOL, HotBot and Teoma), and other choices (Altavista, Gigablast, LookSmart, Lycos, MSN, Netscape and Open Directory) (Sullivan, 2010).

Table 1: *Most Used Search Engines and Total Market Share Trend as of March 2011*

Month	Google	Yahoo	Bing	Baidu	Ask	Other
Most Used Search Engines						
March, 2010	85.75%	5.38%	3.11%	3.52%	0.63%	1.61%
April, 2010	86.30%	5.30%	3.13%	3.02%	0.67%	1.58%
May, 2010	84.80%	6.19%	3.24%	3.16%	0.75%	1.86%
June, 2010	84.96%	6.24%	3.39%	3.06%	0.76%	1.60%
July, 2010	84.97%	5.99%	3.34%	3.34%	0.75%	1.61%
August, 2010	84.73%	6.35%	3.30%	3.31%	0.71%	1.60%
September, 2010	83.34%	6.32%	3.25%	4.96%	0.73%	1.40%
October, 2010	85.15%	6.33%	3.22%	3.34%	0.65%	1.31%
November, 2010	84.72%	6.42%	3.14%	3.67%	0.56%	1.50%
December, 2010	84.65%	6.69%	3.29%	3.39%	0.56%	1.44%
January, 2011	85.37%	6.14%	3.68%	2.92%	0.58%	1.32%
February, 2011	84.77%	5.69%	3.89%	3.80%	0.54%	1.31%

Source: Tajane (2011)

From the above table, we can see that, Google's share is by far the top amongst the search engines. Yahoo, Baidu (Chinese search engine) and Ask search engine's market share remains almost constant throughout the one year while we can see an increase in market share for Bing. One of the reasons could be that Android is getting more popular these days and Google is a default search engine for Android while Bing is a default search provider for Windows Mobiles (Tajane, 2011).

3. How Internet Search Engines Work

A search engine works by sending out a spider to fetch as many documents as possible. Another program, called an indexer, then reads these documents and creates an index based on the words contained in each document. Each search engine uses a proprietary algorithm to create its indices such that, ideally, only meaningful results are returned for each query (Webopedia, 2012).

METHODOLOGY

The study is carried out to ascertain comparative availability of the materials on social entreprenureship for sustainable wealth creation in five top Internet Search Engines (ISE's): Google, Yahoo, AOL Search, Bing and Teoma from Sullivan's top choices only (Sullivan, 2010). Sullivan's complete list comprised top choices (Google, Yahoo, and Bing), strongly considered (Alltheweb, AOL, HotBot, and Teoma), and other choices (Altavista, Gigablast, LookSmart, Lycos, MSN, Netscape, and Open Directory) (Sullivan, 2010).

The Internet was accessed on 03 April 2012 from 11:05 a.m. – 13:05 p.m.; 2.30 p.m. – 4:30 pm. Duration: 240 minutes, [Gombak Time] and 04 April 2012 from 9:30 a.m. – 11:00 a.m.; 11:30 p.m. – 1:00 p.m. Duration: 180 minutes [Hulu Langat Time] using a combination of selected search terms: social, entrepreneurship, entrepreneurship theory, wealth creation, sustainability, social entrepreneurship, etc. A tabular format is created to capture the data of interest for each search engine. The ratio of hits for each term within each ISE is computed by dividing the hits into the total hits for the search engine.

The use of ratios to compute hits produced by the Internet search engines provides a means to assess impacts (Bharat & Broder, 1998). Moreover, it is more appropriate to make inference from the use of ratios (Lawrence & Giles, 1998), although such approach can be less reliable statistically (Chu & Rosenthal, 2010). Given time constraints, it is still economical to use ratio approach (Lawrence & Giles, 1998).

There are five stages involved in the process of computing the ratios, namely, (1) identify search engines, (2) record number of hits for specified search terms, (3) compute the ratios, (4) consolidate all the ratios, and (5) perform the analysis.

FINDINGS

The findings section presents the results in terms of the number of hits of the terms related to social entreprenureship for sustainable wealth creation that were produced by the Internet search engines (ISE's). The terms searched include society, social, entrepreneurship, enterprises, social enterprises, theory, entrepreneurship theory, entrepreneurship theories, wealth, wealth creation, sustainable, sustainability, sustainable wealth, sustainable wealth creation, Islam, Islamic entrepreneurship, Islamic social enterprises, Islamic small business, risk bearing theory of entrepreneurship, social entrepreneurship, technopreneur, social policy.

The results of the study are presented according to the five steps enumerated earlier. Firstly, identify the Internet search engines. The study adopted the list of ISE's identified by Sullivan (2010). However, the study limits itself to five "top choices" of Internet search engines, namely, Google (www.google.com), Yahoo (www.yahoo.com), AOL Search (www.aol.com), Bing (www.bing.com) and Teoma (www.teoma.com). Secondly, record the number of hits. The researchers recorded the hits shown for all the search terms, i.e., social, entrepreneurship, entrepreneurship theory, wealth creation, sustainability, social entrepreneurship.

Table 2: *Hits for Search Terms Social Entreprenureship for Sustainable Wealth Creation and Others*

Search Terms	Google	Yahoo	AOL Search	Bing	Teoma
Society	343,000,000	850,000,000	359,000,000	700,000,000	176,000,000
Social	4,590,000,000	1,670,000,000	4,600,000,000	1,400,000,000	440,000,000
Entrepreneurship	16,000,000	42,900,000	16,900,000	33,100,000	8,620,000
Enterprises	799,000,000	281,000,000	764,000,000	226,000,000	105,000,000
Social enterprises	553,000,000	113,000,000	91,600,000	69,200,000	44,400,000
Theory	154,000,000	444,000,000	135,000,000	355,000,000	75,000,000
Entrepreneurship theory	5,080,000	9,820,000	1,820,000	14,100,000	1,100,000
Entrepreneurship theories	5,700,000	10,000,000	5,630,000	17,000,000	913,000
Wealth	294,000,000	406,000,000	292,000,000	330,000,000	27,500,000
Wealth creation	38,300,000	134,000,000	7,590,000	97,800,000	3,910,000
Sustainable	224,000,000	157,000,000	224,000,000	132,000,000	25,600,000
Sustainability	115,000,000	92,900,000	116,000,000	71,500,000	17,900,000
Sustainable wealth	33,400,000	22,200,000	42,400,000	20,900,000	2,080,000
Sustainable wealth creation	5,300,000	8,550,000	4,890,000	9,360,000	2,200,000
Islam	579,000,000	246,000,000	572,000,000	178,000,000	48,300,000
Islamic entrepreneurship	3,850,000	1,750,000	3,860,000	8,340,000	362,000
Islamic social enterprises	4,710,000	8,270,000	4,650,000	7,870,000	1,830,000
Islamic small business	64,600,000	48,300,000	59,400,000	49,400,000	19,700,000
Jean Baptise Say	7,090,000	4,480,000	6,510,000	5,820,000	530,000
Frank Knight	35,500,000	57,700,000	6,600,000	81,000,000	4,200,000
Risk Bearing Theory of Entrepreneurship	127,000	28,900,000	129,000	504,000	74,900
Alfred Marshall	4,500,000	26,100,000	2,580,000	36,600,000	1,440,000
Max Weber	9,070,000	82,100,000	14,000,000	49,500,000	2,330,000
Mark Casso	1,580,000	83,700	271,000	158,000	14,700
Social entrepreneurship in Malaysia	1,030,000	5,760,000	2,760,000	6,280,000	1,130,000
Social entrepreneurship	6,420,000	76,900,000	119,000,000	22,100,000	8,630,000
Technopreneur	665,000	133,000	858,000	101,000	73,700
Incubation	21,000,000	19,400,000	20,800,000	14,600,000	4,450,000
Technology parks	164,000,000	544,000,000	132,000,000	78,500,000	40,900,000
Science parks	877,000,000	355,000,000	784,000,000	76,700,000	262,000,000
Science policies	3,060,000,000	698,000,000	2,510,000,000	582,000,000	273,000,000
Venture capital	188,000,000	137,000,000	186,000,000	106,000,000	24,800,000
Startup companies	1,200,000,000	1,010,000,000	941,000,000	302,000,000	164,000,000
Student in Free Enterprises (SIFE) world	133,000	77,800,000	132,000	50,900	19,100
SIFE Malaysia	242,000	140,000	234,000	85,000	10,700
Social Policy	232,000,000	867,000,000	2,390,000,000	673,000,000	439,000,000
Government	3,700,000,000	965,000,000	1,850,000,000	777,000,000	178,000,000
Total	**17,336,297,000**	**9,501,186,700**	**11,308,614,000**	**6,531,568,900**	**2,405,018,100**
Percentage (%)	**36.82**	**20.18**	**24.02**	**13.87**	**5.11**

Note: 03 April 2012 Access Time: 11.05.a.m. – 13.05 p.m.; 2.30 p.m. - 4.30 pm. and 04 April 2012 Access Time: 09.30.a.m. – 11.00 p.m.; 23.30 p.m. - 01.00 pm. Malaysian Time in Gombak and Hulu Langat, Kuala Lumpur, Malaysia

Table 2 shows the hits produced by five ISE's: Google, Yahoo, AOL Search, Bing and Teoma. The ISEs show the total hits for the terms "social entreprenureship for sustainable wealth creation" and its combination with others such as "society", "social", "entrepreneurship", "enterprises", "social enterprises", "theory", "entrepreneurship theory", "entrepreneurship theories", "wealth", "wealth creation", "sustainable", "sustainability", "sustainable wealth", "sustainable wealth creation", "Islam", "Islamic entrepreneurship", "Islamic social enterprises", "Islamic small business", "risk bearing theory of entrepreneurship", "social entrepreneurship", "technopreneur", and "social policy." Google produced the highest hits for "Social enterprises (553,000,000)", "Sustainable (224,000,000)", "Science policies (3,060,000,000)", and "Government (3,700,000,000)", while Yahoo produced the highest hits for "Entrepreneurship (42,900,000)", "Wealth (406,000,000)", "Wealth creation (134,000,000)", "Risk Bearing Theory of Entrepreneurship (28,900,000)". AOL Search produced the highest hits for "Social (4,600,000,000)", "Sustainable (224,000,000)", "Sustainability (116,000,000)", "Sustainable wealth (42,400,000)", "Social entrepreneurship (119,000,000)", "Social Policy (2,390,000,000)", while Bing produces the highest hits for "Entrepreneurship theory (14,100,000)", "Entrepreneurship theories (17,000,000)", "Sustainable wealth creation (9,360,000)", "Islamic entrepreneurship (8,340,000)", "Social entrepreneurship in Malaysia (6,280,000)".

In assessing the capability of Internet Search Engines (ISEs), Google scores the highest by capturing 36.82% of the total hits as opposed to Yahoo (20.18%), AOL Search (24.02%), and Bing (13.87%) respectively. Teoma shows the lowest score (5.11%).

When the key search terms were changed from "Social Entreprenureship for Sustainable Wealth Creation and Others" to "Social Entreprenureship for Sustainable Wealth Creation", (see table 3 below), Google's capability was increased from 36.82% to 47.49%, Yahoo (from 20.18% to 22.41%) and Bing (13.87% to 17.94%) whereas AOL decreased from 24.02% to 7.46% and Teoma (5.11% to 4.71%).

Table 3: *Hits for Search Terms Social Entreprenureship for Sustainable Wealth Creation*

Search Terms	Google	Yahoo	AOL Search	Bing	Teoma
Social	4,590,000,000	1,670,000,000	4,600,000,000	1,400,000,000	440,000,000
Entrepreneurship	16,000,000	42,900,000	16,900,000	33,100,000	8,620,000
Social enterprises	553,000,000	113,000,000	91,600,000	69,200,000	44,400,000
Entrepreneurship theory	5,080,000	9,820,000	1,820,000	14,100,000	1,100,000
Entrepreneurship theories	5,700,000	10,000,000	5,630,000	17,000,000	913,000
Wealth	294,000,000	406,000,000	292,000,000	330,000,000	27,500,000
Wealth creation	38,300,000	134,000,000	7,590,000	97,800,000	3,910,000
Sustainable	224,000,000	157,000,000	224,000,000	132,000,000	25,600,000
Sustainability	115,000,000	92,900,000	116,000,000	71,500,000	17,900,000
Sustainable wealth	33,400,000	22,200,000	42,400,000	20,900,000	2,080,000
Sustainable wealth creation	5,300,000	8,550,000	4,890,000	9,360,000	2,200,000
Risk Bearing Theory of Entrepreneurship	127,000	28,900,000	129,000	504,000	74,900
Social entrepreneurship in Malaysia	1,030,000	5,760,000	2,760,000	6,280,000	1,130,000
Social entrepreneurship	6,420,000	76,900,000	119,000,000	22,100,000	8,630,000
Total	**5,887,357,000**	**2,777,930,000**	**924,719,000**	**2,223,844,000**	**584,057,900**
Percentage (%)	**47.49**	**22.41**	**7.46**	**17.94**	**4.71**

Note: 03 April 2012   Access Time: 11.05.a.m. – 13.05 p.m.; 2.30 p.m. - 4.30 pm. and 04 April 2012   Access Time: 09.30.a.m. – 11.00 p.m.; 23.30 p.m. - 01.00 pm. Malaysian Time in Gombak and Hulu Langat, Kuala Lumpur, Malaysia

Table 4 shows the top 10 total hits for "social entreprenureship for sustainable wealth creation" combined with several key terms generated by five ISE's: Google, Yahoo, AOL Search, Bing and Teoma. The highest rank is "social" (20.01%), followed by "government" (18.45%), "science policies" (17.60%), "social policy" (11.37%), "startup companies (8.93%). The remaining is not much significant as the score is below 6%.

Table 4: *Rank of top 10 of Total Hits for Search Terms Social Entreprenureship for Sustainable Wealth Creation and Other Terms*

Search Term	Total Hits	Percentage (%)	Rank
Social	8,100,000,000	20.01%	1
Government	7,470,000,000	18.45%	2
Science policies	7,123,000,000	17.60%	3
Social Policy	4,601,000,000	11.37%	4
Startup companies	3,617,000,000	8.93%	5
Science parks	2,354,700,000	5.82%	6
Enterprises	2,175,000,000	5.37%	7
Society	2,069,000,000	5.11%	8
Islam	1,623,300,000	4.01%	9
Wealth	1,349,500,000	3.33%	10

Thirdly, compute the ratios. The ratio for specific term in each search engine is computed by dividing the hits of each search term by total hits for the search engine. The higher the ratio the higher the relative coverage of the search terms in the search engine concerned.

Table 5 produces comparative hits and ratios across the ISE's. The highest ratios were shown for the single term "Social" with 0.265 (Google), 0.176 (Yahoo), 0.000 (AOL Search), 0.214 (Bing) and 0.183 (Teoma). However, interestingly, when "social" was combined with "entrepreneurship", the ratios reduced significantly, the lowest ratios registered 0.000 (Google) for "Social entrepreneurship."

Table 5: *Ratios for search terms "social entreprenureship" and other terms*

Search Terms	Google	Yahoo	AOL Search	Bing	Teoma
Social	0.265	0.176	0.000	0.214	0.183
Entrepreneurship	0.001	0.005	0.001	0.005	0.004
Social entrepreneurship	0.000	0.008	0.011	0.003	0.004
Social enterprises	0.032	0.012	0.008	0.011	0.018
Entrepreneurship theory	0.000	0.001	0.000	0.002	0.000
Wealth	0.017	0.043	0.026	0.051	0.011
Wealth creation	0.002	0.014	0.001	0.015	0.002
Sustainable	0.013	0.017	0.020	0.020	0.011
Sustainability	0.007	0.010	0.010	0.011	0.007
Sustainable wealth	0.002	0.002	0.004	0.003	0.001
Sustainable wealth creation	0.000	0.001	0.000	0.001	0.001
Social Policy	0.013	0.091	0.211	0.103	0.183

Table 6 shows comparative hits and ratios across the ISE's. The highest ratios were possessed by the term "Wealth" with 0.017 (Google), 0.043 (Yahoo), 0.026 (AOL Search), 0.051 (Bing) and 0.011 (Teoma). When we add "Sustainable" and searched "Sustainable wealth creation" combined with other terms, the ratios decreased significantly. The lowest ratio was 0.000 for "Sustainable wealth creation." Likewise, other ratios also showed below.

Table 6: *Ratios for search terms "sustainable wealth creation" and other terms*

Search Terms	Google	Yahoo	AOL Search	Bing	Teoma
Wealth	0.017	0.043	0.026	0.051	0.011
Wealth creation	0.002	0.014	0.001	0.015	0.002
Sustainable	0.013	0.017	0.020	0.020	0.011
Sustainability	0.007	0.010	0.010	0.011	0.007
Sustainable wealth	0.002	0.002	0.004	0.003	0.001
Sustainable wealth creation	0.000	0.001	0.000	0.001	0.001

Fourthly, consolidate all the ratios. All of the ratios are aggregated into Table 7 to facilitate comparison. The comparative analysis of single search terms "Social" and "Social Entrepreneurship" shows that in Google, "Social Entrepreneurship" scores the lowest 0.000, whereas "Social" scores highest (0.265). Other search engine results are shown in Table 7.

Table 7: *Consolidated ratios for search terms "Social Entrepreneurship", "Sustainable Wealth Creation" and other terms*

Search Terms	Google	Yahoo	AOL Search	Bing	Teoma
Social	0.265	0.176	0.000	0.214	0.183
Wealth	0.017	0.043	0.026	0.051	0.011
Sustainable	0.013	0.017	0.020	0.020	0.011
Wealth creation	0.002	0.014	0.001	0.015	0.002
Social entrepreneurship	0.000	0.008	0.011	0.003	0.004
Entrepreneurship	0.001	0.005	0.001	0.005	0.004
Sustainable wealth	0.002	0.002	0.004	0.003	0.001
Sustainable wealth creation	0.000	0.001	0.000	0.001	0.001

Finally, perform the analysis. The last stage of the analysis identified the highest ratios for single search terms generated by each of the search engines. Table 8 shows that all the five ISE's could capture the specified search terms despite their producing varying ratios. The most eminent term was "Social", which appeared as among the highest hits across all five ISEs. Predictably, search terms under Google produced more ratios as opposed to the other ISEs. Clearly, Google is able to produce higher ratios (or hits) compared to other ISEs.

Table 8: *Consolidated ratios for search terms "Social Entrepreneurship," "Sustainable Wealth Creation," and other terms under Google, Yahoo, AOL Search, Bing & Teoma*

Search Terms	Google		Yahoo		AOL Search		Bing		Teoma	
	Hits	Ratio	Hits	Ratio	Hits	Ratio	Hits	Ratio	Hits	Ratio
Social	4,590,000,000	0.780	1,670,000,000	0.601	4,600,000,000	0.000	1,400,000,000	0.630	440,000,000	0.753
Entrepreneurship	16,000,000	0.003	42,900,000	0.015	16,900,000	0.018	33,100,000	0.015	8,620,000	0.015
Social enterprises	553,000,000	0.094	113,000,000	0.041	91,600,000	0.099	69,200,000	0.031	44,400,000	0.076
Entrepreneurship theory	5,080,000	0.001	9,820,000	0.004	1,820,000	0.002	14,100,000	0.006	1,100,000	0.002
Entrepreneurship theories	5,700,000	0.001	10,000,000	0.004	5,630,000	0.006	17,000,000	0.008	913,000	0.002
Wealth	294,000,000	0.050	406,000,000	0.146	292,000,000	0.316	330,000,000	0.148	27,500,000	0.047
Wealth creation	38,300,000	0.007	134,000,000	0.048	7,590,000	0.008	97,800,000	0.044	3,910,000	0.007
Sustainable	224,000,000	0.038	157,000,000	0.057	224,000,000	0.242	132,000,000	0.059	25,600,000	0.044
Sustainability	115,000,000	0.020	92,900,000	0.033	116,000,000	0.125	71,500,000	0.032	17,900,000	0.031
Sustainable wealth	33,400,000	0.006	22,200,000	0.008	42,400,000	0.046	20,900,000	0.009	2,080,000	0.004
Sustainable wealth creation	5,300,000	0.001	8,550,000	0.003	4,890,000	0.005	9,360,000	0.004	2,200,000	0.004
Risk Bearing Theory of Entrepreneurship	127,000	0.000	28,900,000	0.010	129,000	0.000	504,000	0.000	74,900	0.000
Social entrepreneurship in Malaysia	1,030,000	0.000	5,760,000	0.002	2,760,000	0.003	6,280,000	0.003	1,130,000	0.002
Social entrepreneurship	6,420,000	0.001	76,900,000	0.028	119,000,000	0.129	22,100,000	0.010	8,630,000	0.015
Total	**5,887,357,000**		**2,777,930,000**		**924,719,000**		**2,223,844,000**		**584,057,900**	

Total hits and ratios will not be that meaningful if one desires to know the productivity of each ISE for specific search terms. Reviewing the ratios from various tables and consolidating them in Table 8 gives us the notion of efficiency of each search engine for single and combined search terms. Table 8 shows that Google produced the highest hits (0.780) for generic "Social." However, if a person wishes to identify the association between "Social entrepreneurship" and "Sustainable wealth creation", AOL is more efficient ISEs. AOL is rated with (0.005 + 0.129 = 0.134), whereas Google (0.001 + 0.001 = 0.002) and Yahoo (0.003 + 0.028 = 0.031).

Overall, Google stands out among the five ISE's for both single and combined search terms. For single search terms, Google's hits produced the highest among thirty seven search terms used in this study. Google's hits for single and combined search terms portray a close association with its ratios. This suggests that it is highly probable that Google's materials for combined hits, which are more specific, are included in the generic and single search terms hits.

DISCUSSION

Google stands out among the five ISE's for both single and combined search terms. The search terms used include society, social, entrepreneurship, enterprises, social enterprises, theory, entrepreneurship theory, entrepreneurship theories, wealth, wealth creation, sustainable, sustainability, sustainable wealth, sustainable wealth creation, Islam, Islamic entrepreneurship, Islamic social enterprises, Islamic small business, risk bearing theory of entrepreneurship, social entrepreneurship, technopreneur, and social policy. For the 37 search terms, Google's hits produced the highest. Google's hits for single and combined search terms reflected its highest ratios. This suggests that it is highly probable that Google's materials for combined hits, which are more specific, are also included in the generic and single search terms hits.

Social entrepreneurship offers insights that may stimulate ideas for more socially acceptable and sustainable business strategies and organizational forms. Some key literature on social entreprenureship for sustainable wealth creation emphasizes on the contributions directly related to internationally recognized sustainable development (SD) goals (Seelosa & Mair, 2005). Social entrepreneurship may also encourage established corporations to take on greater social responsibility. Nevertheless, the scarcity of materials on social entreprenureship for sustainable wealth creation may hinder employers, society, industry and corporations from reading and researching into social entreprenureship. Pursuing the development objectives of a social enterprise, whether social, political, cultural, economic or ecological, is often at odds with the profit motive (Dacanay, 2005). However, social enterprises seek financial sustainability not as an end in itself but as a means of pursuing the bigger agenda of a sustainable future for the poor who comprise the greater majority in the society.

1. Limitations of the Study

The study attempted to assess the availability of materials on social entreprenureship for sustainable wealth creation on the Internet. The relative ratios were comparable among the search engines to afford analysis. Ratios are expected to reflect more statistically meaningful indices. Despite this, cross comparisons among ISE do not accommodate adjustments to size (or frequency of hits).

Another limitation of the study is its use of cross-sectional data (hits) at a point in time. Stretching the study over time, for example quarterly, over a few years should be able to provide a meaningful pattern of coverage of the search terms across search engines.

Next, a pilot study with four ISE's, i.e. Google, Yahoo, AOL Search, Bing and Teoma may not be considered adequate compared to the availability of many other search engines. Future study should include the other ISE's as well.

CONCLUSION

Based on the results of the specific search terms generated from the five ISE's, we can say that the amount of materials on social entreprenureship and sustainable wealth creation are scarce. Researchers will have to resort to other sources of information to learn about social entreprenureship and sustainable wealth creation. Despite this limitation, one can opt to use Google to gather materials on "social entreprenureship" and "sustainable wealth creation" but if he desires to learn only "social entreprenureship" or "sustainable wealth creation" then AOL is an appropriate search engine. Internet users need to be cautioned that hits only suggest apparent availability of the materials (in terms of hits) with the ISE's; they in no way suggest the adequacy and quality of the contents of the materials as search engines are maintained only by human editors, so there's remain a possibility of errors.

Finally, social entreprenureship for sustainable wealth creation should extend beyond mere statement of compliance. It should aim at achieving the highest standards of conduct, business integrity, ethics, accountability and professionalism across all the corporate activities.

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"MOBILE SISWA PROJECT"- PROMOTING LIFELONG LEARNING USING UNIVERSITY AMBASSADORS (UAS) UNDER NATIONAL BLUE OCEAN STRATEGY 5 (NBOS 5)

Zolkafli b. Hussin[1]
Bidin bin Yatim[1]
Sharipah Soaad bt Syed Yahaya[1]
Fadzilah bt Siraj, Universiti Utara Malaysia, Sintok Kedah
kaewchaii@yahoo.com

Abstract

The importance of lifelong learning has called the government of Malaysia to incorporate it into the strategy to strengthen human capital development and nurture "quality human capital" as highlighted in the Ninth Malaysia Plan (2006-2010). National Blue Ocean Strategy 5 (NBOS 5) was inspired by Prime Minister of Malaysia to exhibit the government's serious effort in improving quality of living and comfort of the people. This is parallel with the government's objective to produce citizens with high income by year 2020. NBOS 5 involves local university graduates who act as university ambassador (UA) where they become the catalyst to the success of the initiatives put forward by the strategy. Four initiatives had been successfully implemented through seven projects. One of the initiatives was to promote lifelong learning among rural dwellers. Mobile Siswa Project was implemented to increase knowledge and encourage lifelong learning among villagers. Evaluation on the impact of the project to the target beneficiaries was conducted. Data was gathered through questionnaires, in-depth interviews and observations. Findings was discussed with regards to the problems and sustainability of the projects as well as on the its implications to the UAs.

Keywords: lifelong learning, University Ambassadors, National blue Ocean strategy.

INTRODUCTION

The concept of Lifelong learning (LLL) has been adopted by some international organisations such as UNESCO since the early 1970s, mainly for humanitarian purposes such as eradicating poverty and illiteracy among the disadvantaged communities. UNESCO views LLL as a fundamental transformation of a society, so that the whole society becomes a learning resource for each individual (Cropley, 1979). This position envisaged that society of the future as a learning society and everyone is part of this learning society. However, it did not gain much attention in the mid 1970s to the early 1990s.

However, in the context of globalisation, the aging society and the rise of new information technology in the 1990s, LLL has become a popular policy slogan (Dehmel, 2006). Governments around the world have included LLL as a key component in their education policies planning, with the emphasis on skills development and providing job qualification programmes to adult learners (Illeris, 2004a; 2004). In other words, the focus of LLL has shifted from humanitarian reasons in the 1970s to economic objectives in the 1990s. According to the Organisation for Economic Co-operation and Development (OECD), there is evidence of a macroeconomic relationship between educational attainment and a growth in productivity. Education and training help to lift the productivity of individuals and economies (McLean, 2005). Hence, the awareness and understanding by individuals that learning is a lifelong pursuit need to be promoted.

MALAYSIAN GOVERNMENT INITIATIVES

The Malaysian Government has incorporated LLL as the key strategy to strengthen human capital development and nurture "quality human capital" as highlighted in the Ninth Malaysia Plan (2006-2010). To support this aspiration, the Ministry of Higher Education (MoHE) launched two strategic documents namely The Higher Education Strategic Plan, which lays the foundation to develop the nation's human capital beyond 2020 and, The National Higher Education Action Plan, which aims to transform the higher education scene. Among the goals of the strategic plans are to ensure 50% of age cohort between 17-23 years and 33% of the nation's workforce will receive tertiary education.

This effort is also supported by the National Education Development Master Plan (2006-2010) which was launched by the Ministry of Education in 2006. To achieve the objectives of nurturing human capital with skills

and knowledge to face global challenges, the government has undertaken various measures to develop coherent policies, strategies and mechanisms to create a new culture. The setting up of community colleges, alternative routes to attain higher qualifications and mobility programmes which took into account a student's prior work experience were among the options offered by the government to promote LLL.

NATIONAL BLUE OCEAN STRATEGY 5 (NBOS 5)

National Blue Ocean Strategy 5 (NBOS 5) was inspired by YAB Dato' Seri Mohd Najib Bin Tun Abdul Razak, the 6th Prime Minister of Malaysia to represent the government's serious effort in improving quality of living and comfort of the people. This is parallel with the government's objective to produce citizens with high income by year 2020. NBOS 5 involves local university graduates who act as university ambassador (UA) where they become the drive that strengthens the relations between various agencies in ensuring that the community is able to make the country's transformation plan, a reality. UAs had been chosen among fellow graduates who are energetic with creativity and innovation as well as possessing high leadership skills.

University Ambassador Programme (UAP) is sponsored by Ministry of Higher Education coordinated by the Student Affairs and Development Unit, Department of Higher Education, in cooperation with several ministries and other agencies such as Ministry of Education Malaysia, Ministry of Rural and Regional Development, Malaysian Communications and Multimedia Commission and the National Library of Malaysia to form strategic network in ensuring the success of Universiti Ambassador Program (UAP).

Four initiatives had been successfully implemented through seven projects. One of the initiatives was to promote lifelong learning among rural dwellers. In creating a nation of high-paid income citizens, the people must be knowledgeable. In other words, one must expect a community that looks highly on the power of knowledge (K-society). The government has formed an infrastructure for the community which enables the ease of attaining post-school knowledge. Hence, NBOS 5 had proposed this initiative in order to preserve the knowledge culture through the amenities provided by the government. Thus, a project was implemented to increase the adult education and library usage among locals. Levine (2001) highlighted that education institutions such as universities with their readily available resources, are the key factors to encourage adult learners to participate actively in LLL to achieve personal growth and build a learning society. Hence, a group of students (UAs) from one of Local University was assigned to plan and implement the project called "Mobile Siswa" in one of the settlement (kampong) in Perak (a province in Peninsular Malaysia).

This project was implemented to improve knowledge on good living skills and practice of the local and improve utilization of mobile libraries (bas e-pustaka) among them. Since the scope of knowledge is wide, this project focuses on three aspects of knowledge considered to be important to the quality of life of the community, which are health and safety, personal finance management and family management. The project, which was implemented at Kampung Senggang, Kuala Kangsar, was conducted by UAs with the cooperation of Perak State Public Library and National Library of Malaysia.

MOBILE SISWA PROJECT

Mobile Siswa Project was implemented to increase knowledge and encourage lifelong learning among villagers, who consist of various walks of life, through the use of village library and mobile library (bas e-pustaka). As many as 18 UAs were involved in conducting Mobile Siswa project. This project was implemented at Kampung Senggang, Kuala Kangsar with the cooperation of Perak State Public Library Corporation and the National Library ofMalaysia. Mobile Siswa project began with the promotion ofthe "project Iqra'" at the opening of Regional Transformation Centre (RTC), Gopeng. The next activities were Health and Safety Program (Phase1), Financial Management (Phase 2) and Family Management (Phase3), which were all conducted at Kampung Senggang. The purpose for all of these activities was to create awareness to target groups about the importance of lifelong learning. UAs chose themes of health and safety, financial management and family management to be applied throughout the project, parallel with United Nations Convention which has emphasized these three elements as the basics for humanity.

The promotional event-Iqra'- aimed at promoting Mobile Siswa project to residents in the Gopeng area lasted for two days. The word Iqra' was used as theme because it symbolised learning as well as, to attract the attention of target groups. One of the modules used to promote the project was puppet show, specially targeted for children. The moral of the show was to encourage children to pursue knowledge, practice a healthy lifestyle and prioritize health.

In Phase 1, the Health and Safety Program began two weeks after the opening ceremony of RTC. Exhibitions, demonstrationsand talks were conducted to provide exposure to the local villagers on the importance of maintaining health and safety. Agencies such as the National Library, Public Library of Perak, Kuala Kangsar Health Office, the Civil Defence Department (JPAM), National Anti-Drug Agency and the Kuala Kangsar District Police Office were also involved in this program. The Financial Management program in Phase 2 was conducted two months after Phase 1. Speakers from Bank Negara (Central Bank) and, Finance and Credit Management Agency were invited to explain to the local villagers about money management and smart investments. In Phase 3 which involved Family Management program, local villagers were invited to a talk given by two contestants of Imam Muda Season 2, who were Imam Muda Hassan and Imam Muda Fakhrul. The presence of these two speakers caught the attention of many locals to attend this activity.

The objectives of the project are to increase:
- total number of village library members by 5%
- total number of borrowed books by 10%,
- total number of visitors by 10%
- level of involvement of locals in lifelong learning activities by 10%.

THE FOCUS OF IMPACT MEASUREMENT

The aim of Mobile Siswa project is to promote continuous learning. To evaluate the impact of the project, three data sources were used which were questionnaire, interviews and secondary data from National Library. Through the questionnaire, the researchers seek to evaluate the pattern of use of library/bas e-pustaka and library facilities. However, information through questionnaire to 66 respondents among the locals of Kampung Senggang before the project ended. As a complement to the overall impact evaluation of Mobile Siswa, information from the interviews was used. Results of the impact evaluation are displayed in details in Figure 4.1 to Figure 4.5.

ANALYSIS

Analysis on the impact of the project was based on data gathered through questionnaires, interviews and observations.

Questionnaires
Analysis of data from the questionnaires was conducted in 3 aspects which covered increase interest towards village library/*bas e-pustaka*, awareness towards the importance of knowledge and increase interest in reading. From the aspect of interest towards village library/*bas e-pustaka*, more than half respondents (66.7%) agreed that their interest to visit village library increased after the implementation of Mobile Siswa project. Other than that, most of them (75.8%) felt that mobile library (*bas e-pustaka*) is interesting and useful. Results of the analysis of the interest in visiting village library and *bas e-pustaka* are shown in Figure 1 and Figure 2 respectively.
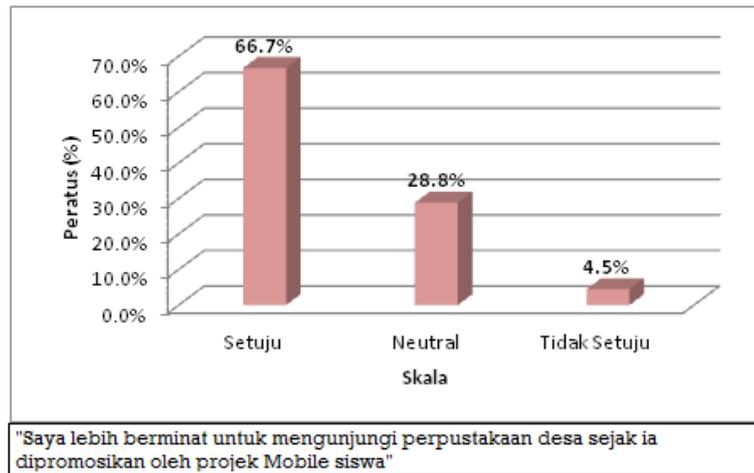
Figure 1: Interest in visiting village library
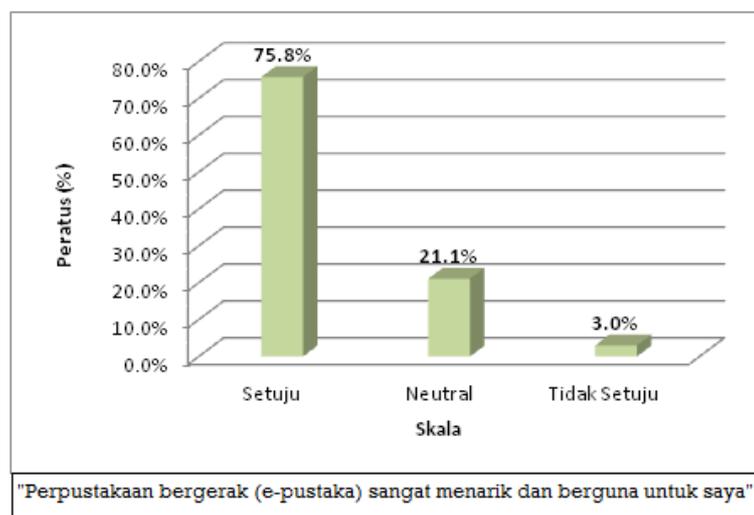
Figure 2: Views on mobile library (*bas e-pustaka*)

Project activities which emphasized the importance of knowledge proved to be fruitful when the majority of respondents stated that their awareness increased after participating in Mobile Siswa project, as pictured in Figure 3. Indirectly, their interest in reading also increased (refer Figure 4). For the students, this project has promoted them to have high ambitions to become excellent students who are rich with knowledge and useful to the community. Final analysis of the results is depicted in Figure 4.5.
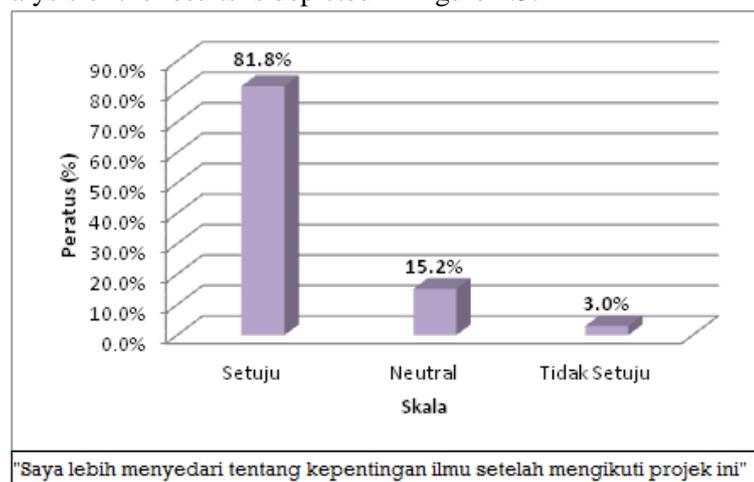
Figure 3: Participants' awareness on the importance of knowledge
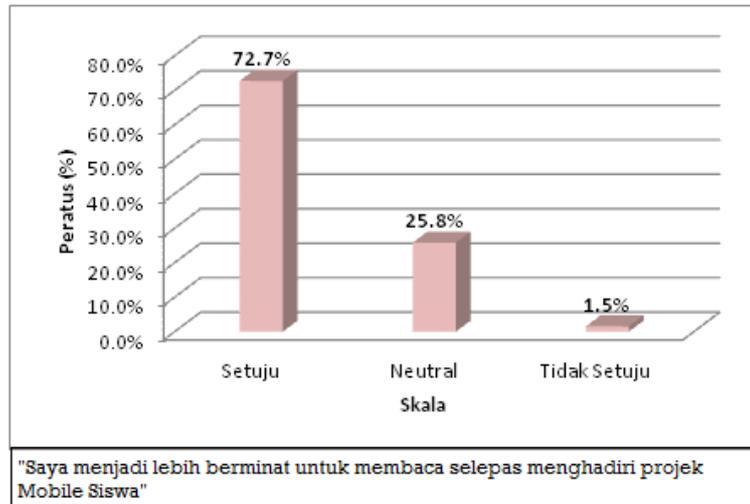
Figure 4: Increased interest in reading
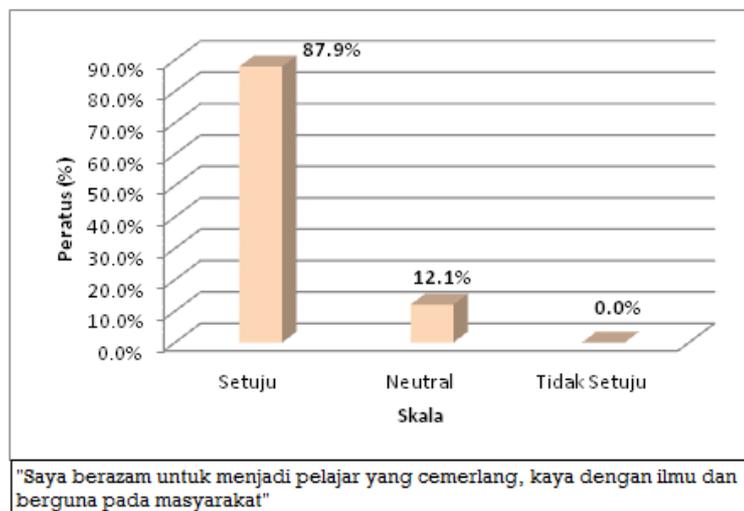
Figure 5: Desire for self-improvement

The next analysis is based on secondary data which was obtained from National Library as shown in Table 1. The data shows significantly large number of visitors, adult users and village library members in March. During this time, the UAs just started Mobile Siswa program at the village. However, this achievement could not be maintained months after the start of the program till July 2012 when Mobile Siswa project ended.

The use of village library among children shows an applauding number, and the number increased from month to month starting from April till June even though adult users recorded a slight drop at the same time. The average use of ICT amenities and borrowed materials for adults and children are consistently 10 for both groups throughout the implementation of Mobile Siswa project.

In general, data in Table 1 shows Perpustakaan Desa Kampung Senggang could not withhold the highest number of visitors recorded in March. This number is predicted to drop after Mobile Siswa project ended. Average use of ICT and borrowed materials did not exceed 10 persons all day, and this showed that the amenities were not used optimally.

Table 1: Statistics of KampungSenggang Village Library

BIL	BULAN	KEAHLIAN		PENGUNJUNG		PENGGUNA		PINJAMAN BAHAN		PENGGUNA ICT/KOMPUTER		KOLEKSI BAHAN DI PD		AKTIVITI	
		KANAK-KANAK	DEWASA	KANAK-KANAK	DEWASA	KANAK-KANAK	DEWASA	KANAK-KANAK	DEWASA	KANAK-KANAK	DEWASA	B'CETAK	X CETAK	BIL	PESERTA
1	Januari	0	0	161	531	122	527	11	35	62	63	52	1	7	108
2	Februari	0	1	336	327	328	312	42	45	35	34	14	0	3	60
3	Mac	12	16	1,202	736	386	636	38	30	153	126	11	0	11	325
4	April	2	0	634	660	456	513	18	62	176	213	33	1	12	355
5	Mei	6	2	573	425	562	337	75	47	33	225	14	0	9	200
6	Jun	3	1	682	515	676	510	36	34	218	167	24	0	7	120
7	Julai	0	0	381	443	325	427	12	54	116	262	15	0	12	660
8	Ogos														
9	September														
10	Oktober														
11	November														
12	Disember														
	JUMLAH KECIL	23	20	4,629	3,637	4,055	3,382	292	307	853	1,156	163	2	61	1,828
	KUMULATIF	219	282	JUMLAH KUMULATIF TIDAK DIPERLUKAN BAGI PARAMETER-PARAMETER BERKENAAN								8,228	68	KUMULATIF TIDAK	

Interview

For the interview session, the researchers have interviewed five locals of Kampung Senggang and four UAs. From the interviews with the locals, they felt that Mobile Siswa project could strengthen the relationship between the UAs and the foster family. Other than that, this project has opened the mind of the local villagers regarding the importance of lifelong learning. The UAs' relentless attitude in meeting and inviting the local villagers from one house to the other has caught their interest in joining the project activities.

Based on the interviews with the UAs, they were informed by the local villagers that they are willing to invite others to participate in such project in the future. These project activities to some extent improved communication skills among children. Among adult participants, this project has assisted them in personal financial planning. Their confidence level has also increased and now they have more courage to voice out their opinions. They have gained tremendous knowledge throughout the implementation of the project, especially in the aspects of health, safety, financial management and family management. The participants would also welcome the return of the UAs to Kampung Senggang.

DISCUSSION AND CONCLUSION

This part discusses the problems and constraints faced during the implementation of the project, success and project sustainability, and the impact of the project towards the UAs. A few suggestions have been proposed for the purpose of improving the project.

Problem and constraints

It gives a great difficulty for the researchers to evaluate whether the project has fulfilled the lifelong learning initiatives as the objective is only focusing on the numerical increase. The number of visitors in the library is not an indicator of lifelong learning. The increase in the number of visitors and users in the library amongst the children did not necessary display the evidence of lifelong learning for they might just be visiting and using the facilities of the library for school work.

The UAs' method of inviting the local villagers to attend the program by visiting them is not an effective long term strategy. Without the UAs, when the Mobile Siswa project ends, it would be difficult to implement such strategy.

The success and the sustainability of the project

Mobile Siswa project is a project under the Continuous Learning initiative which emphasizes on learning beyond formal education. The impact of this project which relates to lifelong learning is a struggle to achieve. However, if the project is focused on adults, evaluation could be carried out easily. The increase number of adult users who utilized library facilities clearly indicates escalation of project activities. This project prioritized a few programs to encourage lifelong learning among the residents in Kampung Senggang, Kuala Kangsar, Perak. The residents were encouraged to participate in courses regarding health and safety, finance management and family planning which were held in Desa library. UAs have combined several forces of related agencies for the success of this project. However, the awareness of these villagers is only temporary as their awareness level is still at its infancy phase. Therefore, their capability to stay strong is in hesitance. To attain the sustainability of the project, UAs should attempt at recognizing local entities to act as agents in this project.

The UAs could have join forces with Perak State Library which has the authority over the Perpustakaan Desa in Kampung Senggang and the Gopeng District Community College which possesses the expertise in lifelong learning. The community college consists of various fields such as sewing skills, cement making, arranging brick, landscaping, photography, cooking, Arabic and English languages, accounting, funeral management and etc. Perpustakaan Desa Kampung Senggang could be used as a premise to handle heterogeneous short courses which indirectly need numerous references and this encourages lifelong learning and library as an input for the success of the effort. In such matter, the UAs must become the catalysts to manage the implementation structure which later will be continued by the local agencies. Parallel to the intention of NBOS 5 to make UAs as the catalysts, local agencies will ensure continuous effort when UAs return to the campus once the Mobile Siswa project is terminated.

Impact of the project towards UAs

The impact review of UAs is shown from the aspects of knowledge, character/leadership and skills. The results show that the UAs were able to recognize the lives of the residence much closely. Indirectly, UAs felt they were able to raise the leadership value through management project activities as well as increased the capability of interaction with the villagers and agencies involved in achieving triumph of Mobile Siswa Project. UAs were meticulous in time management, job division and human resource. The review also shows that the communication capability of UAs was satisfying which clearly proves they have fulfilled their indictment.

UAs have duties as catalysts to the agencies. In making lifelong learning a reality, UAs have triumphed in strengthening the bond between Perak State Public LibraryCorporation and National Library with the residents through the activities. Furthermore, in order to succeed in this project, the UAs have joined forces with the Negara Malaysia Bank, Kuala Kangsar Health Office, Civil Defence Department (JPAM), National Anti-Drug Agency (AADK) and Kuala Kangsar District Police Office.

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UPLIFTING THE ENVIRONMENT AND FACILITIES IN EDUCATION FOR THE PEOPLE WITH DISABILITIES IN SOUTH-EAST ASIA: A GENERAL OVERVIEW

Zakaria bin Osman[1]
Adifarizal bin Mohd Ariffin[2]
Universiti Kuala Lumpur Malaysia Malaysia France Institute (UniKL MFI),
Section 14, Jalan Teras Jernang, 43650 Bandar Baru Bangi, Selangor Darul Ehsan,Malaysia.
[1]zakariaosman@mfi.unikl.edu.my
[2]adifarizal@mfi.unikl.edu.my

Abstract

In 1990, the United Nation Convention on The Rights of the Child launched The World Declaration on Education for All. Since then, many countries throughout the world signed the Declaration. Some of the countries in South-East Asia are amongst the signatories of this Declaration. As 2015 had been set for the target year to achieve the set goal, education for the people with disabilities is far from achieving this target goal. This paper intend to uncover the advancement of education programs for people with disabilities throughout the South-East Asian countries since this declaration hoping to discuss the progress, weaknesses and problems faced by the people with disabilities undergoing or suppose to undergo education in these countries. The researcher too hopes to outline suggestions to uplift the standard of education for people with disabilities which hopefully might help governments and policy makers in this region to bring about change and hopes for the people with disabilities in years to come. Though this paper may only be a general overview of the whole situation, it is hope that it might lay the ground for further research and inroads in the education for people with disabilities throughout the South-East Asian region.

Keywords: Future education for marginal society.

INTRODUCTION

In 1990, the United Nation Convention on The Rights of the Child had launched the Declaration of Education for All (EFA) to be achieved by 2015. This is to ensure all children will at the very least have their basic primary education. We are now in 2012 and in 3 years time the set target will have to be accomplished. However, as reported in the review of the achievements of the first UNESCAP Asian and Pacific Decade of Disabled Persons in 2002 had suggested that in the 63 countries of the Asia-Pacific region, less than 10 percent of children with disabilities were receiving any education. As a result, the disabled population remain amongst the most marginalised society in the world and remain stuck in the poverty line. The countries in South-East Asia though some light of progress is shining, most of the disabled population are yet to enjoy a decent future.

BACKGROUND

While progress has been made in many countries towards achieving the Millennium Development Goal of universal primary education and the goal of Education for All by 2015, 77 million children still remain out of school . Of these, over one-third estimated to be disabled children. In Africa alone, fewer than 10% of disabled children are in school. Other surveys suggest that only 2% of disabled children receive an education and that disability has a greater impact on access to education than gender, household economic status or rural/urban divide . In South-East Asia (ASEAN), though progress is being made in the field of education, and most of the countries in this region are in the midst of putting all out effort in fulfilling the Millennium Development Goal, it is believe that many more disable people have not yet been reached. The table below shows that although the combined gross enrolment ration for primary, secondary and tertiary education (per cent) seems encouraging, the Population of persons with disabilities does not reflect the United Nation's estimates.

	Combined gross enrolment ration for primary, secondary and tertiary education (per cent)	Total population mid-2007	Population of persons with disabilities	Proportion of persons with disabilities to total population (per cent)
Viet Nam	62.3	85 590 000	5 333 000	6.4
Cambodia	58.5	14 364 000	169 058	4.5
Singapore	Not available	4 543 000	131 000	3.0
Myanmar	56.3	48 798 000	No response provided	2.8
Thailand	78.0	62 829 000	1.9 million	2.9
Philippines	79.6	88 462 000	942 000	1.23
Indonesia	68.2	231 627 000	3 063 000	1.38
Malaysia	71.5	27 124 000	197 519	1
Lao People's Democratic Republic	59.6	5 859 000	No response provided	8

Source: Disability at a Glance 2010: a Profile of 36 Countries and Areas in Asia and the Pacific,
published by Economic and Social Commission for Asia and The Pacific (ESCAP), United Nations

However, as stated in the Disability at a Glance 2010: a Profile of 36 Countries and Areas in Asia and the Pacific document, the compilation of currently available data and information itself can reveal regional trends in the development of disability data, policy and institutional mechanisms. This compilation serves as a point of reference whereby Governments, researchers, organizations of persons with disabilities, and other stakeholders are encouraged to take further action to enhance their data collection efforts and create an inclusive, barrier-free, and rights-based society. Furthermore, all the ASEAN countries with the exception of Singapore are the signatories of the Convention for The Rights of Persons with Disabilities. This step forward itself is an indication of the seriousness of the governments of these countries in bringing about positive changes in the years to come.

BRUNEI DARUSSALAM

Brunei, considered to be the most wealthy of the ASEAN countries, had gone full swing in adopting the inclusive education policy since 1997. With the financial strength, it is believe that almost 98% of the disable children are included in the national education system. Being a small country and with a small population, it is hope that Brunei will be able to fulfil the Millennium Development Goal and to meet the target of Education for All by 2015. With the collaboration between the Ministry of Education of Brunei and the University of Brunei Darussalam in introducing courses in special education from certificate level to master level, Brunei will be ensured of sufficient manpower to cope with the demand of inclusive education. Presently, most of the schools are being facilitate with specialized education teacher to assist through the implementation of the system.

For those with severe or more challenge disabilities who are not able to follow the normal education stream, can undergo vocational training in handy crafts, woodwork, metal works, sewing together with daily living skills, English, mathematics, reading and writing. For some who excel in their studies are accepted in an engineering college and able to undergo certificate courses in automotive repair, computer technology, manufacturing, refrigeration, welding and electrical repair.

THAILAND

Education for all children in Thailand was enshrined as a right in the new Constitution of the Kingdom of Thailand in 1997. The Constitution states that all Thai citizens have an equal right to obtain basic education. The National Education Act of 1999 ensured that this right is extended to persons with disabilities, and enables persons with disabilities to have access to 12 years of free, basic education. A significant progress was made in the 1990s. The act enhances and protects the right of persons with disabilities, establishes identification criteria, institutes a registration process and provides access to rehabilitation. The act also entitled persons with disabilities to receive basic education, occupational education and higher education in accordance with the National Education Plan. This right was confirmed in the new Constitution of 1997 and expanded in the National Education Act of 1999.

School options for persons with disabilities include:
•	Special schools;
•	Mainstream regular schools;
•	Non-formal education system;
•	Hospital classes for chronically ill children.

The National Education Act (1999) mandates compulsory education for all children, and makes explicit reference to children (persons) with disabilities. This act protects the rights of persons with disabilities to education in accordance with their rights under the constitution and has the following provisions:
•	Disable people have the same rights as non-disabled to 12 years of free, compulsory basic education;
•	Early intervention services from birth;
•	Educational materials and facilities and assistive devices;
•	Flexibility in educational management as well as home schooling supported by the government;
•	Children must be registered to determine need, and be assessed by teachers at special education centres to develop an Individualised Educational Plan (IEP);
•	It is illegal for children with disabilities to be out of school.

The 2002 Ministerial Regulation put the 1999 Act into effect. Mandates of the Regulations include:
•	Allocation of a budget for special education which provides 2,000 baht for each disabled child to purchase services and materials. This means assistive devices and learning materials, including tutor-fee, and to borrow expensive devices such as type-writers, home computers, hearing aids, wheelchairs, etc;
•	Service providers must be personnel who have undertaken training in one, three and 15-day short training courses or short-term by professionals such as doctors, occupational therapists (OT) or audiometrists for the deaf;
•	Early intervention must be provided for each disabled child;
•	An IEP must be prepared for each disabled child;
•	Thai teachers cannot refuse to teach a child with a disability;
•	Assistive devices, technology, Braille and appropriate teaching materials must be provided;
•	A Centralised Equipment Pool (CEP) has been established in partnership between the MOE and the National Electronics and Computer Technology Centre (NECTEC), by means of Memorandum of Understanding (MOU) for Research and Development under the Ministry of Science to develop prototypes such as electric wheel-chairs; software for teaching, reading and writing. Items produced for distribution can be purchased, made available free, or bought with a loan;
•	A coupon scheme will be extended throughout the country.

Although Thailand has a wide geographical area and a population of 64 million, the success in implementing the program on inclusive education is already showing fruits. With such mechanism available at hand, consistency and persistence will ultimately bring Thailand to its goal of implementing education for all. Though this might not happen in 2015, but continuous effort by all segments of the society will indeed bear fruits. Thailand will be seen as the role model for other ASEAN countries to follow.

VIETNAM

The legend and founder of modern Vietnam, Ho Chi Minh has meant a lot to education. Already during his life-time he stated when referring to the importance of education that, For the benefit of ten years, plant the trees. For the benefit of hundred years, plant the people and when he met people who were blind he said that to have an impairment does not mean that the person himself has a handicap. According to the National Action Plan to Support People with Disabilities, there were about 6.34% or 5.3 million people with disabilities in Vietnam. Though the father of modern Vietnam, Ho Chi Minh knew that the disabled children too need education, not many disabled children went to school. This was mainly due to poverty, discrimination and shame. However, in the early 1990S, The National Institute of Educational Science (NIES) and Rädda Barnen (Save the Children, Sweden) in consultation with Gothenburg University have worked on developing a workable strategy for inclusive education in Vietnam during the last decade. Vietnam had during the later part of the 1980s developed some community based rehabilitation programs in two provinces and had an idea that children with disabilities could receive education in general education schools. Some of these children could even receive education in mainstream classrooms if they did not cause problems for the teachers.

The direction is to recognize the diversity of children by accommodating them in the same classrooms. The schools celebrating differences welcome all children without discrimination into existing classrooms. In these schools education focuses on how to learn and live together with each other. Thus the inclusion concept is perceived as dynamic where the activity of teachers are very much connected to changing the kind of traditional thinking that leads to isolation, neglect and prejudice in communities and schools. Since then, the inclusive education program went on to be adopted in Vietnam making adjustments and modification and finally found to bring positive impact in the education system.

Today, Vietnam is focusing on legislating laws that would uplift the lives of people with disabilities. They are also pursuing regulatory mechanism to enforce the rights of disabled children.

INDONESIA

In Indonesia inclusive education was introduced in 1998 through a pilot project in 7 sub-districts. The schools comprised of regular normal students and special need students. This pilot project was assisted by a special school acted as a centre for technical assistance had proved successful and the Indonesian government through its Special Education Management proceeded to introduce inclusive school all over the country. By 2007 the were 796 Inclusive School consisting of 17 Inclusive Kindergartens, 648 Primary Schools (SD), 75 Junior Secondary Schools (SMP), and 56 Senior Secondary Schools (SMA). All these schools enrol 15,181 students with special Needs.

MALAYSIA

Education and rehabilitation for the disability children in Malaysia started as far back as 1926. However, most of these were run by charity organizations and non-governmental bodies. In the early 1960s, integration school were introduced for the secondary level particularly for visually impaired students. As early as 1967 a visually impaired student embarked in tertiary education. Other disabilities later were integrated in normal schools following the same curriculum only to be assisted with specialised resource teachers.

In 1994 the Ministry of Education introduce the inclusive education in selected schools as a pilot project. However, like other countries, Malaysia too faced the problem of resources and trained personnel. Many teachers did not really understand the inclusive education concept leading to ineffectiveness of the system. The number of disabled students did not increase very much.

Today Malaysia is stepping effort in early intervention through Community Based Rehabilitation programs and pooling resources and expertise from other ministries such as the health ministry, Department of social welfare, the ministry of education and others. Research and development in children with disabilities are also being given higher priority. With the Act for People with Disabilities taking effect, it is hope with these new efforts, progress will be made to bring more disabled children in to education.

PHILIPPINES AND SINGAPORE

Both Philippines and Singapore are in the process of uplifting their effort in providing empowerment to their disabled community. The Philippines for instance had been sending their personnel to other ASEAN countries to acquire knowledge in rehabilitation, vocational training and Community Based Rehabilitation (CBR) programs. Just as in Thailand and Malaysia, the Philippines too is enforcing their Magna Carta For People With Disabilities to protect and empower their disabled community. Singapore on their part incorporated a national action plan for children with disabilities under the Enabling Master Plan 2007 – 2011, a 5-year disability roadmap. They too had sent their personnel to Japan to acquire knowledge and share experience with the Japanese. It is hope Singapore will one day commit them by signing the UN CRPD like their other counterparts in ASEAN.

THE KINGDOM OF CAMBODIA, LAO PEOPLE'S DEMOCRATIC REPUPBLIC AND MYANMAR

All of these 3 ASEAN countries are still struggling to fight poverty. Around 30% of their population are still living under stretched conditions. In such circumstances, the problems of people with disabilities might not be in the forefront priority. In most cases, disabilities go hand in hand with poverty. Poverty too can result in disabilities. This is a result of poor health care and malnutrition.

However, the governments of these countries still embark in programs to uplift the living standards of the disabled groups. The existence of rehabilitation institutions, though on a limited scale, shows the initiative taken by these governments. In the Kingdom Of Cambodia, a law for protecting the rights of the disabled people have been established. With the implementation of the law, it is hope the rights of the disabled group will be protected and uplifted.
Disabled students who achieve excellence are being accepted at the University of Brunei Darussalam. The university had undertaken the necessary steps to ensure an accessible environment and adaptive equipments to meet the needs of the disabled students.

CONCLUSION

Generally there are positives signs of a brighter future for the people with disabilities in this region. Countries such as Thailand, Malaysia and Philippines are already enforcing the law on the rights of disable people. Others are in the process of implementing them. However, it must be stress that though the mechanisms maybe in place, it will not bring about major changes if the disabled groups are not reached. More than often ignorance is the cause for this group remain marginalised and left out. All efforts must be made to locate and encouraged them to be rehabilitate and to empower them to be useful and productive citizens. An enhance mechanism should be introduce to carry out accurate data collection on the numbers of disable people throughout the ASEAN countries. It will be very encouraging if frontline countries such as Thailand, Malaysia and others join hands to assist the less fortunate countries such as Lao, Cambodia and Myanmar to bring about change for the lives of disabled population in these countries.

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ESTABLISHING ISLAMIC LEARNING CITIES IN THE ISLAMIC WORLD

Muhammad Shakirin Shaari[1]
Zulikha Jamaludin[2]
[1]Universiti Utara Malaysia, muhammad@uum.edu.my
[2]Universiti Utara Malaysia, Malaysia, zulie@uum.edu.my

Abstract

The Muslim world is actively struggling to find a solution for an effective Islamic education implementation in a quest to improve the status of the Muslim community as a whole. Since the last few decades different alternatives were proposed emphasizing on different aspects as the focus of solution. One real challenge is to democratize the Islamic education so that the Islamic education can spread to virtually as deep as possible in the strata of the community. One important aspect is the introduction of effective infrastructure in the Islamic world for learning. The paper proposed a model for an Islamic learning cities and networks of learning cities in the Islamic world. Different aspects of implementations including the physical infrastructure, the info structure and administrative aspects of the Islamic learning cities implementation will be touched based on studies on different real implementations of learning cities in different parts of the world including Europe, Japan and Australia among others.

Keywords: Learning communities, learning cities, democratization of education, Islamic education, lifelong learning.

INTRODUCTION

The Muslim world is plagued with unfavorable social, political and educational status with most indices pointing out to the bad ranking of Muslim countries' achievement amidst the world countries. Muslim scholars and thinkers almost unanimously pointed out to education as the major factor and at the same time solution to the malaise currently befalling the Muslim world (Haneef, 2005) . Unfortunately, the educational system in the Muslim world is hopelessly incapable to play its critically needed role due to its current situation.

Islam place education at the central position and elevate the position of those who pose knowledge as the heir of the prophet as mentioned in a *hadiths* (tradition of the prophet) that the "*scholars are the heir of the prophets*". The very first verses of the Islamic holy book *alQuran* are orders related to learning;

> *1. Read! In the Name of your Lord, Who has created (all that exists),*
> *2. Has created man from a clot (a piece of thick coagulated blood).*
> *3. Read! And your Lord is the Most Generous,*
> *4. Who has taught (the writing) by the pen.*
> *5. Has taught man that which he knew not.*

(*al-Alaq* (Blood-clot):1-5)

Islam made it obligatory for Muslim to equip themselves with knowledge – religious knowledge or other worldly knowledge as stated in the *hadiths* – "Pursuing knowledge is obligatory on every Muslim male (and female)". As such, failing to equip oneself with the needed knowledge to function effectively as Muslim is considered sinful. Consequently, Islam placed due emphasis to ensure that the education system implemented for the Muslim must be Islamic in the sense that it is capable of producing the required Muslim as what Islam envisioned.

The current educational system in the Muslim countries in the post colonization era is plagued with several unfavorable situations. One major defect in this pile of problems is the introduction of a dichotomy in the system. Educational system in Muslim countries is in general consists of a separated dual systems (Kinsey,

1982, p. 297). The so-called religious education, with all its deficiency producing human resource for mainly three sectors masjid-related services, Islamic mission (*da'wah*) or teaching in religious academic institutions. These products are generally considered not capable of serving in other mainstream positions. On the other hand the secular educational system generate human resource generally targeted for the mainstream areas including the social services, political institutions, finance centers, Medicine, Engineering, Science, Architecture and the so-called professional fields (Ahmad Khan, 2010, pp. 3-4). The secular thread, generally seen as the official norm is promoted and nurtured by the country leaderships received the most focus and financial needs poses better infrastructure and facilities is favored in general over the religious thread, shyly run by the religious groups with a lot of infrastructure lacking.

This weakness has brought to the situation of education without "Heart and Mind" in the Muslim world (Hashim, 2005, p. 136). Emphasize are given only on the examination and excellence in subject knowledge without due concern of whether the needed values and idealisms were really transferred and really efficient in creating a real Muslim humanbeing. She further blame the weakness of the teachers in delivering the content in a way that can give the deep meaning of the knowledge taught.

In light of this setup, the search for an effective Islamic education model is becoming highly needed requisite for the Muslim world. A model, able to mass-generate effective Muslims complete in their quality and capability to be an effectively contributing citizen to the world with fully Islamic software running in his blood and mind. This paper proposes a model based on lifelong learning paradigm integrating formal and informal education platform for the Muslim community. The model envisions the existence of learning societies in networks of learning cities and regions in a religious learning infrastructure for the Muslim community.

UNDERSTANDING LIFELONG LEARNING MODEL

Lifelong learning has been a term very widely discussed and debated. It is an ambiguous term for some with different meaning to different person (Jarvis, The Routledge International Handbook for Lifelong Learning, 2009, p. 9). Nevertheless many efforts have been given to formalize the understanding of the term and furthermore implement it in real life. Although the concept of lifelong learning can be traced back to very old time, the term is given a new life when picked up by major world organizations and given specific meanings. .Numbers of literatures discussing concepts on lifelong learning have been published by many institutions such as the Council of Europe, the European Union, UNESCO in 1970, Faure Commission report in 1972, Organization of Economic Co-operation and Development (OECD) in 1973 (Bittner, 2000; Longworth, 1999, pp. 17-18). Europe, one of the areas where lifelong learning initiatives are very actively pursue initiated many projects to ensure the European moves toward a learning Lifelong learning region. European initiative rejuvenated the concept worldly in 1996 through the Delors report on Education for the 21st Century which was produced after OECD ministerial conference on lifelong learning. The European Commission furthermore declared 1996 as the 'European Year of Lifelong Learning'.

The lifelong learning concept is given its physical form in the formation of spatial learning entities in many countries including in Europe, US, Australia, Japan and China among others. Currently, the learning region or learning city concept is systematically implemented at many locations in the world. Countries like South Korea have more than 30 regions designated as lifelong learning cities including areas such as Chilton-gun, Kwanak-gu, Seongbuk-gu. Australia being one of the very active countries in lifelong learning movement has established 10 areas in the Victoria states as learning towns. In Germany, the national learning networks include 71 different networks offering wide varieties of support for learning activities. (Morgan-Klein & Osborne, 2007, p. 113). In Australia, there are currently more than 30 learning communities established after the first learning communities established in Albury Wodonga in 1998 ((Faris & Wheeler, 2006, p. 5). Faris (2006) pointed out

that the virtues of having spatial groupings as oppose to virtual one may seems paradoxical in the midst of the current states of art ICT setup, nevertheless he argues that the arrangement is the most natural setup known to human being besides other logistical advantages. The spatial learning entities promoting lifelong is termed as a learning region – according to its size and scope it can be a learning city, learning country or just a learning community or society.

Although the term learning communities are gaining forefront status in literatures and discussions these terms are still quite loosely defined. Definitions of learning region varies in terms of its focus; Faris & Wheeler (2006) illustrated this diversity by looking at the classes of the topics of the papers presented at the 2004 Australian Learning Communities Conference held in Newcastle consisting of 34% of papers related to digital, online and flexible learning, 26% related to social learning programs and 13% related to learning community resources such as libraries, community technology learning centers and networks. About 27% related to other categories such as the learning organization, training, government/private/university partnerships, with only about 13% of them relating to the concept of learning communities of place which we will be focusing on.

Walters as included by Jarvis (2009, p. 165) highlighted economics objectives in defining the term while Longworth (1999, p. 110) is more open in his definition. He envisions the learning city as entity that provides structural and mental frameworks which helps people to face changes in a positive way. Kilpatrick et. al. concluded several common themes in the vast array of definitions which includes:

- common or shared purpose,
- interests or geography;
- collaboration, partnership and learning;
- respecting diversity;
- enhanced potential and outcomes.

(Kilpatrick, Barrett , & Jones, 2003, p. 1)

Perhaps a composite model of definition of the term learning communities (figure 1) proposed by Kilpatrick et. al. captured the idea of learning community in a very comprehensive way. The model includes the definition of learning cities as well as region which we will be looking into further.

1

community
city
region
town
organisation

A learning [box 1] is any group of people

2

connected
linked
by
sharing

common

3

purpose
values
goals
interest
practice
beliefs
geography
region

which

4

collaborates
cooperates
reflects
goes beyond its
statutory boundary/duty
uses its strengths
uses its social and
institutional relationships
strives to understand
how it is changing
creates learning resources
addresses learning needs
learns from its experiences
and those of others
draws on its
understanding of itself

in order to

5

create
promote
develop

[a]

6

vibrant
participative
culturally aware
economically buoyant
socially cohesive
regenerative
skilled
flexible

7

environment
society
workers
citizens
community
students

while respecting a variety of

8

perspectives
values
life styles

9

through using by
[the]

10

provision
justification
active promotion
common goals

of

11

learning opportunities
lifelong learning
pro-active partnerships

to enhance the potential of all

12

members
citizens

that may create new knowledge

Figure 1: The Composite Definition of Learning Community (Kilpatrick, Barrett , & Jones, 2003)

One model proposed by Faris & Wheeler, (2006) involved the Nested Learning Community Concept. The Concept describes different scale of learning environments implementation in the order of increasing size. Figure 2 shows a layer of different learning community nested in a layered forms starting from the learning circles as the smallest scale to the Virtual Global learning communities with several scales of communities in between. Each layer is subjected to "virtualization" i.e. can be implemented as online activities. Learning in every type of the community also is a two way social process involving exchange of communication between learners.

The basic unit of the nest, the learning circles are lifelong learning unit which consist of independently managed learning groups while the largest scale group is basically online group tied together by the World Wide Web infrastructure in the form of electronic Learning Communities. Zooming in at the level of learning communities of place in figure 2, we will describe about the learning cities or region concepts more closely. Features of a learning city or region can be summed up as consisting of:

- Description of the responsibilities of different actors involved in facilitating the learning
- Establishment of inter-actor explicit mutual co-operative links

- Social inclusion
- Economic development

(Morgan-Klein & Osborne, 2007, p. 119)
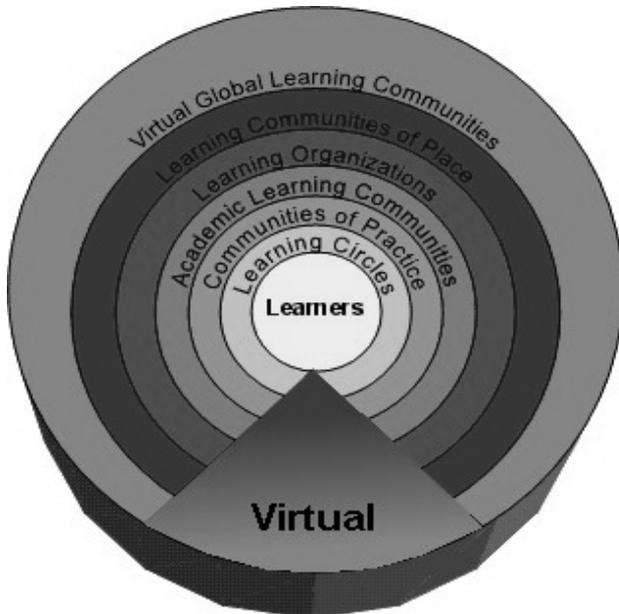
Figure 2: Learning Communities: A Nested Concept of Expanding Scale and Cascade of Social Learning Environments (Faris, 20Figure 106)

The first requirement above asks for the actors involved to be identified beforehand. UNESCO for example pointed out five groups as the backbone of a community comprising of the civic, economic, education, public and voluntary. For there to be any meaningful and effective learning activities, these actors must involve in a beneficial communication between them. The second requirement put forth the importance of having really meaningful reasons for them to link. Morgan-Klein & Osborne (2007, 121) cited several examples of these meaningful links which lead to learning partnerships. These links can be local situations, shared concerns or beliefs or a centrally initiated by government or any level of authority for that matter.

The third requirement emphasize on the opportunity of involvement of everybody in the learning process taking place in the learning communities. In other words, one of the important objectives of the learning community is democratization of learning.

One issue always discussed when learning region is concerned is what can be the rallying point for people to get themselves involved in the learning activities? Not surprisingly, most literatures focus on the economic considerations rather than social. Since

Proposing an Islamic Learning Communities / Region Model

> *If all learning were to be represented by an iceberg, then the section above the surface of the water would be sufficient, to cover formal learning, but the submerged two thirds of the structure would be needed to convey the much greater importance of informal learning.*

(Coffield, 2000, p. 1)

The fact that learning is not just formal is quite common to many; however realizing that the informal learning side represents a lot more than what human acquire from the formal learning is something else. To furthermore create an environment or a model which will facilitate the informal learning effectively is another step of a higher realization. Islam put a great emphasize for Muslim to engage in a lifelong undertaking of knowledge seeking and more than that lifelong effort to maintain their commitment and Islamic identity until the end of their life. The Quran reminds Muslim to die not except as a Muslim (3:111). The interpretation of the verse called for a long life commitment of Muslim to their Islamic identity which in turn requires a long life educational process. The most suitable model for this purpose is a lifelong learning model in the form of a learning community or a learning region specifically for fulfilling the Muslim community Islamic educational needs.

1. Defining an Islamic Learning Communities Model

A working definition of Islamic Learning Community is needed in order to establish a working model of an Islamic learning community implementation. For the purpose of this study, we will use the composite definition of figure 1 as the framework for establishing the Islamic learning community model. The basic idea for an Islamic learning community's model will be the same as what defined in the composite model framework, the differences will be in the contents, objectives, values and perhaps some aspects of the managements issue needs to be explained more in detail.

The first detailing is needed for box number 3, it is Important to clarify the purpose and value employed in the model to be proposed. The objectives for this learning community establishment will be listed as follows:

- To help towards the fulfillment of the Islamic knowledge requirements for every Muslims (*fardh 'ain*).
- To ensure social inclusions of every Muslim in the community in Islamic knowledge seeking endeavor.
- To establish a collaborative system between peers to facilitate real Muslim personality development
- To establish an effective structure for Islamic Learning communities of place implementation in Malaysia
- To establish a platform which will facilitate learning activities for learning communities of different levels for the Muslim community in Malaysia

Box number 4 asking for the specification of the actors, their roles and the interrelation between them to enliven the learning system in discussion. We will firstly specify the actors in the learning region structure to be proposed as specified by Morgan-Klein & Osborne (2007) in the previous page. Next, we will define the interrelationship structure between the actors in a model of a learning region utilizing different institutions currently existing in the Muslim communities in Malaysia. Table 1 lists the different actors in the religious administrative structure in Malaysia along with their proposed roles in the proposed learning community structure. One important consideration is to find a strong reason to glue all of the actors in the system. Longworth (1999, 113) reemphasize the fact that in a learning region or city, the most important glue is learning itself which will bind the different elements in the system together. Longworth rightly pointed out that in managing learning, the issue of cooperation, leadership and coordination is the critical success factor for a learning society. For our model, the different institutions – governmental or non-governmental in the society has to come together and utilize all of their advantages to ensure this worthy project will succeed. Each actor will provide leadership at different levels while the coordinator for the system at the highest level will perhaps be selected from a governmental institutions with considerable authority. Afterall, a learner is identified as somebody who do the act from inner push and as such is a leader by him/herself. The issue of continuously generating leaders for learning groups at different levels is an important one. The learning society or community is an environment which will be made up of individual of different backgrounds not necessarily from the same homogenious group. Longworth (1999,129) relates a case whereby he lead a Muslim learning society known as the 'Learning Jamat' projects with members residing in Portugal, French and the UK. He further pointed out that in this collaborative learning environment, a learner can have several learning leaders (he use the word mentors) while being a leader in other subject to other members at the same time.

For the islamic Learning community model, we have identify potential actors cum leaders for different levels of task in the Malaysian Islamic administrative strata. Table 2 listed different Islamic Institutions in different sectors in Malaysia. Table 3 listed the roles to be played by these different actors in the learning structure. The informations described in table 3 deserve a more detail explanation.

For box number 6 component in figure 1calls for the reasons or the 'glue' which brings the whole system together. The objectives we have identified should detail out this need. Box 7 calls for the information on the learners in the system. We proposed a nested learners model as depicted in figure 3. The model consists of six levels of learner structures starting from the individual learners as the basic unit to the national learning unit. Table 2 detailed out how these different learning activities will occur in the different levels of the learning units. These different learning units will be identified according to the related spatial size.
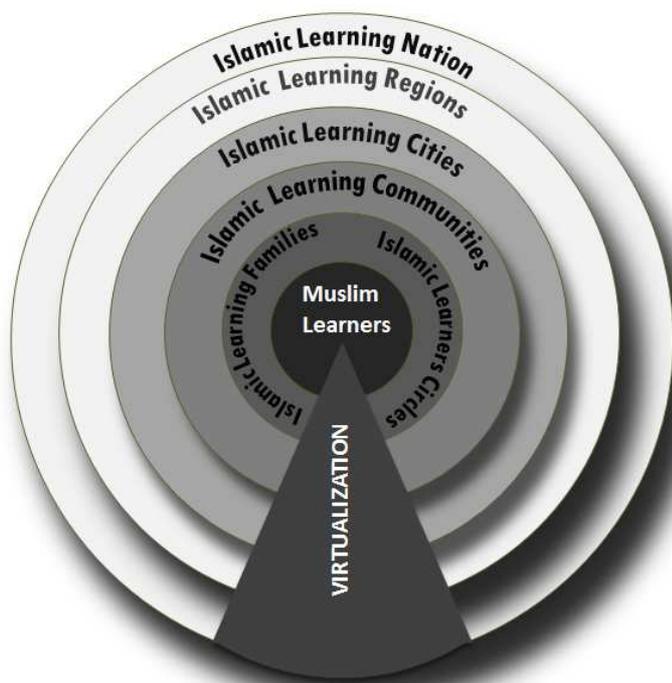
Figure 2 : Nested Islamic Learning Communities Structure in Malaysia

The model is a bottom up model in term of its nesting structure. Each unit in the outer circle is formed by collection of several units of the inner circle units i.e. a number of learners will form an Islamic Learners Circles to be led by an elected learner as the leader; several Learner Circles will form a learning communities and so on the formation will move up the levels in the same fashion. In the state of Kedah for example, a masjid vicinity (known as *qaryah*) there will be several learner circles forming a learners communities. Several learner communities associated with the masjids in a given city will form an Islamic Learning city. Several learning cities will form a state level learning society known as Kedah Islamic Learning region.

The mode of growth will be based on an evolutionary natural growth subjected to readiness of a given locality. Once given unit has declared its readiness in terms of infrastructure, infostructure, administrative capabilities and requirements determined, it can be declared as an Islamic Learning communities, regions or cities etc. and be linked to the bigger network at the particular level. The undertaking towards readying oneself to be accepted to the system will be under the responsibility of the leading authority of a particular level as specified by table 2. By this, the system will actually expand according to the number of unit accepted to the system which in turn be determined by the willingness of the learners themselves to learn. This will capture the very essence of lifelong learning philosophy which calls for learner initiated and learner centered learning where the motivation of learning should come from the learners themselves and they will have more responsibility to arrange for their own learning (Abbort & Ryan, 1998) (Jarvis P. , 2007, p. 67)

Table 1: The actors in the Islamic Learning Communities structure and their roles

Sectors	Institutions	Example of Actors	Roles
Economic	Chamber of Commerce	Malaysian Islamic Chamber of Commerce http://dpim.com.my/	Promoting Muslim Businesses
Public	National Institutions	JAKIM http://www.islam.gov.my/ IKIM http://www.ikim.gov.my/ PERKIM (http://www.perkim.net.my/)	JAKIM is the central government department handling Islamic affairs IKIM is a corporate for formulating and spreading Islamic ideological PERKIM is a Government link NGO focusing on the call to Islam (dakwah) activeties
	State Institutions	Majlis Agama Islam (MAI) Jabatan Agama Islam (JAI) Pejabat Mufti	MAIs are states islamic policy making institution at the states level. The MAIs are generally chaired by the states sultan. JAIs are generally the executive arms under state governments executing policies formulated by the MAI.
Educational	Pondok / Madrasah	Pondok Pasir Tumbuh, Kelantan http://www.al-bakriah.com.my/ Pondok Sungai Durian http://www.pondoksgdurian.com/ Madarsah islamiah Kuching http://madarasahislamiah.blogspot.com	Privates traditional Islamic educational institutions spreading all over Malaysia. A survey by http://epondok.wordpress.com/pondok-malaysia/ showing that there are around 100 pondoks/ Madrasah all over Malaysia.
	Islamic Colleges / Universities	KUIN http://*www.insaniah.edu.my/* KUIS http://*www.kuis.edu.my/english/* USIM http://*www.usim.edu.my/* UIA http://www.iium.edu.my/	Currently there are around six Islamic universities / colleges in Malaysia (according to their listed profile on their respective website)
	Media	TV al Hijrah http://tvalhijrah.com/ Radio IKIM	The two main Islamic media in Malaysia. Radio IKIM is under IKIM while TV al Hijrah is a corporate institution.
Voluntary Community	Independent Islamic NGOs	ABIM (http://www.abim.org.my/) IKRAM (http://www.ikram.org.my/) ISMA (http://www.ismaweb.net/v4/) JIM (http://www.jim.org.my/) PEMBELA YADIM Ulama Associations	There are a lot of Muslim NGOs in Malaysia now, perhaps the alliance of Muslim NGOs – PEMBELA comprises of 50 Islamic NGOs in Malaysia is the largest among them. These NGOs declared themselves to be nonpartisan (to any political parties).
	Masjids	List of masjid (mosque) in Malaysia http://www.islamgrid.gov.my/mosque/index.php	

Bearing in mind that each level is subjected to virtualization, we can envisioned the learning communities system supported by information system architecture. The architecture will be a collection of nested module of information system linked together. Now let us go back to Table 2 and look more closely to each level to understand the roles to be played by each actor at each level.

At the Muslim learners' level, the system will provide support for individual learner to embark on self-directed learning activities (Fischer, 2000, pp. 9-16) (Seng Chee, Divaharan, Linde, & Horn Mun, 2011). At the second level, there are two communities of learning here – the Muslim family learning community and the Muslim Learner Circle. The learning activities here involves collaborative learning mode in a group of about seven members or a whole family members in the case of Family learning Circle. A weekly meeting - *usrah* system (Al Banna, 1979) can be a very effective setup for the learning activities at this level. A collection of *usrah* groups together in a given locality will together form the Islamic Learning Communities unit. At this level, the learning will be in the form of classes or lectures (*kulliyah*) at the local *masjid* or *surau* (community prayer place). The support Information System will provide for online follow up and *usrah* members and *usrah* activities inventory information. Other activities for the learning communities like congregation night prayers (*qiyam al Lail*) will also be held. Furthermore, the cities level will provide an organized and more specialized learning activities centered at a selected masjid in a given city. The center will specialize in certain courses of study like science of Quran or Hadis. Learners can enroll in these centers and implementation for certification programs can be arranged.

Type	Scale	Leading Authority	Actors	Learning Activities
Islamic Learning Nation	National	JAKIM	• JAKIM • Islamic Universities/ Colleges • Mainstream Media	• Academics + Certification Programs (+ Virtual) • Organized learning via Islamic Radio and Islamic TVs
Islamic Learning Regions	States	Jabatan Ugama	• Jabatan Ugama Islam • Pondok and Madrasah	Administrative, Control and Contents management
Islamic Learning Cities	Cities	Selected Masjid	• Masjids • Islamic NGOs	Organized Islamic Learning in Surau/ Masjid (+Virtual)
Islamic Learning Neighborhoods	Neighborhoods	Masjid	• Masjids, Surau • Islamic NGOs	Organized Islamic Learning in Surau/ Masjid (+Virtual)
Islamic Learning Circles / Islamic Learning Families	Small Learning Circles/Family Members	Circle Leader/ Father	Circle Leader/Father	Usrah system (+Virtual)/ Family Learner Circle Collaborative Learning
Muslim Learners	Personal		Individual	Self-Directed Learning

Moving up to the states level, the activities here is more on monitoring and administrative. Besides that learning activities involved are in the form of trainings to develop learning circle leaders, workshops and generalize training on selected topics. Content management and updating is also an important task to be performed by this level. These activities can involve the local Pondoks and Madrasahs. These institutions can also provide support for answering inquiries related to learning via phone or online facilities. Overall supervisions will be provided by the related states Jabatan Agama Islam.

The National level will handle mostly policy and administrative related issues requiring governmental intervention like financial issues. Learning activities at this level will involve administrative of academics programs with appropriate certification for any learners who intend to get involve in a certification more in depth learning. The actual learning for this program can happen at the lower levels with proper support environments. The best mode for this learning will be the online e-learning environments. Arrangements should be made also to involve the radio and TV as learning media for the academics program. Although currently the Islamic TV and radio are doing quite a good job in providing Islamic learning programs, they are not arranged as an integrated system which will contribute towards the completion of the learners' academic studies. Studies around the topics of using mainstream popular media such as radio and TV for study has been done for some time with some implementations (Nurwulan & Paputungan, 2009). A study in three districts in Indonesia has shown that the usage of radio for establishing a learning community among the villagers has shown positive impact and is very well liked by the villagers (Mahzumah, 2008).

CONCLUSIONS

Islam provides a very prominent place for learning and views the learning process as a lifelong learning one. Learning in Islam is associated to strengthening one's life commitment with God and Islamic livelihood so that he/she can play the role as 'witnesses' to mankind (Quran verse al-Haj 10). It is important to bring back the real notion of lifelong learning (as verb) Islamic knowledge to reality for the Muslim community and make it a practical endeavor in the current world. Full effort has to be given to build a really effective Islamic lifelong learning model and from that a working system towards an establishment of an environment of a learning community in the Muslim community. In order to come up with an effective model of Islamic learning community, it is pertinent to develop a definition that will contribute towards fulfilling the current needs of Muslim community for an effective Islamic education and at the same time the ideals and requirements of Islam itself on Islamic education. From the definition of Islamic learning community, the Islamic Learning community/region/city model was developed.

The Islamic learning community model proposed is a bottom up nested structure functioning in a layered fashion. The higher layer is formed by the collection of lower layer units forming the upper layer unit. Each layer performs specific functions servicing the lower layer. In addition the model emphasize on collaborative peer learning environment besides self-directed learning support for independent learners. Due to the model architectural setup, the success of the Islamic Learning Community model implementation relies a lot on the collaborative effort of different sectors of the Muslim society.

The advantages provided by the Islamic learning community model are manifolds. The lifelong learning model will provide for a democratization of Islamic learning opportunity in the Muslim community. The lifelong learning model will also be a practical integrated personality development model for the Muslim as the answer to the problem of dichotomy of education in the formal educational setup. The model also calls for the full utilization of the resources in the Islamic community to enable for the establishment of a healthy Islamic learning environment in the Muslim society.

The study is at the early stage and the model proposed is also requiring more effort to be accepted as a viable model. Nevertheless the study is hope to be an eye opener for further concerted effort for development in Islamic education area utilizing the lifelong learning ideals currently intensively pursued elsewhere in the world yet still lagging in the Muslim countries.

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STUDENT ADMISSION INTO THE COLLABORATION PROGRAM: TRENDS ANALYSIS FROM 2008-2012 OF UNIVERSITI UTARA MALAYSIA COLLABORATION PROGRAM

Fairol Halim[1]
Hasnizam Shaari[2]
Mohamad Ainuddin Iskandar Lee Abdullah[3]
Professionals and Continuing Education Centre (PACE), Universiti Utara Malaysia, Malaysia
[1]fairol@uum.edu.my, [2]zamree@uum.edu.my, [3]ainuddin@uum.edu.my

Abstract

Planning and implementation of the National Higher Education Strategic Plan (PSPTN) shows the university's role has changed now. University is no longer seen as a mere warehouse of knowledge, but the university is seen as an important mechanism for advancing towards a more developed country status. For the realization of the country to achieve developed nation status by the year 2020, the university's role is very important in the production of human capital with first class mentality which is able to boost the country's economic performance to be at the level. Despite estimated total enrollment of IHE is expected to increase but the number of admissions into PvIHE particularly in Bachelor Degree been falling. Based on statistics released by the MOHE, there was a small increase of students for admission into private institutions. This study aims to analyze the admission trends into PvIHE specifically for UUM-PvIHE collaboration program for the period of 2008 to 2012. The data shows that there is mix trend in the intake of the enrolment of the student into the programs. Data is presented in tables and charts in order to visualize the trend.

Keywords; Collaboration programs, admission, trends analysis

INTRODUCTION

Planning and implementation of the National Higher Education Strategic Plan (PSPTN) shows the university's role has changed now. University is no longer seen as a mere warehouse of knowledge, but the university is seen as an important mechanism for advancing towards a more developed country status. For the realization of the country to achieve developed nation status by the year 2020, the university's role is very important in the production of human capital with first class mentality which is able to boost the country's economic performance to be at the level.

The higher education system is designed to ensure that the Public Institutions of Higher Education (PIHE) will have the capacity to develop a reputation which encompasses dynamism, competitiveness, ability to anticipate future challenges including acting effectively and keeping pace with globalization. Continuous efforts to enhance the PIHE's ability to carry out their functions and responsibilities in a more transparent and effective manner will be conducted in order to create an excellent higher education system.

In line with this, universities in Malaysia are categorized into three groups: Research Universities, Focussed Universities (technical, education, management and defence) and Comprehensive Universities. To date, there are 20 universities comprising 5 research universities, 4 comprehensive universities, and 11 focussed universities.

Research Universities focus on research, Focussed Universities concentrate on specific fields related to its establishment, while Comprehensive Universities offer a variety of courses and fields of study.

Quality human capital is a major pre-requisite for the sustainability of the country's development. As such, the National Private Institutions of Higher Education (PvIHE) support the nation's aspirations to produce quality human capital to ensure the nation's continuous growth. Two core areas outlined in the National Higher Education Strategic Plan (NHESP) are focussed directly towards this role, which is to empower higher education institutions in the areas of access and equity management. Based on record by Ministry of Higher Education Malaysia, there are 469 PvIHE operated in Malaysia including foreign university (MOHE, 2012).

Student enrollment in tertiary institutions increasing from year to year. By 2020, enrollment is expected to increase to 2,267,800 people. This is based on the average annual growth rate of 6 percent at certificate, diploma

5.5 percent, 4 percent in the first degree and 10 percent of master's and PhD levels for public and private universities. Larger increase for education at certificate and diploma levels as compared with the first degree is to obtain the ratio between them at a rate of 2:1. This ratio is to support the government's goal to increase the number of semi-skilled or semi-professional on the marketability considerations and the need for the country to encourage acculturation Lifelong Learning (PSH). Meanwhile, a significant increase for graduate level is to support the government's policy on human capital development towards increasing the number of PhD graduates, especially in institutions of higher learning and research institutions to develop research and innovation (MOHE, 2012).

Higher education is gaining national attention because of the success of the development process is highly dependent on the ability of the Institute of Higher Education (IHE) in producing trained manpower in the required fields. The importance of this is shown through the increasing government allocations for development of education and training in Malaysia plans. In the Ninth Malaysia Plan (2006-2010), the provisions for the development of education and training is RM16, 069.0 million. This amount is significantly larger than at the beginning of independence provisions of the First Malaysia Plan (1966-1970) which is allocated RM 30.0 million. The increasing number of these provisions demonstrates that the government increasingly pays attention to the development of education and training.

Despite the estimated total enrollment of IHE is expected to increase but the number of admissions into (PvIHE) particularly in Bachelor Degree been falling. Based on statistics released by the MOHE, there was a small increase of only about 135 people for admission into private institutions totaling 43.490 students in 2006 compared to 43.625 students in 2007. This study aims to analyze the admission trends into (PvIHE) specifically for UUM-PvIHE collaboration program for the period 2008 to 2012.

PACE BACKGROUND

Professional and Continuing Education Centre (PACE), Universiti Utara Malaysia was established on 1st April 1999 to provide opportunities for the non-mainstream students to pursue higher education qualifications. PACE comprises of three units which are manned under one roof of administration. The three units are; Off Campus Unit, Collaboration & Twinning Unit, and Supervisory & Executive Unit.

Off Campus Unit
Assisting the society in acquiring knowledge through the distance-learning programme which serves as alternative for education. Planning and designing of programmes which are to be offered in cooperation with the Academic Colleges. Accountable in all matters pertaining to distance-learning: students' affairs and academic performance. Planning of future programmes which have attributes to fulfil the current market needs by using the current technology sources.

Collaboration and Twinning Unit
Offering academic programmes in collaboration with public or private institutions in order to expand and develop the collaborative and twinning educational programme. Planning and designing the programmes to be offered together with the Academic Colleges. Supervising and overseeing programmes that are being offered and implemented in the private or public institutions. Acting as a secretariat for the collaborative and twinning programme and accountable for the administration, admission, examination and assessment of the courses.

Supervisory and Executive Unit.
Handling applications from the private institutions which are interested in carrying the UUM-PvIHE Supervised Diploma Programme. Administering financial matters of the UUM-PvIHE Supervised Diploma Programme. Coordinating the UUM-PvIHE Supervised Diploma Programme between the Colleges and the private institutions involved.

BACKGROUND OF PROGRAME

This collaboration program was started in 1998 with Kolej Yayasan Melaka and Alpha College of Technology (Formerly known as Pujangga Institute of Technology) with the Bachelor of Business Administration with

Honors program. Currently there are 8 colleges (PvIHE) engaged with Universiti Utara Malaysia through this Collaboration Program. Five programs that being offered are Bachelor of Business Administration with Honors – BBA (Hons.), Bachelor of Information Technology with Honors - BIT (Hons.), Bachelor of Human Resources Management with Honors - BHRM (Hons.), Bachelor of Multimedia with Honors - BMM (Hons.), and Bachelor of Finance with Honours - BFin (Hons.). The table below list all the colleges and programs.

Table 1.0 List of colleges and programs under UUM-PvIHE Colloboration Programs.

No.	PvIHE	Program Offered
1.	KOLEJ ANTARABANGSA YAYASAN MELAKA (KAYM) KYM International No. 1, Jalan Bukit Sebukor 75150 Melaka	BBA(Hons) BIT (Hons)
2.	ALPHA COLLAGE INSTITUTE (ACT) Lot 165, Jalan S2 B3 Green Tech Park 70300 Seremban 2 Negeri Sembilan	BBA(Hons)
3.	KOLEJ NEGERI (KN) Lot 165, Jalan S2 B3 Green Tech Park 70300 Seremban 2 Negeri Sembilan	BHRM (Hons) BMM (Hons)
4.	KOLEJ TEKNOLOGI BESTARI (KTB) Putera Jaya, Bandar Permaisuri 22100 Setiu Terengganu	BFIN (Hons) BMM (Hons)
5.	KOLEJ ISLAM ANTARABANGSA (KIA) No. 1 Jalan 31/10A Taman Batu Muda 68100 Kuala Lumpur	BFIN (Hons) BIT (Hons)
6.	KOLEJ IKIP Kolej IKIP di Kuantan Kampus Taman Pertanian Indera Mahkota 25200 Kuantan Pahang Darul Makmur	BBA (Hons)
7.	KOLEJ ISLAM DARUL RIDZUAN (KISDAR) Jln Bukit Chandan 33000 Bandar Diraja Kuala Kangsar Perak Darul Ridzuan	BIT (Hons)
8.	MAKTAB KOPERASI MALAYSIA (MKM) Pusat Antarabangsa dan Pendidikan Tinggi No. 21 Jalan Selangor Seksyen 6, 46050 Petaling Jaya Selangor	BIT (Hons)

ANALYSES

Admission by semester
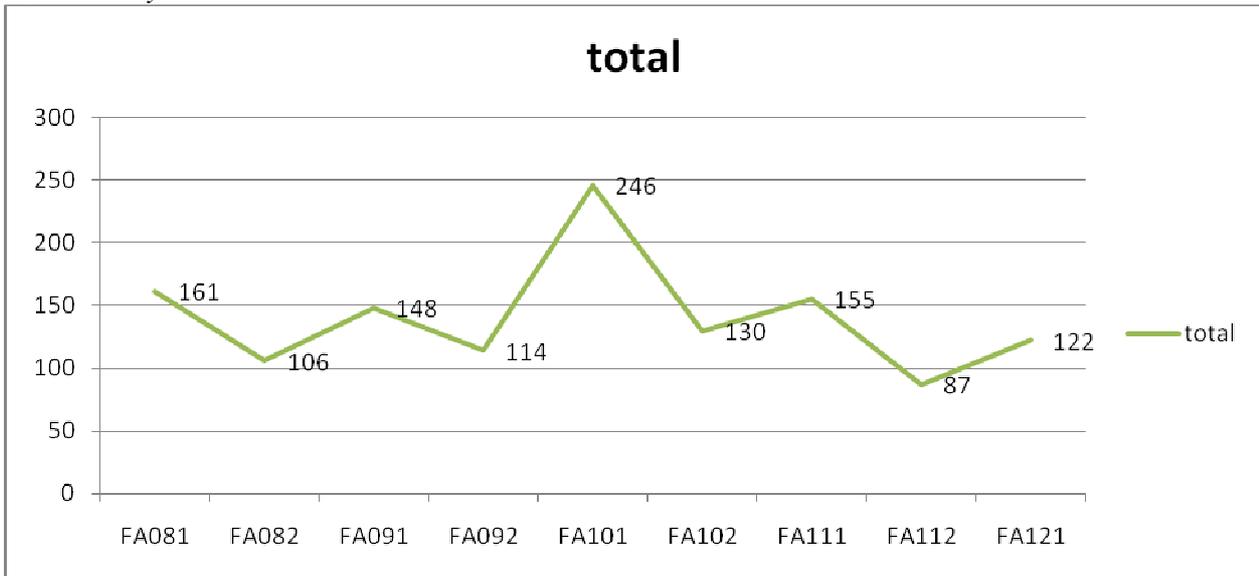
Figure 1.0 Admission by semester

From the chart above, the highest admission was recorded on semester 1, 2010 with the total number of 246 students. The lowest admission is on semester 2, 2011 with 87 students. The current semester that is semester 1, 2012 recorded 122 students which is a comeback from the lowest admission number of the student for the period of 2008 to 2012. It can be concluded that the trends is moving on a normal curve during 2008 to 2012.

Admission by gender
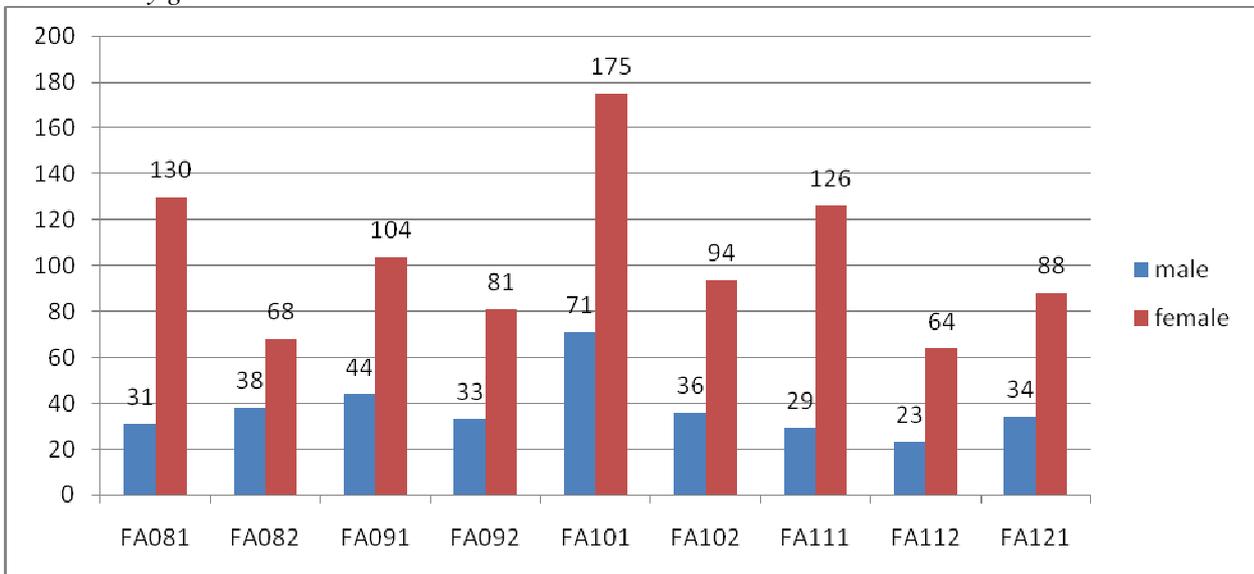
Figure 2.0 *Admission by gender*

From the chart above, it is clearly stated that female dominated the admission throughout the semester. The number of female students is consistent every semester for the period of 2008 to 2012. The highest number of female and males student was recorded on semester 1, 2010 with 175 students while male was 71 students. The lowest number of students was on semester 2, 2011 with 64 females and 23 males students.

Figure 3.0 Admission by Entry Requirement

From the chart above, it can be concluded that majority of the students admitted to UUM-PvIHE Collaboration Program through Malaysian Higher School Certificate (STPM) compared to STAM, Diploma, Matriculation and International Certificates. This admission is stable throughout the years which in semester 1, 2010 recorded the highest number of 215 while 74 is the lowest number recorded in the same semester.

Admission by program
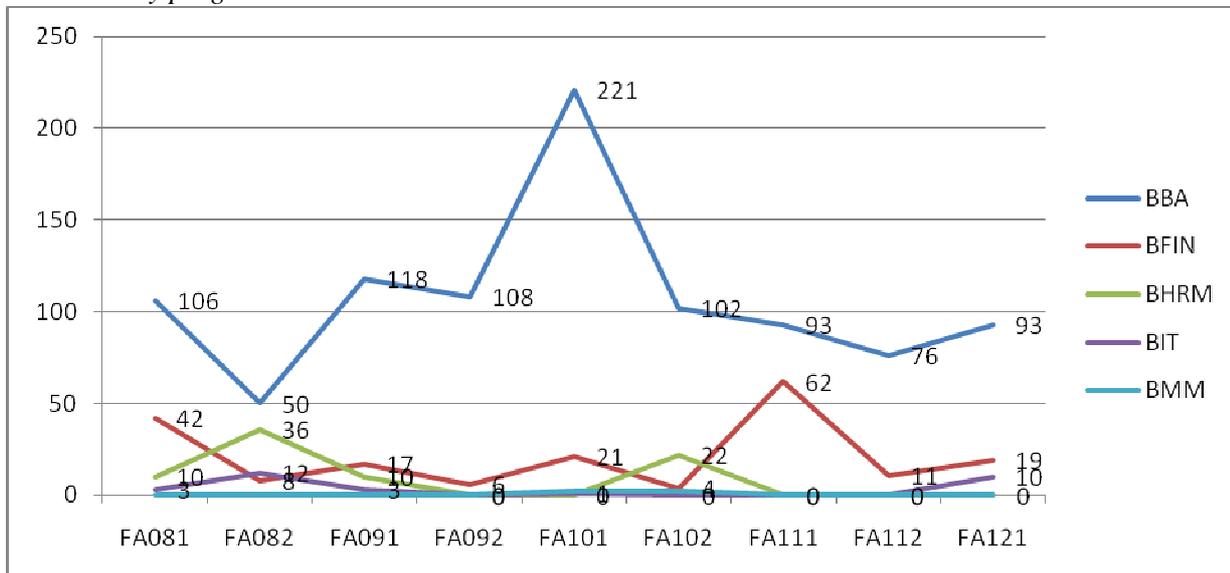
Figure 4.0 Admission by program

From the Figure 4.0 above, it is clearly shown that Bachelor of Business Administration with Honors is the core program in this UUM-PvIHE Collaboration Program. Compared to the rest of the programs the demand for this program is stable throughout this period. BBA is considered as a "hot cake" and easier to market compared to the other program. This is in line with the **Focussed Universities that is** management image of the Universiti Utara Malaysia. The highest number is 221 students in semester 1, 2010 while the lowest is 50 students in semester 2, 2008. The trends shows that demand for the other programs are quite stable throughout the years.

Figure 5.0 Admission by PvIHE

Figure 5.0 above shown that Alpha College of Technology remains consistent throughout the admission every semester. This is due to heavy promotion carried out by the College and the program that they offer. The college has been with the university since 1998 together with Kolej Yayasan Melaka until today. The number of student from Kolej Yayasan Melaka reduced because they have terminated the BBA program with UUM. The same reason with the KIA and KN which reflected the decreased number in its admission.

DISCUSSION AND CONCLUSION

From the analysis of trends shown on the previous page, there is an increased and decreased in the admission into UUM-PvIHE collaboration program. There are several key factors that led to this problem. The first factor is the expiry of the agreement between UUM and its partners. There are some PvIHE that do not continue its MOA with UUM. Upon expiry of the MOA, the PvIHE are not allowed to recruit new students and just finishing the rest of the students until their graduation.

Duration process of the new application into the collaboration program also influences the number of students. Currently, the application process takes a long time to be completed and this will affect the PvIHE to recruit students for a new intake. Many new applications received by PACE are still stuck in the process for approval. This problem should be taken seriously by the university.

The next factor is the intense competition from the increasing number of public and private universities. There was an increase in the number of private and public higher institutions recently. In addition, the foreign university also opens up branches in the country. New universities, foreign universities and university colleges now offering the degree programs which becoming threat to the existing PvIHE. Adapting to quality assurance, more stringent entry requirements have been applied to academic programs, for example the English language requirement has been increased from MUET band 1 to band 2 previously. This gives the most impact student intake by the UUM-PvIHE Collaboration Program.

BBA program is the preferred choice among UUM-PvIHE Collaboration Program. The demand for this program remains stable and increasing for every semester. This is due to the brand image and tag line carried by Universiti Utara Malaysia, "The Eminent Management University" has blended perfectly to the image which projected by the university. Hence, it is easier for partners to market its products to students. There is no doubt the lack of promotion before 2011 contributed to the decrease in the number of students. Situation getting better with the new management of PACE taken in control beginning January 2012. New management has taken steps to address these problems. This is reflected in the significant increase in the total number of student admission in 2012. Good relationships with the partners have been improved and repaired

while at the same time UUM-PvIHE Collaboration Program have been streamlined and strengthened from time to time.

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MODEL OF MEASURE CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS IN SMALL PRINTING WORKING AREA

Kannikar Thaicharoen[1]
Pramuk Osiri[1]
Chalermchai Chaikittiporn[1]
Vichai Pruktharathikul[1]
[1]Mahidol University, Department of Occupational Health and Safety, Faculty of Public Health,
420/1 Rajavithee Road Bangkok, Thailand 10400

Abstract

BTEX were collected in 112 small printing factory with 480 air samples in the working environment with collected data of job task during air sampling, type of paper, printing speed, the thickness of the paper, the number of chemical use during air sampling, packaging of printing color, packaging of other chemical, printing room characteristic, number of printing room entrance door, number of printing room window, type of building, ventilation type, printing room surface (m2) and number of printers in printing factory. Research has shown that the concentration of benzene in the air of workplace has relationships between the job tasks during air sampling (X_1), type of paper (X_2), thickness of paper (X_3), packaging of other chemical (X_4), printing room characteristic (X_5), number of window in printing room (X_6) and type of building (X_7). This can be predicted concentration of benzene as follows.

$$\ln(\text{benzene}) = 0.080(X_1) - 0.042(X_2) + 0.068(X_3) + 0.470(X_4) - 0.217(X_5) - 0.92(X_6) - 0.170(X_7) + 1.053$$

Concentration of toluene in the air of workplace relationships are statistically significant at the .05 level of confidence with the number of window in printing room (X_1), number of printers in printing room (X_2) can write an equation to predict the concentration of toluene as follows.

$$\ln(\text{toluene}) = -0.039(X_1) + 0.106(X_2) + 0.919$$

Concentration of ethyl benzene in the air of workplace relationships are statistically significant at the .05 level of confidence on the packaging of printing color (X_1), packaging of other chemical (X_2), number of printing room entrance door (X_3), printing room surface (m2)(X_4), number of printer in printing room (X_5) to write an equation to predict the concentration of ethyl benzene as follows.

$$\ln(\text{ethyl benzene}) = 0.240(X_1) + 0.144(X_2) - 0.198(X_3) + 0.153(X_4) + 0.057(X_5) + 0.486$$

Concentrations of xylene in the air of workplace relationships are statistically significant at the .05 level of the job tasks during air sampling (X_1), packaging of printing color (X_2), number of printing room entrance door (X_3), printing room surface (m2) (X_4) number of printers in printing factory (X_5) can write an equation to predict the concentration of xylene as follows.

$$\ln(\text{xylene}) = 0.072(X_1) + 0.297(X_2) - 0.286(X_3) + 0.204(X_4) + 0.166(X_5) + 0.679$$

INTRODUCTION

Volatile Organic Compounds (VOCs) that vapors through the environment such as air, surface water, underground water, sediment and food is the significant problem in Thailand that is needed to be addressed. Each type of VOCs has its distinct effect on human health, for example some can disrupt central nervous system causing stupor or comatose, some can cause cancers and diseases of internal organs in the long term. Currently, various industries need to use VOCs in their production processes, such as color manufacturing, petroleum industry, automobile parts manufacturing, etc. Moreover, the medium and small industries also use VOCs, such as textile/bleach industry, printing center, automotive paint, solvent packaging, chemical plant, fertilizer/pesticide/herbicide plant, waste treatment plant, electronics/disk manufacturing, and industries that require metal/machine/equipment cleaning process, etc.

 The report from the study of benzene, toluene, ethyl benzene and xylene concentration in printing centers in Bangkok indicates the concentration as follows: 63.9-126.1 ppm, 1.3-2.1 ppm, 0.8-6.5 ppm, and 1.1-2.7 ppm, respectively. Especially, benzene concentration is 10 ppm higher than the criteria of American Conference of Governmental Industrial Hygienists (ACGIH). Currently, Benzene is indicated as carcinogen, so the danger assessment is needed for security and health of employees who have to work with benzene in the business like publishing and printing because this type of businesses uses organic solvent to clean insulator, printing plate,

and so on. In the danger assessment processes, the concentration of air pollution must be investigated, and biological indices may also need to be investigated, but it will take long time in the investigation. Hence, the objective of this study is to apply the investigation results and environmental attributes of manufacturing processes in determining danger of employees in this type of business that is similar to the sample group.

MATERIALS AND METHODS

The project took place in the Bangkok, Thailand, and 480 air samples in the working environment from 112 printing factories were carried out between December 2009 and April 2010.

Printing factory
A random sample of 112 small printing factories in Bangkok, according to the data of individuals that registered in publishing business; Department of Business and Information Services constituted our sampling base. In each of the printing factory, the atmospheric concentrations of BTEX were collected between working hour (9.00-17.00).

Working environment and characteristics
During visit to the printing factory, we investigated in the field and collected data of job task during air sampling, printing speed, type of paper, the thickness of the paper, chemicals types as a source of BTEX, the number of chemical use during air sampling, packaging of printing color, packaging of other chemical, room characteristics, entrance door of printing room, window of printing room, type of building, ventilation type, printing room surface (m^2) and number of printers in printing factory.

Measurement and Chemical Analytical Methods
The atmospheric concentrations of BTEX were collected between working hour (9.00 am -5.00 pm) in each printing factory follow the NIOSH method 1501 HYDROCARBONS, AROMATIC. Low flow rate portable pumps (Gilian Instrument Corp., Gilian GilAir-5) were used. BTEX were sampled using an active charcoal sorbent tube (SKC Inc.) connected to a programmable personal pump at a flow rate of 0.2 l min^{-1} and sampling time 40 minutes.

Flow rate were checked before and after sampling with primary standard flow meters (Bios International Corp., DryCal DCL-ML). The samples were analyzed by Gas Chromatography using flame ionization detection method (FID).

Data handling and Statistical Analysis
Results below detection level were assigned a concentration equal to the minimum measurable concentration divided by two and were included in the calculation.

Data will computerized using Excel 2007 and analyzed using SPSS (Statistical Package for the Social Sciences, version 12). After standard descriptive statistics, a model was developed to characterize the influence of contributing factors on the concentration of BTEX. A linear regression procedure was used to model the association between BTEX and printing factory characteristics.

RESULTS

Participating Printing Factory
Table I describes participating printing factory. The majority of printing factory (55.4 percent) were located in commercial buildings, 81.3 percent of them have window and open room (58.1 percent), 41.7 percent of them have one color print during air sampling and occupying a printing room surface of 300-800 m^2 (66.7 percent), and 55.6 percent have 1-3 printer in printing factory. Printing factories were sampled for one day, sampling took place on weekday.

Table 1 Characteristics of participating printing factory

	Printing factory (n=480)	
	Number	%
Job task during air sampling		
One color print	200	41.7
Two color print	59	12.3
Four color print	192	40.0
Five color print	16	3.3
Six color print	2	0.4
Drum cleaning	3	0.6
Machine cleaning	3	0.6
No activity	5	1.0
Printing speed (sheets/hr)		
≤5,000	28	5.8
5,001-10,000	436	90.8
10,001-15,000	16	3.3
Type of paper		
Bank paper	8	1.7
Fine printing paper	158	32.9
Glossy coated paper	85	17.7
Matt coated paper	102	21.3
One side art paper	51	10.6
Two side art paper	63	13.1
DVD	2	0.4
Unknown paper	11	2.3
Paper thickness (gram)		
<80	156	32.5
80-130	183	38.1
131-180	67	14.0
181-230	53	11.0
231-280	12	2.5
>280	9	1.9
Number of chemical use during air sampling		
0	5	1.0
1	6	1.3
4	200	41.7
6	59	12.3
7	16	3.3
8	194	40.4
Packaging of printing color		
Open	243	50.6
Close	237	49.4
Packaging of other chemical		
Open	221	46.0
Close	259	54.0
Room characteristics		
Open room	279	58.1
Close room	201	41.9
Number of entrance door		
One door	166	34.6
Two doors	272	56.7
Three doors	42	8.8
Window of printing room		

1-4		390	81.3
5 up		90	18.8
Type of building			
Commercial building		266	55.4
Small factory building		214	44.6
Ventilation type			
Exhaust hood and air conditioner		13	2.7
Air conditioner		233	48.5
Fan		184	38.3
Natural (windows only)		50	10.4
Printing room surface (m^2)			
<300		143	29.8
300-800		320	66.7
801-1,300		17	3.5
Number of printer in printing factory			
1-3		267	55.6
4-6		176	36.7
7-9		25	5.2
10-12		12	2.5

Measurements

Table II and Table III presents 8-hour TWA concentrations measured in participating printing factory. We found that the most printing factories have a concentration of benzene, toluene and ethyl benzene less than 0.01 mg/m^3(53.8 percent of benzene, 98.5 percent of toluene and 72.7 percent of ethyl benzene), 57.5 percent of them have a concentration of xylene between 0.01-1.00 mg/m^3. All measured chemicals were below threshold limit values (TLVs-TWA) recommended by the American Conference of Governmental Industrial Hygienists (ACGIH), except for benzene samples that almost all were below the TLVs-TWA.

Table 2 The concentration of benzene, toluene and xylene in participating printing factory

Concentration	Benzene		Toluene		Xylene	
	No.	Percent	No.	Percent	No.	Percent
<0.01 mg/m^3	258	53.8	473	98.5	186	38.8
0.01-1.00 mg/m^3	194	40.4	1	0.2	276	57.5
1.01-2.00 mg/m^3	18	3.8	1	0.2	11	2.3
2.01-3.00 mg/m^3	9	1.9	3	0.6	3	.6
3.01-4.00 mg/m^3	0	0.0	0	0.0	4	.8
4.01-5.00 mg/m^3	1	0.2	1	0.2	0	0.0
ACGIH TLV-TWA (mg/m^3)	1.595		188		434	

Table 3 The concentration of ethyl benzene in participating printing factory

Concentration	Ethyl benzene	
	No.	Percent
<0.01 mg/m^3	349	72.7
0.01-0.30 mg/m^3	130	27.1
0.31-0.60 mg/m^3	1	0.2
ACGIH TLV-TWA (mg/m^3)	433.5	

Factors Contributing to atmospheric concentration
We then modeled various factors that could explain measured concentrations of benzene, obtaining the following model (see Table IV):

$$\ln(\text{ethyl benzene}) = 0.080(X1) - 0.042(X2) + 0.068(X3) + 0.470(X4) - 0.217(X5) - 0.92(X6) - 0.170(X7) + 1.053$$

where

X1 = job tasks during air sampling (1= one color print, 2= two color print, 3= four color print, 4=five color print, 5=six color print, 6 = drum cleaning, 7 = machine cleaning and 0 = no activity)
X2 = type of paper (1= bank paper, 2= fine printing paper, 3= glossy coated paper, 4= matt coated paper, 5 = one side art paper, 6 = two side art paper, 7= DVD and 8 = unknown paper)
X3 = thickness of paper (1= less than 80 gram, 2 = 80-130 gram, 3 =131-180 gram, 4=181-230 gram, 5= 231-280 gram and 6 = higher than 280 gram)
X4 = packaging of other chemicals (1=open)
X5 = printing room characteristic (1 = opened room)
X6 = number of window in printing room
X7 = type of building (1= commercial building, 2 = small factory building)

This model explained 35 percent of variability of log transformed benzene concentrations. Based on this model, when we have more color print, more thickness of paper and open packaging of chemicals except printing color resulted in elevated benzene concentrations. By contrast, benzene levels were lower in printing room when change type of paper, printing room is opened room, increase number of window in printing room and located in small factory building.

Table 4 Factors contributing to benzene concentration in working area of printing factor

Variables	All time-weighted averages (n = 480)		
	Beta	Beta standard deviation	p-value
Job tasks during air sampling (X1)	.080	.032	.013
Type of paper (X2)	-.042	.020	.032
Thickness of paper (X3)	.068	.024	.004
Packaging of other chemicals (X4)	.470	.132	.000
printing room characteristic (X5)	-.217	.088	.013
Number of window in printing room (X6)	-.092	.034	.008
Type of building (X7)	-.170	.074	.021
Intercept	1.053	.386	.007
	R^2 = 0.348, standard error of estimate = 0.063		

We modeled various factors that could explain measured concentrations of toluene, obtaining the following model (see Table V):

$$\ln(\text{toluene}) = -0.039(X1) + 0.106(X2) + 0.919$$
where

X1 = number of window in printing room
X2 = number of printers in printing room.

This model explained 10 percent of variability of log transformed toluene concentrations. Based on this model, increased number of printers in printing room resulted in elevated toluene concentrations. By contrast, toluene levels were lower in printing room when increase window in printing room.

Table 5 Factors contributing to toluene concentration in working area of printing factor

Variables	All time-weighted averages (n = 480)		
	Beta	Beta standard deviation	p-value
Number of window in printing room (X1)	-.039	.028	.158
Number of printers in printing room (X2)	.106	.050	.036
Intercept	.919	.328	.005
	$R^2 = 0.102$, standard error of estimate = 0.035		

We modeled various factors that could explain measured concentrations of ethyl benzene, obtaining the following model (see Table VI):

$$\ln(\text{ethyl benzene}) = 0.240(X1) + 0.144(X2) - 0.198(X3) + 0.153(X4) + 0.057(X5) + 0.486$$
where

X1 = packaging of printing color (1=open)
X2 = packaging of other chemical (1=open)
X3 = number of printing room entrance door
X4 = printing room surface (m^2)
X5 = number of printer in printing room

This model explained 28 percent of variability of log transformed ethyl benzene concentrations. Based on this model, ethyl benzene concentrations increased with open packaging of printing color and other chemical, have more floor surface and number of printer in printing room. Ethyl benzene levels were lower, when have more entrance door.

Table 6 Factors contributing to ethyl benzene concentration in working area of printing factor

Variables	All time-weighted averages (n = 480)		
	Beta	Beta standard deviation	p-value
Packaging of printing color (X1)	.240	.091	.008
Packaging of other chemical (X2)	.144	.060	.017
Number of printing room entrance door(X3)	-.198	.064	.002
Printing room surface (m^2) (X4)	.057	.028	.038
Number of printer in printing room(X5)	.153	.041	.000
Intercept	.486	.265	.067
	$R^2 = 0.280$, standard error of estimate = 0.059		

We modeled various factors that could explain measured concentrations of xylene, obtaining the following model (see Table VII):

$$\text{Concentrations of xylene} = 0.072 (X1) + 0.297 (X2) - 0.286 (X3) + 0.204 (X4) + 0.166 (X5) + 0.679$$
where

X1 = job tasks during air sampling (1= one color print, 2= two color print, 3= four color print, 4=five color print, 5=six color print, 6 = drum cleaning, 7 = machine cleaning and 0 = no activity)
X2 = packaging of printing color (1=open)
X3 = number of printing room entrance door
X4 = printing room surface (m^2)
X5 = number of printer in printing room.

This model explained 35 percent of variability of log transformed xylene concentrations. Based on this model, when we have more color print, open packaging of printing color, have more printing room floor surface and number of printer in printing room resulted in elevated xylene concentrations. By contrast, xylene levels were lower in printing room when increase number of entrance door.

Table 7 Factors contributing to xylene concentration in working area of printing factor

Variables	All time-weighted averages (n = 480)		
	Beta	Beta standard deviation	p-value
Job tasks during air sampling (X1)	.072	.030	.015
Number of open packaging of printing color (X8)	.297	.122	.015
Number of printing room entrance door (X12)	-.286	.085	.001
Printing room surface (m^2) (X16)	.204	.054	.000
Number of printers in printing factory (X17)	.166	.054	.002
Intercept	.679	.355	.056
	$R^2 = 0.347$, standard error of estimate = 0.059		

DISCUSSION AND CONCLUSION

As expected in this type of industry and reported in the literature, (1-2, 4) concentration of air contaminants was well below air quality standards for occupational exposures. The BTEX levels we found were lower than those reported in recent peer-reviewed papers. Numerous factors could explain these differences, including important variations in chemical formulation, patterns of printing color use during printing, characteristics of buildings where the printing factories are located (ventilation, etc.); different sampling strategies could also have contributed. These data suggest that comfort of employees of printing factory could be improved by increasing the proportion of outside air by increase window and entrance door. This study also confirmed a few a priori expectations: exposuresappear to be higher when packaging of printing color and other chemicals opened, increasing with number of chemical used during printing, more thickness of paper and more printer in printing room.

LIMITATIONS

Our sample was a simple random sampling of printing factory in Bangkok. We sampling at working hour but not the same time in every printing factory. In conclusion, despite its limitations, this study presents very informative results from an occupational health point of view. Although measured levels of most chemicals were well below legal standards, it appears plausible that concentrations may get quite high (possibly close to threshold limit values) at certain times, such as very active periods, especially if the amount of fresh air is not optimal and if other process entailing the use of more chemicals are being provided. These results will be used in the preparation of guidelines for the reassignment of workers working in printing factories.

ACKNOWLEDGMENTS

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THE DEVELOPMENT OF COOPERATIVE MANAGEMENT MODEL BETWEEN VOCATIONAL INSTITUTIONS AND WORKPLACES IN HOTEL AND TOURISM STUDY IN ANDAMAN TRIANGLE PROVINCES

Preedee Ketthong
Phuket polytechnic College 42/20 Rattanakosin 200 year, Tambon Taladnua, Muang District, Phuket Province. 83000
E-mail address: k.preedee@hotmail.com

Abstract
The objectives of this study were to study the difficulties presently faced by institution and workplaces as regards cooperation in the establishment of effective vocational management; and to develop a cooperative management model between vocational institutes and the workplace in hotel and tourism industry in Andaman Triangle Provinces. The research had 2 phases. Phase 1: model development; consisted of 2 stages, 1) studied the cooperation condition and difficulty between the institution and Hotel and Tourism industry in vocational management in Andaman Triangle Provinces and 2) drafted the cooperative management model between the institutes and workplaces. Data collected by in depth interview 32 of institute directors, hotel and tourism managers, heads of vocational program, heads of hotel and tourism program and program supervisors/trainers. Data were analyzed by content analysis. Phase 2: model assessment using focus group technique of 15 professionals. Data were analyzed by content analysis. The study found that: 1) there were 3 concerns of the cooperation condition and difficulty between the institutes and workplaces which were; (1) management problem which was the lack of understanding in principles and objectives; (2) students' problems such as low number of students, dropout rate, lack of basic communication skills, lack of service skills and lack of responsibility; (3) teaching and learning problem which were such as teachers do not have hotel and tourism experience , insufficient internship hours per semesters and poor follow up system. 2) the study concludes that a model for effective cooperation between the vocational institutes and the workplaces in hotel and tourism industry in the Andaman Triangle were in 4 areas; (1) participation in planning, (2) participation in implementing, (3) participation in benefiting and (4) participation in monitoring and evaluating.

INTRODUCTION

Vocational education aims to develop professional and technical skills to a high degree of proficiency. Jantharasurin (2546:28) comments that a more specific goal is to prepare people for certain careers. The National Labour and Employment Office and the National Education Commission (2545: Executive Summary) note that education of this sort is focused on the state's manpower requirement. Mid-level technical areas are to meet the needs of the workplace and the labour market.

Vocational education has three aspects: The education system; informal education; and the management of a bilateral (i.e. vocational) system. It behooves institutions of learning to study the academic models of one or more of these approaches. The Vocational Education Commission (2551: 4-5) maintains that a schooling must reach a sufficient level that graduates can respond to the growing needs of the establishment. The focus should be on education, cooperation, and entrepreneurship.

In the Andaman Triangle Province, the county organized cabinet meetings in July and November of 2546 for 19 groups with a high potential in the tourism industry. The groups laid out a strategy to be followed between 2548 and 2551 to be "a world-class centre for marine tourism which is so vital to the international economy" (Krabi: Online). The income from this sector of the market makes up fully 83% of the tourist revenue for Southern Thailand. (The National Economic and Social Development Board, 2551: 3-5.)

The Andaman Triangle Provinces province [consist of Krabi, Phan – Nga, Phuket Province] was the first to promote local development. Krabi is a centre for eco-tourism and history, and Phang Nga is a centre for eco-tourism. Phuket is a tourist hotspot full of beach resorts, MICE, shopping centres, and health and spa services. In the drive to achieve strategic goals, in addition to developing infrastructure and maintaining security, health facilities are extremely important. Education plays a vital role in this regard as well.

Vocational Education Management in the Andaman Triangle Province between 2545 and 2551 were placed under the jurisdiction of the Vocational Education Commission, and many students were inducted on the courses annually. 2,100 students were involved in the conference on Management of the Vocational Training

System. A loose collaboration between the tourism industry and academic institutions of the Andaman Triangle Province was formed on September 25th, 2552 at the Indigo Pearl in Phuket. The focus was on personal relationships and the problem of how to build support mechanisms for those wishing to participate in both administration and teaching. The lack of bilateral participation between the two parties was a key target area for improvement. Furthermore, it was agreed that curriculum planning, lesson planning, instruction in management, management training, vocational training assessments, and development of business strategies in the world of national tourism all require a great deal of cooperation in order to meet professional standards.

An important area for development is furnishing students with a sufficient intellectual and practical foundation for professional training.

For this reason, researchers are interested in developing a cooperative manegment model between vocational Instition and workplace in hotel and tourism study. A high performing workforce and quality training programs must be ensured – indeed, are essential in an industry in which competition is so tight. At the same time, the future of Andamanian tourism must be provided for in the form of sustainable, environmentally friendly measures aiming to preserve the wildlife and the spectacular ecology of the region.

THE PURPOSE OF THIS RESEARCH

The Purpose of this Research were to study the difficulties presently faced by institution and workplaces as regards cooperation in the establishment of effective vocational management and to develop a cooperative management model between vocational institutions and the workplaces in hotel and tourism industry in Andaman Triangle Provinces

RESEARCH FRAMEWORK

In preparing this tract, researchers studied the principles and theory related to the management of collaborative learning in order to identify its primary elements.

Cooperation in the management process has four aspects: 1) participation in planning, 2) participation in implementing, 3) participation in benefiting and 4) participation in monitoring and evaluating. (see diagram 1.1).
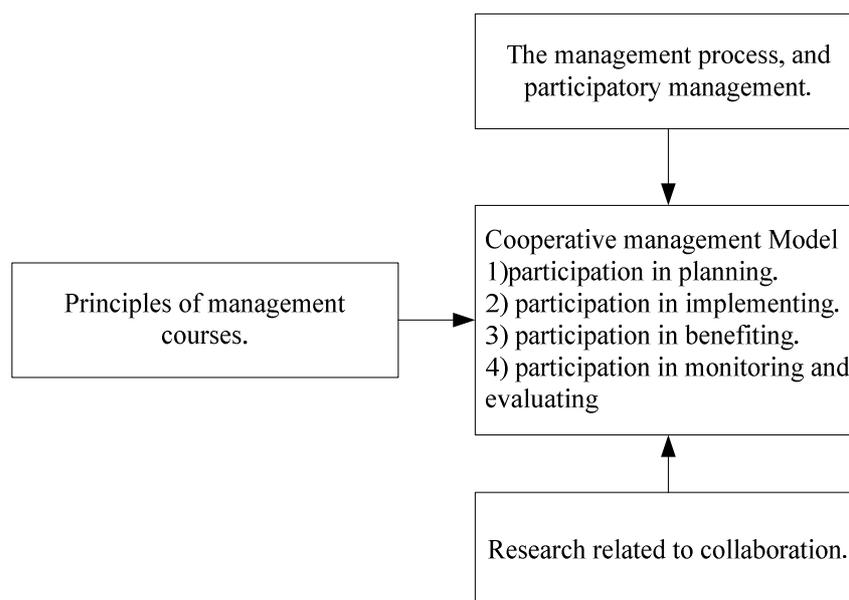
Figure 1.1 shows a conceptual framework for research cooperation between schools, and the establishment of vocational courses in the tourism industry.

SCOPE OF THIS STUDY

Data on the bilateral vocational/professional training system was collected during the academic years 2551 to 2555 and came from vocational institutions at the level of bachelor's degree or diploma.

DEFINITION OF TERMS APPEARING IN THE RESEARCH

1) Model refers to a diagram and a description of its components, the relationship between its elements, their function, and their effects.
2) Cooperative management refers to mutually beneficial cooperation between schools, the establishment of efficient vocational courses with proven efficacy, and monitoring and evaluation.
     2.1) participation in planning means that education should establish a common set of principles and objectives, and should define the roles and responsibilities of each party, as well as clearly allocating resources.
     2.2) participation in implementing means working together towards a common end.
     2.3) participation in benifiting means that cooperation can bring benefits to all parties.
     2.4) participation in monitoring and evaluating means that working together in monitoring and evaluating the cooperative project.
3) Vocational Institutions refers to vocational college in the Andaman Triangle Province wich teaching in hotel and tourism programme.
4) Workplaces refers to the hotel or tourism establishment of businesses and organizations that will provide professional opportunities for training students.

METHOD

The research had 2 phases. Phase 1: model development; consisted of 2 stages, (1) studied the cooperation condition and difficulty between the institution and Hotel and Tourism industry in vocational management in Andaman Triangle Provinces and (2) drafted the cooperative management model between the institutes and workplaces.
1) Population and sample
- The study focused on academic departments, hotel managers, establishment executives, operator trainers, and teacher trainers.
- Experts operating under the Office of the Vocational Education and Teaching Department of the tourism industry drew up a model for vocational education as it impinges on the tourism industry.
2) Research tools
- The interview
- The management model of cooperation between schools and enterprises in the tourism industry and vocational courses.
3) Data Collection.
- Interviews of experts.
- A management group to assess the cooperation between schools and enterprises in the tourism industry and vocational courses.
4) Analysis of data
- Data from the interviews were analysed by content analysis, and then presented in the form of a narrative synthesis.

RESULTS SUMMARY IN PHASE 1

1. There are several problems regarding cooperation between vocational institutions and workplaces in hotel and tourism study in the Andaman Triangle Province.

Issues concerning management include:
1) Misunderstanding the principles and objectives of the courses run by the schools. Personnel serving the trainer and the trainee are not being adequately provided. Students are not being offered sufficient opportunities to practice their new skills in real-world situations. There is no explicit training program either.

2) Excessively frequent changes amongst academic directors and staff, resulting in a lack of continuity in teaching.

Issues concerning students include:
Inadequate professional training, especially during the tourist season (from November to April), including an urgent lack of spaces in schools that offer vocational opportunities. The students that do get places too often drop out of courses, too. Basic competency in English and other key skills is low. Furthermore, too much time elapses before students have properly adapted to the rigors of life in a workplace. There is also a lack of discipline amongst new employees.

Issues concerning teaching and teacher training include:
      1) The 18-week semester is not long enough to learn the foundations for a new career.
      2) The psychological development of the students.
      3) Teachers are not as experienced as professionals within the tourism industry.
      4) Schools cannot supply students with modern equipment because of the prohibitive expense and excessive governmental regulations.
      5) Some study programs do not correspond to the actual needs of commercial enterprises. Perhaps related to this concern is the problem of adequately supervising teachers.

2. The cooperative management model between the institutes and workplaces by experts commented

The second issue regarding the establishment of an effective vocational training program is how to apply the principles of cooperation to ensure that all parties benefit from the relationship forged between the academy and the professional world. The solution appears to be in participation in planning, implementing, benifiting, and monitoring and evaluating.

1) Participation in planning
Most experts commented on the need for planning a task before undertaking it.
 1.1) The Vocational Institutions administrators ought to lead in promoting understanding of the concept of academic-professional cooperation. Employers also ought to ensure that their staff is made fully aware of the goals established by this partnership. A signed memorandum between the institution and the business is also advisable.
 1.2) Personnel must be adequately prepared both for their careers, and to act in accordance with the partnership agreement. Business leaders and college directors are responsible for supporting the collaborative process, and ensuring it runs smoothly. The colleges should provide a liaison between academic departments and businesses, and between academic coordinators and teachers. Businesses need to provide opportunities for operator training in the workplace.
 1.3) Resources, materials and funding need to be available to those who require them. Each party should adhere to the responsibilities stipulated in the training plan.

2) Participation in implementing
Experts suggest that schools and businesses cooperate for the following activities:
      2.1) Public education programs, including talking to students and parents about the collaborative approach.
      2.2) Student recruitment, either by self-subscription, or in conjunction with a school.
      2.3) Joint curricula, in the sense that a course can be split between the classroom and the workplace. There should be a focus on communicative English, and technology.
      2.4) Supervision during internship. Consistent and individual supervision for at least a month should be the norm for recent graduates. To facilitate this, teachers must have access to the students when they are in work placement, so some kind of transportation should be provided.
      2.5) Evaluation. A level of competency must be determined for new arrivals to the workplace; this level should of course reference those key skills outlined in the curriculum. The schools themselves should also be evaluated to ensure that professional standards are being met.

2.6) Coordination and cooperation. Basic facilities must be present where they are required, such as phones, office equipment, vehicles, and so on. A liaison acting between schools and businesses should coordinate all access to these facilities.

3) Participation in benefiting

3.1) School lesson plans that meet the qualification requirements of employers. The results of studies such as this should be made available to teachers. To avoid expensive training devices, students should undergo their training in the workplace as far as possible.

3.2) The establishment of an ongoing evaluation regarding required manpower, and the concomitant selection of high-level graduates to meet this requirement. Training staff who are fully aware of the skills expected of graduates. Tax breaks should recognize the importance of freeing up academic budgets that they might be better allocated.

3.3) Advantages include students learning professional skills in actual work situations, and students being paid a handsome wage as part of their continuing self-edification. The promise of earning higher wages as a result of participating in collaborative vocational programs is also enticing.

4) Participation in monitoring and evaluating
 The establishment of joint evaluation between and for both parties is vital. This can be done in the form of seminars, teaching/work observation, and questionnaires. Focal points should include: appropriate course syllabi, and the quality of the teaching and training offered to the students.

CONCLUSIONS

1) Academic institutions and businesses should reach a common understanding of effective cooperation in order to ensure each other's goals are not only addressed, but fulfilled.
2) Administrators and employers should take the lead in encouraging their students and personnel to involve themselves more fully in a collaborative vocational program.
3) Management ought to be mutually beneficial and cooperative, taking into account the goals, both convergent and divergent, of each party.

SUGGESTIONS FOR FURTHER RESEARCH

Future studies might include a one-year trial amongst the Andaman provinces of the kind of vocational program outlined above.

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HOW TO PREPARE NURSING STUDENT FOR TRANSITION TO NEWLY GRADUATE ROFESSIONAL REGISTERED NURSE

Nongnaphat Rungnoei[1]
Junjira Seesawang[2]
Jintana Tongpeth[3]
Prachomklao College of Nursing, Phetchaburi Province, Thailand
[1]nongrn1@gmail.com
[2]junjira2929@ gmail.com
[3]tookjin@gmail.com

Abstract

The transition into the newly graduate professional registered nurse is very exciting and important for the nursing student. They may feel unprepared and struggle. Colleges of nursing or nursing educational institution have to provide the academic program or extracurricular activities for the new professional role. The purpose of this study was to evaluate the effectiveness of pre-graduation program. The researchers developed the pre-graduation program for entry into professional nursing practice and evaluate the program effectiveness after one and eight month(s) implementation. One group pre-test post-test design was used in the program trial with a group of 60 fourth-year nursing students. The program was found to enhance the nursing students' self-development and professional life planning competencies. Such findings could be a guideline for pre-graduation preparation as the program helps the nursing students to transition for newly registered nurse.

Keyword: transition, newly graduated, professional, nursing student, registered nurse

INTRODUCTION

Transition into the role of the professional registered nurse is cause for great excitement and apprehension for the student nurse. As new members of the nursing profession, graduate nurses in their transition to the professional role, have a variety of experiences with registered nurses. These experiences give rise to diverse thoughts and emotional responses that may have a significant impact on nurses' own professional development and socialization to the professional role. These are challenging times for newly registered nurses, the majority of whom make their initial transition to professional practice within the hospital environment and variety community environment. It has been claimed that <50% of practicing nurses would currently recommend nursing as a career option (Cowin & Jacobsson, 2003). It is not surprising, then, that 33–61% of new recruits in North America changes their place of employment or plans to leave nursing altogether within their first year of professional practice (Buchan & Calman, 2004; Bowles & Candela; 2005). Newly graduated Registered Nurses are confronted of the transition from the role of nursing student to licensed professional. They may feel unprepared for the great demands of practice in society.

As a result of a convergence of factors including increased demand in health care service (e.g. increasing of aging population, changes of illness pattern, health care policies to be medical hub in ASIA), inadequate supply, and health care system reform, nursing shortages occurring in health systems is a critical issue both quality and quantity in terms of adverse impacts on the health, well-being of populations, and nurse-patient ratio. One way of preserving manpower levels in the public sector is by increasing the tenure of those nurses currently employed or by teaching the new RNs who join the public sector ways that will both increase their tenure and their satisfaction with their careers. The Colleges of Nursing can help to prevent this situation by providing additional learning activities that are designed to increase tenure and satisfaction with nursing careers.

Professional life planning is a technique that has been demonstrated to be associated with greater tenure and career satisfaction (Hall, 2004; Price, 2009; Waddell & Bauer, 2005), and self-development is the strategy to improve one's own competencies to provide high quality of nursing care (TNMC, 2009). Self-development and lifelong learning skill are very critical issue for nursing students and registered nurses in this knowledge based society and the ASEAN Economic Community. College of Nursing has to provide with academic and extracurricular programs for transition to new professional role. The importance of exploring the techniques of nursing students preparation to professional practice relates to the ongoing challenge to healthcare institutions, schools of higher learning and policy-makers both to understand and respond to the issues that may be driving

these energetic and motivated nurses out of the nursing profession. Nursing students should now learn how to be ready to work as professionals and provide quality services under the circumstances of the Thai health system in the current period. In a nursing career, professional life planning helps nurses to realize the value of their work and motivates them to improve themselves. In Thailand, there have a few studies that measured self-development and professional life planning. Self- development requires understanding about what a person needs to study and opportunities for learning. Therefore, it was the purpose of this research to evaluate a program that fostered nursing students' competencies toward self-development and professional life planning.

METHODOGY

Design: Quantitative and qualitative study was conducted between April 2011 and March 2012.

Step I: the primary investigators (PI) synthesized self-development and professional life planning process and studied Rungnoei's model of self-development and professional life planning (2010). The data from integrative review and Rungnoei's model were used as a guideline for developing 46-hour pre-graduation program for entry into professional nursing practice (PGPPNP).

Step II: it consisted of the PI administering and evaluating, using of a pre-test /post-test one group design, the pre-graduation program and evaluation of the students' level of achievement, in regards to the program, with 60 senior nursing students. It had 10 sessions of preparation activities (30 hours).

Final step: for developed program implementation and evaluation, monthly follow-up was made for 8 months (2 hours each or total of 16 hours). The evaluation was made at the end of the program (total of 46 hours) with 3 phases: 1 and 8 month (s) after being implemented.

Ethical considerations: The approval to conduct the study was obtained from the Committee for Research Involving Human Research Subjects, Prachomklao College of Nursing.

Sample: The sample consisted of 60 senior nursing students from a college of nursing (purposively selected from 29 colleges of nursing) under the administration of Praboromarajchanok Institute, the Ministry of Public Health.

Instruments: 3 instruments have been devised by the PI based on Rungnoei's doctoral dissertation (2010) and were validated by 5 experts. The PI has attuned only the wordiness in some sentences to avoid repeated validation including:

1) Nursing Students' Self-Assessment of Self-Development and Professional Life Planning Competencies: it included 55-item instrument, which IOC and alpha coefficient reliability were 0.94 and 0.95, respectively.
2) Nursing Students' Self-Development and Professional Life Planning Record: It was a 29-item record/diary and IOC was 0.85 in which the subjects have recorded their participation in the activities.
3) Assessment of Nursing Students' Self-Development and Professional Life Planning Competencies: It included a 20-item instrument and its IOC was 0.95. This was to assess students' accomplishment in self-development, professional life planning and learning outcomes via the review and assessment at the end of 8-week model.

Data Analysis: Descriptive statistics was used in demographic data assessment and scoring of the instruments. Also, One-way repeated measure was used to compare the mean scores of pre- and post-test results of the program administered.

RESULTS

1. A pre-graduation program for entry into professional nursing practice: It is based on the six stages of self-development and the relevant details can be found in Rungnoei's doctoral dissertation (Rungnoei, 2010) or Rungnoei, et al (2010). According to Rungnoei (2010) self development and professional life planning process consists of 6 stages as follow:

1) **Scanning the environment**

Scanning environment is assessment of external environment in the global, national, and local level such as future issue and trend, health, health care system, client demand, nursing, labor market needs, and career opportunities

2) **Self- assessment and analysis**

Nursing student should assessment and analysis themselves continually about their value, interest, competencies, personality, experience, learning needs, and network such as persons whom they can ask or consult about career decision, and develop themselves.

3) **Determining one's outlook on life**

Nursing students should write daydream for the future. It is an important motivator of success.

4) **Planning for the future**

 Plan is a critical blueprint of life. Nursing students should set their optimal goals, timelines, activities, resources and successful indicators appropriately. They should think about self development every day and make daily plan in their diary.

5) **Implementation**

Nursing students have to take responsibility to do the best according to their plans, and they should be active, yearn to know, and intend to do everything to achieve goals. Systematic record keeping is needed to help them to reflect their implementation and self development.

6) **Evaluation**

Evaluation is to determine the quality of planning and implementation. Nursing students should evaluate themselves at least every six months and adjust plan to improve their achievements.

   The program components consist of six parts as follows: 1) principle; 2) objectives; 3) expected learning outcomes; 4) learning concepts; 5) activity arrangement process, and, 6) the program effectiveness.

The objectives of PGPPNP were to enhance nursing students' motivation, self-development and professional life planning competencies. Learning concepts and the activities will help nursing students more understanding in self development and professional life planning process. The PI used games and the activities in the work shop to supplement the instruction of self development and professional life planning. Games and activity selection are based on learning objectives, the concepts including in each activity, what point during the activity that need to use a game, and the games or activities are suited to nursing students, time of delivery, and resources

Three-stage workshop (or preparation activities) has been developed by the PI for senior nursing students. The PI has presented the program in a workshop that lasted for 30 hours over the period of 8 weeks. It was divided into 10 sessions of preparation activities (3 hours each). Eleven different activities were carried out during PGPPNP. Further, there were also 2-hour follow-up sessions on monthly basis in month 2-9.

2. The program effectiveness:

1) The demographic data: the samples were the female nursing students studying in the fourth year. The ranging age of samples was between 21-26 years. Their grade point average were between 2.36-3.45 and the mean was 2.98

Table 1 The demographic data of forth year nursing students (n=60)

Demographic data	Samples (N)	percentage	Demographic data	Samples (N)	percentage
gender			**GPA**		
female	60	100	2.00-2.74	8	13.33
Age			2.75-3.00	24	40.00
21 years	21	35.00	3.01-4.00	28	46.67
22 years			(mean score = 2.98,		
23 years	34		higher mean score 3.45,		
	4	56.67	lower mean score		
		6.67	=2.36)		
26 years	1	6.67			
(Mean 21.78 years)					

2) Nursing students' self-development perception and professional life planning competencies: it was revealed that total the means of nursing students' self-development perception and professional life planning competencies before trial, after 1 month and 8 months were at a "good" level ($\bar{x}$=3.57,4.14,4.34 respectively). (Table 2)

Table 2 Means and standard deviation of self-development and professional life planning competencies before and after program 1 and 8 month(s) (n = 60)

Competencies	Pre-program		Post-program			
			1 month		8 months	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
Knowledge	3.49	.4132	4.12	.3027	4.36	.3803
Skills	3.45	.3313	4.10	.3399	4.30	.3897
1. Scanning the environment	3.33	.4754	4.06	.4327	4.30	.4712
2. Self-assessment	3.59	.3829	4.19	.3574	4.35	.3985
3. Determining one's outlook on life	3.49	.4728	4.18	.4807	4.34	.4824
4. Planning for the future	3.27	.4679	3.91	.4379	4.21	.4857
5. Implementation	3.34	.4738	3.91	.4343	4.13	.5420
6. Evaluation	3.33	.4398	4.12	.5156	4.36	.5133
Attributes	3.61	.3381	4.20	.3757	4.38	.3526
1. Motivation	3.74	.3666	4.30	.3999	4.45	.3719
2. Yearn to know	3.33	.4843	3.97	.4577	4.17	.4989
3. Responsibility	3.59	.4670	4.23	.3381	4.40	.4442
Total	3.51	.2980	4.14	.2981	4.34	.3482

Post-program means of nursing students' self-development perception and professional life planning competencies before trial, after 1 month and 8 months were different at least 1 pair at statistically significant level of .01 (p=.000). The compare in all pair revealed that there were different; (Table 3-4)

Table 3 Comparison, using one- way repeated measure ANOVA of means of self-development and professional life planning competencies before and after program1 and 8 month(s) (n = 60)

Source of variance	Sum of squares	df	Mean square	F	p
Duration	22.317	2	11.158	153.572	.000
Error	8.574	118	.073		

p < .01

Table 4 Comparison, using Bonferroni test of means of self-development and professional life planning competencies before and after program 1 and 8 month(s) (n = 60)

	Duration	Mean difference	Standard error	p
Pre program	After program 1 month	-.628[*]	.047	.000
	After program 8 months	-.826[*]	.053	.000
After 1 month	After program 8 monthи	-.197[*]	.047	.000

The data show that all three pairs are distinct, including pre-trial and trial after 1 month (p = .000), after trial with 1 month with after 8 months of trial (p = .000), after one month with 8 months after trial (p =. 000). The average competencies of self-development and professional life planning of nursing students after the experiment in the 1 month and 8 months later was higher than before the experiment and after the eight months later was higher than after a trial one month were statistically significant at the .01 level.

According to the qualitative analysis, most-required self development with the highest frequency was the nursing knowledge (76.66%); while the personalities: self confidence, human relations and Emotional Quotient (EQ) was the second highest (55.00%). After assessing and analyzing themselves, they aware that they have less competencies and were anxiety about their licensed examination and preparing themselves for working as newly graduate professional registered nurses. Therefore, in the determining one's outlook on life, they write daydream in light of personal and working life. They desire for passing the licensed examination and life happiness as well as good and warm family along with professional success (being the good, skillful and knowledgeable nurse). The following examples reflected some future pictures:

> "From the beginning until today, I would say that I have understood "what I need to do in my life." The participation in the activities allowed me to gradually broaden that idea (to understand the way of life). I have more enthusiasm and effort. I now had greater motivation to continue reading and to learn what I have never known before. I will keep striving for the success…"

3) The average score of the developed program satisfaction: the average score was at a "very good level" ($\bar{x}$=4.56). The highest average score were the satisfaction for the eight activities that is called "the way to succeed" ($\bar{x}$=4.56), the group mentors helped them to succeed in the preparation ($\bar{x}$=4.57) and the lowest average score was the appropriate time of the activities ($\bar{x}$=3.87).

DISCUSSION AND CONCLUSION

Whilst continuing learning and updating of knowledge and competence have been important for nurses to remain professional practitioners, nursing as a vocation finds itself on a protracted path to professionalization. The idea of lifelong learning has cumulatively gathered momentum because of changes in healthcare and with concern over professional regulation of healthcare professionals, and consequently it has become an essential component of the nursing world. Nurses are subject to changes in the social and economic structure of society because of technological advances and the general expansion of knowledge within society, the profession and healthcare in general (Robyn & Elaine, 2009).

Nursing students should thus be promoted to devote in profession, and to have the awareness in self-development, and understanding about career path corresponding with the suggestion of Marsland (1994) that primary source providing career guidance and planning should be colleges/school of nursing. After the eight months trial of the program, encouraging the students to plan for self-development and professional life should thus recognize the importance of those elements for achieving the balance of life and work. This finding was consistent with the research finding of Hay, Mitchell & Allen (1989), Waddell & Bauer (2005). Having the outlook on life in mind could be an important motivator for self-development towards desired goals (Donner & Wheeler, 2001, 2009). The integration of pre-graduation program into extracurricular activities or academic curriculum may be a mean to ensure that nursing students were trained to be active, yearn to know, lifelong learning and take responsibility of their individual study and professional life planning. All these skills could eventually increase their self-confidence towork as a newly graduate.

Moreover, Thailand will face with the ASEAN Economic Community in 2015. Service careers such as nursing and dentistry are expected to see particular movement, resulting in high competition in the local workforce because that will be allowed to work across the region when ASEAN forms the community in the next three years. Change and uncertainty are now the only constants in contemporary health care, thus health-care professionals, including nurses, need to become lifelong learners if they are to remain competent in their fields. In line with previous research the respondents of this survey (pre-registration) anticipated the transition would be stressful. However, as the transition was less stressful and less problematic than expected, their concerns were not actually realized. This supports Brown & Edelmann's (2000) assertion that many students and registered nurses perceive more potential problems than they experience in practice. Nevertheless, given that many of the respondents reported stress in relation to their anticipated role there is a need to ensure that supportive measures are available to help reduce transition stress (O'Shea and Kelly, 2007). In supporting nursing student as they make the transition to the role of registered nurse, nursing instructors should provide opportunities that assist in consolidating knowledge and skills.

A supportive learning culture in the college is vital to the development of the lifelong learner. Colleges have explicitly incorporated lifelong learning into their educational philosophies either via their mission statements, goals, strategies, and/or graduate outcomes. This is evidenced through the emphasis placed on student-centered learning – including the promotion of critical and analytical skills, and the embedding of reflective thinking – as a part of the learning process. A demonstration of this is provided by the increasing adoption of learning methods such as web based learning, reflective practice, and peer learning. These teaching activities assist in developing the attributes of lifelong learning in the student. Therefore, lifelong learning, self-development, and professional life planning are the important components for balancing their working and life.

This study provides a guideline for setting the activities for continuous development of nursing students who would become newly registered nurses so that they can improve high quality of care, and plan their professional life according to their career ladder and specific goals. Longitudinal research is recommended, especially in light of monitoring the outcomes of pre-graduation program.

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THE LEARNING OUTCOME OF MIAP LEARNING MODEL WITH SOCIAL MEDIA FOR THE SYSTEM AND ANALYSIS SUBJECT FOR ENHANCING ANALYTICAL THINKING ABILITY AND LEARNING ACHIEVEMENT OF HIGHER VOCATIONAL CERTIFICATE LEVEL STUDENTS

Duangkamol Phonak
King Mongkut 's University of Technology North Bangkok
1518, Piboonsongkram, Rd., Bangsue, Bankok,10800, Thailand
tantawan_ple@hotmail.com

Abstract
This purpose of this research were 1) to develop the MIAP learning model with social media for the System and Analysis Subject for enhancing analytical thinking ability and learning achievement of higher vocational certificate level students : MIAP-SM and 2) to study effects of implementing the MIAP-SM. The research were consisted of 2 phases; the development and evaluation MIAP-SM phase and the implementation of MIAP-SM phase. The first phase was validated by 5 experts. The second phase implementing the MIAP-SM was experimented with The purposive sample were 10 students of the second year in higher vocational certificate level at Chitralada School (Vocational Section). The data were analyzed by using arithmetic mean, standard deviation and t-test.

The results of research were 1) the validation of the MIAP-SM was high level and 2) the students learning with MIAP-SM 's posttest scores of analytical thinking ability and learning achievement were higher than the pretest scores at the statistically significant level at .05 and the satisfaction of student learning by MIAP-SM were high level.

INTRODUCTION

Learning and Teaching in the 21st century with the National Education Act B.E. 2542 and 2545, Section 22, requires that provision of learning must be based on the principle that every student can learn and self-develop. The students would be encouraged to develop naturally to their full potential. Section 24 specifies that educational institutions and relevant agencies must arrange activities, learning environment and facilities with interests and aptitudes of their students. Besides, Teaching and learning in higher vocational certificate level approaches would focus on development of students, student-centered, thinking skills, real-life situation, and problem solving. The learning of students must be coordinated and integrated to real life so that they can learn naturally and meaningfully. Thus, integrated education provision has more important in order to, enhancing analytical thinking ability and learning achievement of higher vocational certificate level students.

Social media services contain eight features: the application of collective wisdom, reusable, innovation portfolio, creating a rich experience, integration of multi-device software, continuous function update, the long tail effect, and actuarial saving light framework (Joiner, Nethercott, Hul & Reid, 2006). Web systems provided users a collaborative creation environment. Researchers have indicated that web technologies could be used to support indoor or outdoor learning activities via mobile devices (Ebner, 2007; Hwang, Tsai, Yang & Criteria, 2008), such that students can learn collaboratively in avirtual community (Laru & Jarvela, 2008). The student-centered learning with social interactions could foster students to become self-learners then the role of teachers could be more as a mentor for guiding students to think independently and to participate in collaborative learning actively through discussions, knowledge sharing and problem solving (Chen, 2011).

Social media services showed that Figure 1 Social media type as social media landscape

Figure 1 Social media type
http://www.fredcavazza.net/2008/06/09/social-media-landscape/

As the information reviewed above, the researcher would like to develop the MIAP learning model with social media for the System and Analysis Subject for enhancing analytical thinking ability and learning achievement of higher vocational certificate level students : MIAP-SM. in order to promote higher vocational certificate level students for analytical thinking ability and learning achievement.

PURPOSE OF THE RESEARCH

The purposes of research were:
1) to develop the MIAP learning model with social media for the System and Analysis Subject for enhancing analytical thinking ability and learning achievement of higher vocational certificate level students : MIAP-SM.
2) to study effects of implementing the MIAP-SM.

CONCEPTUAL RESEARCH FRAMEWORK

This research could show conceptual research framework following as Figure 2
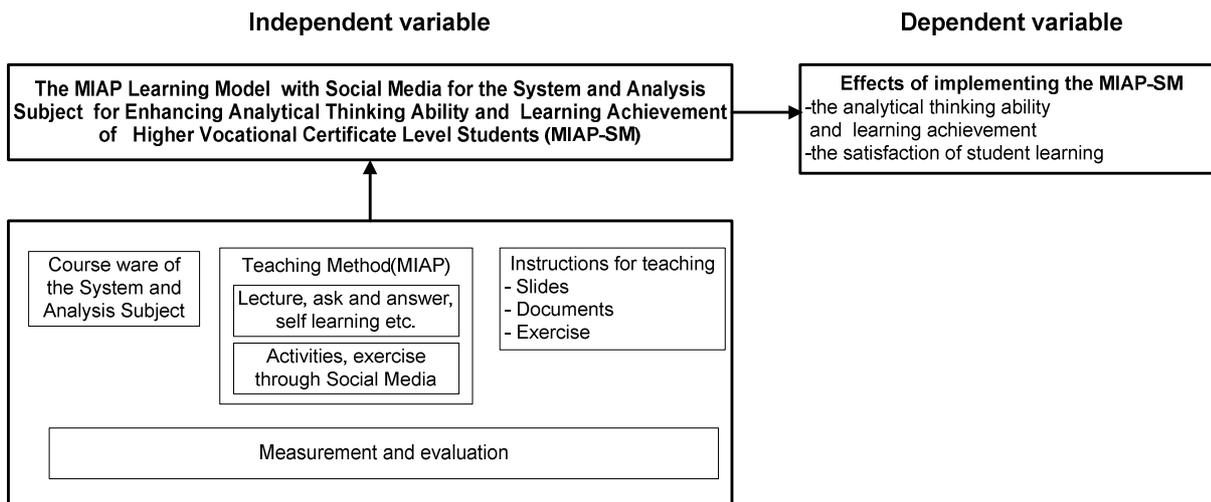
Figure 2 Conceptual Research Framework of the MIAP learning model with social media for the System and Analysis Subject for enhancing analytical thinking ability and learning achievement of higher vocational certificate level students : MIAP-SM

RESEARCH METHODOLOGY

There were four phases of this research methodology

4.1 Development and evaluation of the MIAP learning model with social media for the System and Analysis Subject (MIAP-SM) as following :

1) A study conceptual framework of related theories, including theories of learning and teaching in education theory, theory of MIAP learning model , social media , content of System and Analysis Subject.
2) develop the "MIAP-SM Model"
3) A study five experts' opinions on the quality of the "MIAP-SM Model".
Then, the model was certified by five experts through the MIAP learning model with social media for the System and Analysis Subject for enhancing analytical thinking ability and learning achievement (MIAP-SM).

4.2 Implementation of the MIAP learning model with social media for the System and Analysis Subject (MIAP-SM)

In order to finding the result of this research, the purposive sample were 10 students of the second year in higher vocational certificate level at Chitralada School (Vocational Section) at semester 1/2012 who were experimented with the MIAP learning model with social media for the System and Analysis Subject for enhancing analytical thinking ability and learning achievement : MIAP-SM.

CONCLUSION AND DISCUSSION

The result of research was finding : The experts evaluated that MIAP-SM's quality was considered to be of high level. The effects of implementing the MIAP-SM were following that the students learning with MIAP-SM 's posttest scores of analytical thinking ability and learning achievement were higher than the pretest scores at the statistically significant level at .05 and the satisfaction of student learning by MIAP-SM were high level. Above Joiner, Nethercott, Hul & Reid (2006) pointed out that Social media services contain eight features: the application of collective wisdom, reusable, innovation portfolio, creating a rich experience, integration of multi-device software, continuous function update, the long tail effect, and actuarial saving light framework such that students can learn collaboratively in a virtual community (Laru & Jarvela, 2008). The student-centered learning with social interactions can foster students to become self-learners. Besides, the role of teachers could be more as a mentor for guiding students to think independently and to participate in collaborative learning actively through discussions, knowledge sharing and problem solving. The student activities of learning were completed through social media services. Therefore, the student would be increase analytical thinking ability and learning achievement in System and Analysis Subject using "MIAP-SM Model"

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LIFELONG LEARNING POLICIES AND PRACTICES IN MALAYSIA

Lip-Sam Thi[1]
Tian-So Lai[2]
Chee-Hee Hoe[3]
[1]Centre for University-Industry Cooperation, Universiti Utara Malaysia, Malaysia
lsthi@uum.edu.my

[2]Executive Development Centre, Universiti Utara Malaysia, Malaysia
tslai@uum.edu.my

[3]College of Business, Universiti Utara Malaysia, Malaysia
chhoe@uum.edu.my

Abstract

The lifelong learning agenda plays an important role in a nation's education system. It reflects government commitment of establishing a learning society to meet it's economic, and social objectives. This paper is aimed at identifying current policies and practices of lifelong learning in Malaysia. It also aims to examine current issues of who are the parties involved, types of programmes being offered, and its relation in helping this nation to enhance its human capital and towards in achieving a developed nation by year 2020.

INTRODUCTION

In the context of globalisation, modernisation and the aging populations, skills and knowledge have become increasingly important in determining individual's ability to secure job, retain employment and move flexibly in the labour market. There is consensus that individuals, organizations and societies need to learn on a continuous basis in this Learning Age, hence, contributing to a growing demand for continuous or lifelong education. Delors (1996) had categorised lifelong education into four fundamentals of learning namely; learning to know, learning to do, learning to live together and learning to be. These fundamentals of lifelong learning (LLL) are aimed to promote active citizenship, achieved personal fulfilment, gained employment and achieved competitiveness by embracing formal, non-formal and in-formal learning.

Generally, lifelong learners comprised mainly of adults who are working fulltime while pursuing their education on a part-time basis. Lifelong learning also includes learning beyond the formal setting especially those who have reached adulthood or who are no longer remained in the formal education system namely; the school system and tertiary education system. Various LLL programmes are being developed to meet the demand of adult learners who encountered limitation due to work commitment and the need to upgrade themselves continuously. Traditional school system is not structured to cater for the needs of this category of learners. Hence, a new architecture of education and training system are to be developed to cater for these lifelong learners.

Traditional learning mainly comprised of formal learning that take place in formal educational institutions that leads to some form of accreditation or qualification. Besides formal learning, non-formal learning also takes place out of the formal educational context where the aim of learning may not necessarily result in a particular qualification. Individuals could take part in activities to gain new skills or knowledge in particular areas related to their work or personal growth and finally. Individuals also learnt through informal learning that comprises of generally unstructured learning activities that they undertake to fulfil the need for knowing about certain things and skills. Nonetheless, irrespective of the types of LLL programme being pursued, individuals need to continue to learn throughout their active life, and even beyond to enable them to adapt to changing socio-economic environment.

Lifelong policy makers have advocated the whole of learning experience is driven by the logic of the market and economic relevance and to those who maintain the goals are personal well-being, active citizenship and personal empowerment in the sense of becoming capable of making authentic decisions. From multitude of learning purposes such as learning to be, learning to know, learning to do and, learning to live together, lifelong learning has emerged as a key concept and a gaining interest among many policy makers and practitioners in the 21st century.

1. THE SIGNIFICANCE OF LIFELONG LEARNING

Many countries around the globe have placed strong emphasis on lifelong learning because of the benefits that it brings to individuals, businesses, communities and nation. For individuals, lifelong learning improves the chances of getting jobs; for businesses lifelong learning is an investment that adds values and generating ideas to firms; for communities lifelong learning promotes social cohesion and, for the nation, lifelong learning means a strong economy in a global marketplace. Countries such as Japan, Republic of Korea, Singapore, New Zealand had a head start in making lifelong learning a reality with specific framework and policies to implement LLL.

Japan, Republic of Korea, Hong Kong, China, Singapore, Thailand and the Philippines have initiated LLL with the enactment of various legislations and government policies (ILO, 2003). For example, Republic of Singapore and People Republic of China have launched strategic plan namely 'Manpower 21' and 'Educational Blueprint for the 21st Century' respectively to development LLL in order to meet the demand for knowledge and skilled manpower. In Singapore, the Ministry of Education has also entered partnership with Ministry of manpower while in the Republic of Korea, Ministry of Education has been transformed into Ministry of Education and Human Resources Development, reflecting government commitment to promote LLL in these countries.

A growing number of countries including Malaysia have initiated policies and programmes to make lifelong learning a reality. However, against the background of lofty statements such as lifelong learning for all, developing human capital and knowledge workers, and creating learning and inclusive society, the reality in terms of government's effort and participation in lifelong learning and to promote LLL among working adults in Malaysia remains succinct.

Hence, the aim of this study is to identify lifelong learning policies, practices, and issues related to LLL in Malaysia in order to generate knowledge in this subject area. Other than to provide an understanding of current scenario of LLL in Malaysia, this study also aims to provide input to policy-makers, LL learners and LL education providers that can help to transform Malaysia to a high-income and learning nation.

2. CONCEPT OF LIFELONG LEARNING

The concept of lifelong education was first elaborated at the end of the 50s and the beginning of the 60s of the last century in relation to the introduction of education for adults. The concept has moved from one that focuses on economic concern and employability, to broad objectives namely; learning activities to promote active citizenship, social inclusion, personal fulfillment and employment.

OECD (1996) defines LLL as all purposeful learning activity from cradle to grave that aims to improve knowledge and competencies for all individuals who wish to participate in learning activities. The European Commission defines LLL as all learning activities undertaken throughout life with the aim of improving knowledge, skills and competence within personal, civic, social and/or employment perspective. Lifelong learning is also about providing second chance and opportunities to learn and update basic skills to potential adult learners (ESAE, 2007).

In Malaysia, LLL is generally defined as learning engaged by everyone of age 15 and above except professional students. Professional students are those who are enrolled full-time in school, college and university with the aim of acquiring academic qualification or skills (MoHE, 2011).

Fundamentally, lifelong education involves continuous learning from the cradle to the grave, engaging in formal learning (via college or university), informal learning (experiential learning on the job) and also learning in personal, social and professional capacity.

Traditional learning practices stereotypically involved learning in formal education and training undertaken while young. This was found to be insufficient for the individuals to cope with the advent of information era and digital revolution. Modernisation, globalisation and the emergence of knowledge-based economy had compelled

individuals to learn continuously in order to face with new challenges and gain new knowledge to cope with the rapidly changing world.

Unlike traditional learning, lifelong learning involves all citizens across lifestyles and across individuals. According to the International Labour Organisation (ILO), lifelong learning ensures that individual's skills and competencies are maintained and improved at work, ensures the personal and career development of workers that would result in increases in aggregate productivity, income and improves social equity (ILO 2000).

THE NEED FOR LIFELONG LEARNING IN MALAYSIA

Malaysia's changing demography, pressure of globalization and rapid technological change have attributed to the importance of lifelong learning. Increase globalisation and interdependency of national economies, removal of trade barriers have inevitably affected Malaysia.

As a response to these changes, Malaysia is moving towards knowledge-intensive economy (K-economy) and away from the traditional labour-intensive industries. The nation is currently experiencing slow growth after the Asian financial crisis 1997-1998. Forty percent of Malaysian household still earns about RM1500 per month (NEAC, 2010). This is way below government target of achieving 18,000 USD annual per household income by year 2020.

In order for the nation to achieve the status of an advanced nation with high income, there is a need to transform our labour intensive and low skilled economy to knowledge-based or high skill economy. However, only a small percentage of the Malaysian labour force is high skilled or multi-skilled or possesses a tertiary education qualification (RMK 10).

With a population of about 29 million and a working of about 12 million in 2009, only 23.2 percent of the workforce has tertiary education, 55.3 percent has only secondary education, 17.5 percent of the country workforce has primary while 4 percent has no formal education (Table 1).

Many of the nation's work force is unskilled and semi-skilled. This is insufficient to meet the needs of a knowledge-based economy. Low-skilled or semi-skilled workforce needed to be retrained to become high or multi-skilled workers. Working adults in Malaysia need to further their education and undergo training to upgrade their skills and knowledge.

Table 1: Malaysian Labour Force and Education Level

	2007	2008	2009
Total working population (million)	10.9	11.0	11.6
Tertiary	20.3%	21%	23.2%
Secondary	56.3%	56.0%	55.3%
Primary	19.3%	18.3%	17.5%
No formal education	4.0%	4.4%	4.0%

Source: MoHE (2011)

1. CURRENT LLL POLICIES AND PRACTICES IN MALAYSIA

Fundamentally, LLL has already being practiced in Malaysia. However, there is differences in emphasis in terms of the approach to lifelong learning in the context of pursuing economic and social/equity objectives, ranging from one that focuses on basic learning to learn skills, to a much more instrumental tightly focused vocational orientation and the social and equity objectives.

Lifelong learning plays a key role in the struggle for equality of opportunity in the Malaysian context, in remedying school failure and in contributing to cultural, economic and social development. While many policies identify socio-economic equity as an aspiration, there is some evidence that the advantages to be gained from participation in lifelong learning accrue to those who have already been most advantaged in their early life education.

Lifelong learning is often used as a strategic tool to foster a knowledge-intensive economy. The concern by Malaysian government in the rapidly globalising economies is to maintain the competitiveness of its workforce. It cannot be denied that the key for survival of both Malaysia private and public sector enterprises in the era of digital economy and globalisation is the training of knowledge and skilled workers. It is imperative for the survival of Malaysia to chart out a road map for LLL and continuous training of Malaysian citizens and nurture a pool of multi-skilled workers with state-of-the-art knowledge that is current and relevant.

To a large extent, lifelong learning is also viewed as the responsibility of the Malaysian government. However, due to the constraints on public expenditures, financing lifelong learning or cost sharing have become a major issue and policy debates among decision makers and practitioners of lifelong learning. However, the nation wants to preserve its heritage, cultures and values, democratic way of life and economic production; educating the adults is imperative. If effort to enhance knowledge, skills and learning abilities are not renewed, the capacity of individuals, communities and nation to adapt to new environment will be reduced (Dhanarajan, 2010).

The role of LLL is further enhanced and LLL has been acknowledged as a critical agenda for the nation to move towards developed and high-income nation by year 2020 (MoHe, 2007). It is critical that specific LLL policies be drafted to show nation's commitment to promote LLL. However, prior to 2011, no comprehensive policies or guidelines have been formulated to lay the groundwork and address various issues related to LLL implementation. As a result, LLL initiatives undertaken by LLL providers have disarrayed and could not achieve its full potentials. The awareness on the opportunities for LLL, access to programmes, quality, costs, programme recognition and related prior learning are some of barriers towards the enculturation of LLL among adult learners in Malaysian .

Although there was no explicit policy to promote LLL in Malaysia since the nation gain independence, as early as in the 1990s, legislations were drafted and existing ones were amended for the purpose of massification and democratization of education. The government aims made higher education more accessible to Malaysia.

Five bills related to higher education were passed by the Parliament in 1996. These include the "Education Act', the "University and University Colleges (Amendment) Act", Private Higher Education Institution Act (Amendment) 2009", the "National Council of Higher Education Act', and the "The Malaysian Qualifications Agency Act 2007 (replacing the previous Act namely, the National Accreditation Act Board 1996 which has been repealed).

The Education Act allows the establishment of branch campuses of foreign universities and the creation of private universities in Malaysia. The aim is to allow more Malaysian to have access and to pursue tertiary education. Another impact of this act is the reduction of outflow of about RM2.5 billion annually for overseas education by Malaysian students (Leong, 1997).

Amendments to the University and University Colleges Act, has allowed corporatisation of public universities in Malaysia. Universities that have been corporatised such as University of Malaya would have greater autonomy to manage and operate in a more proactive manner meeting the demands of the rapidly changing market.

The Private Higher Education 1996 later amended in 2009 paved path the way for private sectors to set up universities and colleges. This Act provides for the establishment, registration, management and supervision of, and the control of the quality of education provided by private higher educational institutions. To expedite the formation of private universities, the government had proposed the national utility and resource companies such as Tenaga National, Telekom Malaysia, Petronas to establish Tenaga National University, Multimedia University and Petronas University respectively.
As a result, tertiary education is accessible for school leavers as well as working adults.

The monitor the quality of programmes being offered, the National Accreditation Act allows the setting up of an Accreditation Board to ensure the quality of programmes offer by private and foreign universities. The National

Council of Higher Education is being set up to plan, formulate and determine future national policies and strategies for the development of higher education in Malaysia.

Some of the important government documents that inferred Malaysian government policy positions on LLL are cited in the Third Outlook Policy Plan (OPP3), the Eighth Malaysia Plan (RMK8 2001-2005), Ninth Malaysia (RMK 9, 2006-2010) and Tenth Malaysian Plan (RMK10, 2001-2015). These plans have made references to the strategic importance of lifelong learning.

> *Lifelong learning will become increasingly important in the knowledge-based economy where knowledge and skills need to be continuously updated and upgraded. New skills and expertise will be required to improve employability and productivity.*
>
> (OPP3, Malaysia, 2001b, p.162)

> *During the plan period the principal thrust of Human Resource Development will be the creation of a strong human resource base to support the development of a knowledge-based economy and enhance productivity and competitiveness.*
>
> (8MP, Malaysia, 2001, p.15)

For the Ninth and Tenth Malaysian Plan, effort was to steer the national transformation process towards knowledge-based economy whereby total allocation for human resource development is RM45.15 billion.

> *During the Ninth Plan period, capacity building will be accorded high priority. Towards this end, comprehensive improvement of the education, training and lifelong learning delivery systems will be undertaken. …… Lifelong learning programmes will be expanded to provide greater opportunities for individuals to improve and add values to themselves through continuous acquisition of acknowledge and skills.*
>
> (9MP, Malaysia, 2006, p. 249)

Tenth Malaysia Plan (2011-2015) highlighted government commitment to develop human capital and providing a viable alternative to enable individuals to realise their potential based on their own inclinations and talents.

The above policies put the case for promoting lifelong learning in terms providing training for Malaysian workforce to gain better qualifications, enhancing their knowledge, skills and to face the challenges of knowledge economy. Nonetheless, the nation still requires comprehensive guidelines for developing and promoting LLL in Malaysia.

Two additional cues from the national development plans that led to the need for nation transformation are; Firstly, Vision 2020 that aimed to guide the nation towards achieving developed nation by year 2020. Second, the New Economic Model (NEM) that aims to help the nation to get out from the middle income trap and to become a high-income economy, inclusivity and sustainability nation.

2. MALAYSIA NEW ECONOMIC MODEL

As a result of Asia financial crisis that hit the region in 1997-1998, Malaysia is trailing behind in terms of slower economic growth. The nation annual growth prior to the financial crisis was averaging about 9%. Post crisis economic growth rate has plummeted to about 5%. For the past consequutive15 years, Malaysian government has resorted to deficit budget. The nation is also said to be caught in the middle in-come trap. The nation has also deviated from its path to becoming a developed nation by year 2020. To bring the nation back to its original growth path, a radical change is needed in the approach to develop Malaysia economy. A relatively low education attainment was single out as the main barrier for nation transformation to a developed nation.

In 2010, the New Economic Model (NEM) was launched by the government to drive the nation economic transformation in order for it to attain the advanced nation status by year 2020. Eight strategic reforms initiatives were targeted by NEM namely; to reenergise private sector; developing quality work force;

competitive domestic economy; strengthening public sector; transparent market friendly affirmative action; building knowledge based infrastructure; enhancing source of growth and, ensuring sustainability of growth.

The National Economic Advisory Council (NEAC) has identified twelve national key economic areas (NKEAs) to support the eight strategic reform initiatives. Two strategic NEM initiatives namely developing quality workforce and building knowledge infrastructure point to the need for LLL. The aim is to enable the nation to leverage on its human capital in order to spur nation's economic growth.

To support this vision, MoHE had included lifelong learning as one of the seven strategic thrusts to strengthen Malaysia's human capital development and nurture "first class mentality" among Malaysian in the Higher Education Strategic Plan (NHESP). MoHE's NHESP outlines the sixth trust "Enculturation of Lifelong Learning" that implied lifelong learning must become part of culture and lifestyle among Malaysian. NHESP also proposed four strategies to achieve the objective of the sixth thrust namely; recognition of LLL based on Malaysia Quality Framework MQF, Recognition of prior learning, enhance public awareness and involvement in LLL and, alternative route and mobility programmes to ensure continuity and appreciation for LLL to inculcate LLL as a way of life (MoHE, 2007).

In line with the commitment of government towards LLL in Malaysia, MoHE has launched a blueprint for LLL in 2011. *Blueprint on Enculturation of LLL for Malaysian (2011-2020)* laid the groundwork for future development of LLL in Malaysia. It is the first comprehensive LLL blueprint that provides guidelines for the implementation of LLL initiatives. As stated in the Blueprint, similar to primary and secondary schooling and tertiary education, LLL is the other main stream of the nation education system to promote human capital development. LLL is recognized as the third pillar of nation's education system after School System and Tertiary Education system.

LIFELONG LEARNING PRACTICES IN MALAYSIA PRIOR BEFORE YEAR 2011

Lifelong learning is not a new phenomenon because in the early 70s. public institutions of higher learning such as Universiti Sains Malaysia, Universiti Putra Malaysia (Agriculture College), University Technology Malaysia (Technical College), Institute Technology Mara and Institut Kemahiran Mara had offered various programmes catering for the working adults to upgrade their knowledge and skills. Private colleges such as Stamford College and Goon Institute had also offered programmes for adults who failed to gain the minimum entry requirement for admission into institutions of higher learning. Programmes offered by London Chamber of Commerce and Industries (LCCI) and City and Guilds are some of the popular qualifications that attracted many adult learners to upgrade themselves.

Open University Malaysia (OUM) is the first private institution of higher learning to offer distant learning programmes to Malaysian. Though distance learning is not uncommon because such mode is already being offered by Universiti Sains Malaysia through its Centre for Distant Learning (Pusat Pengajian Jarak Jauh) and University of London distant learning programmes in the 70s.

In recent years, MoHE has also granted Open Distance Learning status to Wawasan Open University (WOU), Asian e-University (AeU), Al-Madinah International University (MEDIU), International Centre for Education in Islamic Finance (INCEIF) and University Tun Abdul Razak (UNIRAZAK). Similarly, many private education training centres have partnered with public universities to offer short term executives training programmes and post-graduate degree such as MBAs and Doctor in Business Adminstration. These LLL centres include Angkasa Training Centre, Rezzen, Progressive Heritage, Tan Chong Education Services and IKIP.

The growing awareness of continuous education and the flexible entry system provides leeway for adults who did not completed formal education but with relevant working experience to gain entry into various lifelong learning programmes. However, in Malaysia formal lifelong learning to obtaining some form of qualification that include certificate, diploma, degree or post graduate degrees is still the preference of lifelong learners (Khairuddin, 2004). Learning programmes are structured with clear learning outcomes and objectives which are conducted in institutions such as universities, polytechnics or community colleges.

Public universities have played an important role as LLL providers with various short and long courses being offered to adult learners. These programmes ranging from certificate level to post-graduate degree such as doctor of management or PhD.

The setting up of community colleges and polytechnics are means of providing school leavers to further education. Although, community colleges are considered potential lifelong learning hubs, however, these colleges mainly offer short courses ranging from several days to a year to school leavers or working adults. Currently, there are 27 polytechnics and 64 community colleges located at various parts of the country (MoHE 2010). The community colleges are providing conduit for school leavers especially those students who failed to gain entry into polytechnics and matriculation colleges.

In Malaysia, non-formal lifelong learning programmes do not lead to the conferment of formal qualifications (Khairuddin, 2004). Opportunities for this type of lifelong learning generally take place at the work-place and on the job training. The Ministry of Human Resources via Human Resource Development Council (HRDC) and Human Resource Development Fund (HRDF) play a key role in promoting this form of LLL among Malaysia workforce.

Besides, National Skills Development Council (NSDC) was set up to promote skills development among Malaysians via its 877 training centres and 534 private training institutions. Other ministries such as Ministry of rural Development, Ministry of Youth and sports, Ministry of Agriculture and Agro-based Industry, Ministry of Education and Majlis Amanah Rakyar (MARA) also conducted LLL programmes for government employees and general public.

Informal lifelong learning does not have any structure and set objectives in terms of learning outcomes or leading to formal recognitions. It usually initiatives of individuals from their interest and involved participants of all ages and across all levels of society. According to Gan (2004), informal LLL are community based programmes that meet the needs of community in terms of career training, community interest, self improvement, basic educations and literacy. Among the active informal LLL providers are Malaysian Grid for Learning (MyGfL) which is a one stop centre for country's LLL agenda. Besides the Ministry of Rural and Regional Development through its agencies such as RISDA, IKBN, KEMAS promote LLL to rural communities to be knowledgeable and self-reliance.
Malaysia Chinese Association (MCA) is also actively promoting informal LLL among local communities.

GENERAL ISSUES AND CHALLENGES IN LIFELONG LEARNING

Although LLL has been in existence, Malaysia working adults have yet to take advantage of the benefits of lifelong learning to develop their self-potential. There are several issues that need to be addressed for the enculturisation LLL among citizens of Malaysia to be successful.

Major concern related to lifelong education in Malaysia is limited access to lifelong learning opportunities due to various reasons ranging from lack of physical access, limited programmes, lack of recognition of skills gained earlier formally and informally or the financial means to pay for lifelong education. Until year 2011, there are no specific guidelines that provide the direction for the development of LL education in Malaysia.

The absence of a comprehensive lifelong learning policy has resulted in proliferation and disarray development of LLL initiatives. Duplications in term of the types of programme being offers by LLL providers that resulted in non-optimisation usage of learning resources. The quality of LLL programmes, facilitators, classroom facilities and infrastructure are compromised due to the lack of standard guidelines and monitoring mechanism. The issue of recognition of LLL programmes arises due to the lack of clear guidelines or standards. As a result, qualifications attained from LLL programmes sometimes cannot be used to gain entry for further education at public universities.

Improving the assessment and recognition of learning outcomes represent a key challenge to the promotion of lifelong learning. Malaysian Qualification Agency (MQA) has provided framework for the accreditation and

recognition of qualifications, nonetheless, many lifelong learning programmes remained unrecognised that inhibit the promotion of lifelong learning in this country.

Financial resources for individual to pursue LLL are also limited. The main source of financing is obtaining study loans from financial institutions and withdrawer from Employee Provident Fund. More recently, adult learners can obtain assistance from *Perbadanan Tabung Pendidikan Tinggi Negara* (PTPTN). Generally, employers in Malaysia can play a role to provide financial and non-financial support such as scholarship or time off for employee to further their study. Apart from the financing principles and mechanisms, the recognition and certification of prior learning is critical for promoting lifelong learning.

In many countries, the introduction of reform to recognize prior learning (RPL) results in major transformation of the lifelong learning landscape. For example, the Credit Bank System in Republic of Korea that converts formal and non-formal learning experience into credits that can be used for higher education qualifications. RPL provides individuals opportunity to validate skills and competencies irrespective of how and where they learned them.

Moreover, in the knowledge economy where competencies are much fluid, it is argued that assessment, recognition and certification need to be flexible and must involve other partners notably the employers. Acknowledging the multidimensional nature of learning and the diversity of providers, new arrangements to define, assess and certified competences where importance is more on processes and outcomes need to be considered in order to further promote lifelong education. For example, in Australia, a "Statement of Attainment" can be issued when part of a qualification is completed. Similar mechanism called the 'Record of Learning' in New Zealand by assigning credits transfer to adult learners has contributed to greater mobility and progress onto the next higher level for the adult learners.

The recognition of prior learning constitutes a powerful reform to promote lifelong education. Together with the development of qualification framework and the recognition of prior learning, the design of new financing principles and tools constitute the basis of lifelong learning revolution for Malaysia.

While governments in the Asia Pacific Region have provided governance and policy-making role in promoting lifelong learning policies and programmes, however the private sector is increasingly playing key role in providing training activities in the region. Many lifelong learning programmes are conducted through partnership between government and the social partners or between social partners. This has resulted huge variation in standards/criteria for levels of learning/skilled obtained. Malaysia was not excluded from facing such issue, subsequently an agency was entrusted to develop a national qualification framework namely Malaysia Qualification Framework (MQF).

CONCLUSION

Nine million out of 12 million Malaysia workforce have less than 11 years of schooling (MoHE, 2011). Malaysia has been talking about lifelong learning (LLL) for a long time. Malaysian government has highlighted LLL as a priority in order for the nation to face the highly competitive world. It is acknowledged that despite of the initiatives undertaken by our government to promote lifelong learning, the responses from Malaysian public felled below expectation. This will inhibit effort to transform Malaysia's economy towards knowledge-intensive economy (K-economy).

Past leaders have highlighted the importance for the need for a first word mentality to match first world infrastructure. The need to transform Malaysia economy to k-economy is no longer an option but a necessity. LLL is the fundamental pillar in this transformation. The desire to engage in learning can occur at any point during an adult's lifetime. It is unlikely that a single type of course and method in delivering LLL will fit an adults entire life periods. The fundamentals of lifelong learning are being highlighted by Delors (1996):

> *There is a need to rethink and broaden the notion of lifelong education. Not only must it changes in the nature of work, but must also constitute a continuous process of forming whole human beings; their*

knowledge and aptitudes as well as the critical faculty and ability to act. It should also enable people to develop awareness of themselves and their environment and encourage them to play their role at work and in the community"

<div align="right">Delors (1996)</div>

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DEVELOPMENT OF A LEARNING MANAGEMENT MODEL FOR SUFFICIENCY ECONOMICS PHILOSOPHY INSTRUCTIONAL THE ELEMENTARY EDUCATION LEVEL

Anyarat Namuang[1]
Suwannee Yahakorn
Pirat Suseansuk
Siriwan Sripahon
[1]Khaoniwet Municipal School Muang district Ranong province
anyanamuang@gmail.com

Abstract
This research aims to develop of learning a model to the teaching philosophy of Sufficiency Economy for students. The sample consisted of students in four grade Uppanantharam school 25 persons to the first semester academic year in 2555. Tools used in this study combines learning to the teaching philosophy of sufficiency economy, lesson plans, achievement test, an assessment of the philosophy of Sufficiency Economy in life daily, an evaluation of the sufficiency economy philosophy, student satisfaction survey, teachers satisfaction survey and Interviews parents. Data were analyzed by using percentage, mean, standard deviation, test value and content analysis.

The results showed that
1. A form of learning called UNYA Model, which consists of principles, the process of learning, the form of learning to improve the teaching-learning process 4 steps: 1. Understanding. (Understanding: U) 2.Native learning (Native learning: N) 3. Your Group Activities (Your group activities: Y) 4. Stage application (Application: A).
2. Achievement of Grade 4 students before and after instruction using learning styles different statistically significant at the .05 level.
3. Ability of the sufficiency economy philosophy to daily life a good level.
4. Features philosophy of sufficiency economy before and after the training of the model, learning was good.

KeywordS : Teaching philosophy of sufficiency economy, The history and significance of the problem

RATIONAL OF THE STUDY

Thailand is facing a crisis of values. The impact of the flow of foreign cultures into the country through the mass media and information technology screening and cultural beauty. The moral and ethical decline of Thailand, especially children and youth due to lifestyle changes. The family institution and religious institutions play a role in raising awareness and instilling moral and ethical life with less competition. To survive in Thailand unable to adapt to changing circumstances the militarily, lead values and behavior-oriented material, and increasing consumerism , Epicurean attitude. Behavior simulation make up the average and the "Report on the situation of detention is Installed in Thailand 2551" The Office of the National Economic and Social Development found that people with moral decline of 60.50 percent in 2544 until the year 2549, accounting for 53.65 percent of youth Thailand moral immune deficiency and increased risk behavior. Data from the Child Watch program to explore the behavior of young people across Thailand in Grade 4 percent beginner Nightlife at least one time per week to play the lottery and gaming -6.66 5.46 percent and the Ministry of Social Development. Human Services: 2550. Child Watch is a survey of the 2551 survey are consistent with the "moral crisis of youth Thailand" The Office of the Education Council (Office of the National Education Commission) and the Suan Dusit Poll. The survey of school administrators, teachers, students and parents across the country. Found that youth behavior problems and social aware now is a luxury identified with a 25.21 percent, followed by the dress here, 24 percent foreign fashion and vice conspiring 20.05 percent ,15.49 percent unreasonably aggressive expression and disobey their parents no lack of gratitude and esteem, which causes a large percentage of 14.43. Family, lack of love and warmth. Children like violence to younger elementary school. Reflection of the education system aimed at creating a knowledge theory. Behavior can not teach children to be able to face and solve the problems of consciousness. Meanwhile, the media has a lot to convince young people to make fascinated with Western culture. And the value of the lot unable to live based on the actual condition of the family and society. Of the data Symposium 2542 Only at Ambassador City Jomtien is a spider's behavior in Thailand. On a modest is not measurable in terms of consumption and spending behavior mimics the singer and not accept the changes in their conditions worsen. Irrational behavior is the reason for the absence looked

carefully sighted irrational consumption no good reason to distinguish bad behavior, corruption , fraud, theft, loan and do not return and lack of knowledge is not the knowledge to carefully select consumer. Be careful not to consumebased on the above it can be seen that moral and ethical decline of youth Thailand for a long time. The day will be even more intense and life, regardless of the sufficiency. No reason in everyday life. Do not know about ourselves not protected themselves when faced with the bad conditions or defeats in their own lives and do not have enough patience to solve the problem. Sometimes lead to suicide to escape the problem instead of solving problems using knowledge coupled with integrity. If the problem has not been resolved. As a result of the delay in the development the youth of the country to have a better quality of life. Because youth is the cornerstone of developing countries to prosper and the future of the nation. The National Economic and Social Development Office is awareness of problems and need attention. The National Economic and Social Development Plan no.10 requires vision Thailand into. "Social detention is Installed approach developed by the practice. Philosophy of sufficiency economy is important in developing countries with regard to moral development quality and learning together.Education for teachers students with knowledge and understanding and behave according to moral principles and philosophy of sufficiency economy by the year 2551, every school has a focus on activities that moral knowledge moral quality teaching linked to the group, and organizational culture. The importance to the philosophy of sufficiency economy leads to a practical implementation. The key to the strategy relies on the knowledge of the sufficiency economy philosophy leads the education into practice all the knowledge that merits activities linked to teaching and learning by various groups. Culture and organizational levels this focus leads to the philosophy of sufficiency economy into action. (Department of Education: 2551)

The school is aware and make to the policies of the Ministry of Education. So the philosophy of Sufficiency Economy into the teaching and learning in schools for cultivation culture as a lifestyle that students have sufficient knowledge and understanding of thinking as a known problem. Efficient use of existing resources is shared with other share with friends benevolent environmental consciousness and appreciate the unique cultural values of Thailand and apply the sufficiency economy philosophy. In addition, the Ministry of Education have a guidelines for teaching and learning in schools supplemented by the teaching philosophy of Sufficiency Economy in learning and preparation of the sample unit to try out for the school. It also has books , manual , media in learning philosophy of sufficiency economy to support teaching and learning. Of research of teaching philosophy of sufficiency economy aimed at knowledge understanding about the philosophy of sufficiency economy. Found that teachers have the knowledge and understanding of the philosophy of sufficiency economy and is used in everyday life can be recommended to others and I think the most important principles of the sufficiency economy philosophy into the classroom by inserting in learning activities. From research know that teachers have a deep understanding of the philosophy of sufficiency economy as well .But the study of the behavior problems of children from the Department of Religion and Development Ethics Committee of the National Economic and Social Development and evaluation of moral and ethical behavior of students in schools in Ranong. To find that the behavior of young people decrease. From an interview with the Volunteer Center of protective drugs, and World Vision (2552) found that the problem of youth in Ranong. Most of the problems of drug addiction, theft, scrapping undisciplined behavior. Obedience to parents. Family rift resulted in a need to leave school. Such behavior is to be reduced. The school has adopted the philosophy of sufficiency economy seriously.

The philosophy of sufficiency economy to the students when studying the factors that affect the sufficiency economy philosophy into action found that teachers have experience in the application. It is only a theory and educational process. Do not focus on the student as a self-seeking. We train the students to think of a solution is known to be a systematic way of thinking. No monitoring and evaluation by the philosophy of sufficiency economy continues. The factors affecting the corresponds to the evaluation of the school curriculum under the jurisdiction of Ranong Education Office found that teachers understand the principles of sufficiency economy but can not be applied in teaching because teachers have to learn to manage the teaching philosophy of sufficiency economy. Both in the classroom and outside the classroom can not lead to learning to provide learners with knowledge and understanding of the content. The principles of the sufficiency economy philosophy applied in everyday life. The learning does not match the actual target and knowledge integration philosophy of Sufficiency Economy. The preparation of learning plans for individual students learning. Although the Ministry of Education has prepared for the school's learning to use it. But still not perfect. Teachers need to analyze and make the learning more. And a lack of monitoring and evaluation process of the

curriculum of basic education in 2544 as a core curriculum for basic education 2551 , which is a measure of the material and the core material. All learning each year carefully and clarity. Therefore,the development of a new approach to learning. To be consistent with the Basic Education Core Curriculum BE 2551 and can be used to achieve results concrete the better. Researchers have developed a concept of learning. The teaching philosophy of Sufficiency Economy for students for primery which is the cornerstone of learning. The detention of the situation is Installed in the Office of the National Economic and Social Development found that children in the primary age range from 9 years to have a rational intellect is discrimination wrong with curiosity. Ability to learn as well. To encourage young people to be knowledgeable. Coupled with the development of morality according sufficiency. Therefore, the researcher was interested in research and development of learning to the teaching philosophy of sufficiency economy for students. This form of learning is useful and is a cornerstone that can be used in learning. Cultivate knowledge and understanding of the philosophy of sufficiency economy to the students. Moral basis. A desirable feature of the sufficiency economy philosophy and can be applied in everyday life. Research and development of learning management. The teaching philosophy of Sufficiency Economy for students. This time, it was a form of learning. The teacher can take the form of learning. The teaching philosophy of sufficiency economy used as a guide in learning both in and outside the classroom. Effectively. Line with the philosophy of sufficiency economy is designed to enable students to understand the philosophy of sufficiency economy and led to the creation of the life and work. So that the real value. When young people have the right lifestyle. I'm back to the community and country. The development of a balanced, stable and sustainable as possible.

OBJECTIVE

1. To development of learning management model for sufficiency economics philosophy Instructional the elementary education level.
2. To study the learning management model for sufficiency economics philosophy Instructional the elementary education level.

RESEARCH METHODOLOGY

The research on the development of learning management model for sufficiency economics philosophy Instructional the elementary was R & D (Research and Development), with the students level four of Uppanantaram municipal school in Muang Ranong District Ranong province is the unit of analysis (Unit of Analysis), which research and development of a 4 Phase instruction as follow:

Phase 1 of the study (Research: R1) data analysis (Analysis: A) Study. Basis for the development of learning. Intended to study and analyze the basis for the development of the learning to the teaching philosophy of sufficiency economy for years in elementary school. Proceed as follows.
        1) Analysis of the expected state policy. The goal of education. Analysis of the current state of education policy. The goal of education. The data are the expected results and the current state of comparative education. The synthesis is the basis for the development of learning management model for sufficiency economics philosophy Instructional the elementary. Equipment was content analysis form and data analysis using content analysis.
        2) Analyze the composition and details of learning styles to the teaching philosophy of Sufficiency Economy for students. Proceed as follows:
        Analysis of the expected state of the elements and details of learning styles to the teaching philosophy of Sufficiency Economy for students, documents related to the concept, Instructional design theory , learning management model for sufficiency economics philosophy Instructional the elementary. Research on learning styles. Analysis of the current state requirements regarding the composition and details of learning styles to the teaching philosophy of sufficiency economy. Of the interviewed experts teaching the philosophy of Sufficiency Economy 3 persons ,experts in the model 2 persons and teachers in each subject
 8 persons, then the information on the expected state and the current state of the needs elements and details of learning styles to the teaching philosophy of Sufficiency Economy for students assimilated. The synthesis is the basis for the development of learning to the teaching philosophy of sufficiency economy. Analysis tool, it is a document of one of the interviews and structured interviews with specialists and teachers for the learning management model for sufficiency economics philosophy. Analysis of the data using content analysis.

3) Focus Group Discussion to a conclusion in the form of learning management model for sufficiency economics philosophy in terms of content knowledge, process skills, and attitude. Samples of skeletal pattern learning for teaching the philosophy of sufficiency economy were experts of Philosophy of Sufficiency Economy 11 persons, including academic in the Ministry of Education was responsible for the sufficiency of two persons. Teachers in the pilot schools curriculum sufficiency of the 8 groups 8 persons and one supervisor.

Phase 2: Develop (Development: D1) Design and Development (Design and Development: D and D) and for developing effective models of learning management The objective is to develop a model of learning to the teaching philosophy of sufficiency economy. For Grade 4, the following year learning management model for sufficiency economics philosophy from the analysis from step 1. Development tools used in the collection data were lesson plan, an achievement test, Character along sufficiency economies and satisfaction of students and teachers in the form of learning to the teaching philosophy of sufficiency economy Grade 4 level steps to create. In this study developed a procedure to do the following.

1) Review the basic aspects obtained from the analysis of the process.

2) Identify the desired outcomes of learning styles to the teaching philosophy of sufficiency economy is clear.

3) Synthetic form of learning based on the analysis of the data obtained. Details of the composition and form of teaching to be associated with a clear, easy to understand.

4) Take the learning management model for sufficiency economics philosophy Instructional The Grade 4 to the teacher who made it to the dissertation. The seven specialist to determine the accuracy of the content (Content Validity), and the language used for the IOC (Index of Item Objective Congruence: IOC).

The information gathered from the comments of the experts calculate the IOC by the IOC (Index of Item Objective Congruence) and select the IOC 0.50 up to the IOC was 0.89 and updated profile of the core language objectives. process of learning. Element in promoting learning. Then, the effectiveness of teaching and learning styles (E1/E2) with the experimental group (Field Tryout) by using the 80/80 trial to Grade 4 school years were 30 measurement equipment Uppanantharam. The first semester of the academic year 2554 by the numbers. Been revised. And a learning guide to the field try out. Tools for data collection:

1) lesson plan 8 groups, including 57 hours of learning each lesson plan includes a significant indicator of learning. Learning activities. Learning materials and learning resources. Measurement and evaluation. Developed a procedure to study the basic education curriculum in 2551 and 8 group learning. Grade 4 education purpose. Description. Learning of the eight group learning. Grade 4, and analyzes the content of a standard metric learning course in accordance with the Standards of Learning to the sufficiency economy philosophy. Unit of learning. Plan learning group learning in a group of students from grade 4 with instruction 4 steps: 1) Understanding 2) Native Learning 3) Your group activities 4) Application and lesson plans based on learning styles to the teaching philosophy of sufficiency economy. The Grade 4 teacher who made it to the dissertation. The seven specialist to determine the accuracy of the content (Content Validity) the language used and the IOC (Index of Item Objective Congruence: IOC).

2) Achievement Test Grade 4: 40 articles and a multiple-choice test. Questions which the students must choose the correct answer is the only answer. The scoring criteria If the response is to be provided by 1 point, and if the wrong answer or no answer at all to 0, with the following procedure. Basic Education Core Curriculum BE 2551 and 8 group learning. And curriculum study description and purpose of learning the eight group learning. To analyze the behavior of the sufficiency economy philosophy. To be used in writing behavioral objectives and the number of tests. A multiple-choice test of achievement were 4 options, 40 articles to cover the intended behavior. And achievement tests. Created to give teachers the dissertation and a seventh at the Home and measured to verify the accuracy of the content (Content Validity) language is used and what the IOC (Index of Item Objective Congruence: IOC) adopted. The information gathered from the comments of the experts to calculate the consistency index. Then select the IOC from 0.50 up to and updated.The achievement tests to determine the content validity. Then rectify the defects. Then test to test student achievement (Tryout) Grade 4 to 30 students to take a sample of data to analyze and score each student. Have analyzed. For discrimination (r) and selective test with the discrimination from 0.20 up to (r = 0.20-0.50) and the difficulty of the test (P) and then select the item difficulty between .20 -. 0.80 (p = 0.20 - 0.78) and achievement test revised accordingly. For the reliability of the achievement test. Using the formula of Cooper Brothers - Richard Branson KR - 20 (Martin Prosperity Puangrat 2540: 123) with a confidence not less than 0.50 to have the reliability was 0.84.Then achievement tests are 4 options to improve and complete the test, 40 students in the fourth grade

public school upanantharam measurement equipment. A sample of 25 students before and after school tested using the same test again.

3) Character along the sufficiency economy philosophy. 1) Review the basic aspects. From the analysis. 2) Determine desirable student. According to the philosophy of sufficiency economy. 3) Synthesis and sketch the characteristics of learners. Sufficient economic philosophy for the relationship is clear, easy to understand. 4) To test the unwanted according to the philosophy of sufficiency economy. The Grade 4 teacher who made it to the dissertation. The seven specialist to determine the accuracy of the content (Content Validity), and the language used for the IOC (Index of Item Objective Congruence: IOC).

Phase 3 Experimental Model. This research was pre experimental design which was conducted by One Group Pretest Posttest Design research is defined in the following research. Population in this study were students Grade 4 in Ranong 250 persons 4 classrooms students by mixed ability classes. Samples of students Grade 4 in 2554, the first year of public school Uppanantharam Muang Ranong district Ranong Province class of 25 students using simple random sampling. By lottery options. Content to activity-based learning and learning styles to the teaching philosophy of sufficiency economy. The learning content for each group learning 8 subject. It is through the analysis of the association between indicators of core curriculum for basic education and learning philosophy of Sufficiency Economy in Grade 4 Term 1 Year 2554 experiment teaching management model learning to the teaching philosophy of sufficiency economy 8 group learning the 57 lessonplans of instruction in the first semester of the 2555 academic year for a period of four weeks, a total of 57 hours. To aid in the evaluation of learning styles to the teaching philosophy of sufficiency economy. Researchers used a form of learning for teaching the philosophy of sufficiency economy of students to Grade 4 one classroom, a group of researchers and subjects taught by teachers with research and teaching that is how it works every time. Before the experiment, the researcher conducted a research assistant for 6 hours to educate teachers in a grade 4 knowledge in the philosophy of sufficiency economy. Learning styles of research. Clarify the rationale and benefits of the research to a group of students. Understanding and teaching students about how to make effective use of learning styles to the teaching philosophy of sufficiency economy. Grade 4 students at the most. Achievement tests to learn the philosophy of sufficiency economy to a knowledge economy suffice. Created to study the test before. Conducted using learning to teaching the philosophy of sufficiency economy. Grade 4 students by teaching the lesson plans provided. After the trial ended. The students were tested using the same test with the first course for the satisfaction of students, teachers and parents in the form of teaching. And the results were analyzed to determine the collection efficiency of the learning criteria of 80/80.

Phase 4: Develop (Development) to evaluate and improve the learning. This procedure is used in the field trial data was analyzed to determine, evaluate and improve the learning. By the following. Make the test score achievement. The scores were analyzed by statistical methods. Check to ensure that the results of the sufficiency economy philosophy. Points are then analyzed by statistical methods and Check the values for the satisfaction of the students.Teachers and parents. Points are then analyzed by statistical methods.

ANALYSIS

1. Comparing achievement. Grade 4 students at the pretest and after the experiment is finished by t-test dependent.
2. Character along the sufficiency economy philosophy pretest (Pretest) and after the completion of the experiment (Posttest) by an independent t-test (t-test dependent).
3. Satisfaction of students and teachers in the form of learning management model for sufficiency economics philosophy instructional students grade 4, the average And standard deviation. And analysis of content .

STATISTICS USED IN THIS STUDY

Analyze student achievement pretest (Pretest) and after the trial until completion (Posttest) with mean ($\bar{X}$), standard deviation (SD) using the standard deviation is not free (t-. test dependent).Analysis to measure the effects of the adverse economic philosophy as a pretest (Pretest) and after the experiment is finished (Posttest) with mean ($\bar{X}$), standard deviation (SD).Analyze test results satisfied students, teachers and parents with a

learning model for teaching the philosophy of sufficiency economy. Students of Grade 4, with the mean ($\bar{X}$), standard deviation (SD) and content analysis (Content Analysis).

CONCLUSION

Part 1 of the development of learning management model for sufficiency economics philosophy instructional as shown Figure 6.1


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│ Learning management model for sufficiency economics philosophy instructional ( UNYA MODEL) │
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concept   Learning management

1. Understand
Students understand moral principles. The main philosophy of the sufficiency economy.

2. Into
Students to think critically. Near the focus of the story and the stories of local knowledge coupled with group activities to build rapport (the moral principle of sufficiency economy).

3.Developement
The principle of sufficiency economy philosophy to daily life.

1. Understanding
- Activities by providing learners with knowledge and understanding of the philosophy of sufficiency economy.
- Technical activities, knowledge of individual learning

2.Native learning
Activities focusing on learning from local knowledge (local mode) narrative or story, for example, should be close. Local people, local media sources

3. Your group activities
 -A process in group activities such as cooperative learning projects. Using simulation. Group discussions. Production values.
- Using the principles of the King as happily. The idea is. The explosion from the inside.

4. Application
- Knowledge of the indicators in each group learning.
- Principles of sufficiency economy philosophy into practice in everyday life.
- There is a reason for limiting the immune response.
- The moral principles of the sufficiency economy philosophy

function

| **Director**	**Teacher**	**Student**	**Parent**
- Administrators need to support. The availability of media / Place a bulletin board in the school environment. - Management should use sufficiency economy Teacher performance.	-Teachers as role models , need to know and understand the principles of sufficiency economy ,e encouraged to think. Create a learning environment and evaluation	Students who have a thirst for knowledge, ready and the importance of sufficiency economy , must have an open mind and core sufficiency economy, Going to use on a daily basis	Parents are encouraged to help. And practice sufficiency economy philosophy on students at home. - Parents need to cooperate with the school.

Figure 6.1 Learning management model for sufficiency economics philosophy instructional (UNYA MODEL)

Table 6.1 Comparison between academic achievement before and after using the learning management model for sufficiency economics philosophy instructional

Experimental	n	$\bar{X}$	s	$\bar{d}$	S_d	t
Pretest	25	30.97	8.14	42.26	9.98	22.971**
Posttest	25	73.55	5.76			

** P <.05; (t 25 = 22.971)

Table 6.1 shows that the learning achievement of students using learning management model for sufficiency economics philosophy instructional higher academic achievement by students at a statistically significant at the .05 level.

Table 6.2 Character along the philosophy of sufficiency economy before and after using model

Experimental	n	$\bar{X}$	s	$\bar{d}$	S_d	t
Pretest	25	19.65	6.66	16.94	8.02	11.775**
Posttest	25	36.90	5.49			

** P <.05; (t 25 = 2.457)

Table 6.2 of the score is the character along the philosophy of sufficiency economy as a student before student teaching to teaching the philosophy of sufficiency economy higher academic achievement by students at a statistically significant at the .05 level.

DISCUSSION

1. The development of learning to the teaching philosophy of sufficiency economy developed. There are issues in the debate.

1.1 Form of this study support the concept and the development of a system.

Development of the concept of His Majesty King Bhumibol Adulyadej, who is to understand the principles and the importance of learning approach to teaching the philosophy of sufficiency economy. The National Education Act BE 2542 (Amendment No. 2) Act, 2545 in Section 22 discusses how to handle. Every student has the ability to learn, develop naturally. Full potential and be the best student, and Article 23 states that education must emphasize the importance of moral knowledge learning process and integrate, as appropriate for each level of education. The nature of teaching the past. The study focused on how the students know more than the virtue. As society changes. Thailand has been the culture of the West was very The lack of a rational decision. In a culture which is both good and bad, the main self-sufficient life. It has to be the basis of a speech is just enough to sustain life, including the National Economic and Social Development Plan No. 9, 10 and 11, the Ministry of Education policy or the philosophy of sufficiency economy principle of sufficiency into the school. But the past has fielded a teaching philosophy of sufficiency economy. However, the lack of continuous monitoring and evaluation of teaching activities, the school has not met the target. And a teaching model to the students of primary teaching as a truly developed form of learning to the teaching philosophy of sufficiency economy. Students will have the knowledge and the philosophy of sufficiency economy. And to conduct themselves according to self-sufficiency, which will help the students to live a balanced and sustainable. Applications in everyday life. The development of learning to the teaching philosophy of sufficiency economy. Implemented in a systematic manner. That is, the development of a teaching sequence. And each step is connected. The concept of a synthetic form of teaching. The basic information about the course. Teaching and learning conditions. Analysis and synthesis of learning the philosophy of sufficiency economy. Teaching an integrated model interpolation. Each group learning. The principles of conceptual model of learning. The purpose of the synthesis process of learning. The elements of style. When the process of the form up. Has prepared a draft learning experts to examine. And the recommendations of the experts to improve. Then the model of instruction to trial Basic first time to study learning to improve the learning for the students to be more effective and can be used in real-world situations.

Therefore, it concludes. The development of teaching and learning is a systematic process to understand the ideas and concepts to learning and development philosophy of sufficiency economy is a fundamental concept in development.

1.2 Strengths of the study was developed.

1) This form of teaching students in accordance with the National Education Act. The content of the National Education Act states that teachers need to develop an integrated curriculum. Holistic education. There are a wide variety of knowledge. The students to participate in the knowledge and the key is. Plan must be integrated with The Basic Education Core Curriculum BE 2551 curriculum standards and learning standards and indicators clearly. The stakeholders at all levels of the learning expectations. Needed to improve student learning. So in the curriculum at all levels. From national to come to the school to reflect the quality of the learning standards and key performance indicators. Defined in the core curriculum for basic education. (Office of the Basic Education Commission, 2552: 3).Welcome to the handling of such studies. Forms of learning that students have developed an integrated model incorporating the philosophy of Sufficiency Economy in 8 groups corresponding to the core curriculum for basic education 2551 to reflect the quality of the students. Learning standards and indicators.

2) All steps of the process of learning can improve their knowledge and characteristics desirable philosophy of sufficiency economy. Learning process has four steps: 1) understanding 2) Native Learning 3) Your Group Activities 4) Application. The dominant feature of the learning process of this model. The course is appropriate for the current educational reform. Because there teaching that focuses on learning for learners. Students to think critically. And aims to develop their knowledge and characteristics desirable philosophy of sufficiency economy. This is consistent with the National Education Act BE 2542 (Revised 2) 2545 to support the activities of teaching and learning that focuses on students is important. In particular, in accordance with Chapter 4, Section 24, as defined conclusion, educational and relevant to the learning process for learners with skills, process management thinking to face the situation and learning activities for the students. was made (the 2545 Education Reform: 13-14) and teaching the students to develop their knowledge in a real life situation (Authentic Learning), so that the students see the relevance of what alive around him with their lives. Must provide students with access to learning resources. The action (KR-Richadson 1994: 6) research explored in the context of a real investigation.

SUGGESTIONS

To development of a Learning management model for sufficiency economics philosophy instructional the following suggestions:

1. Suggestions for applications
1.1 Policy making

School administrators were important personnel to supporting teaching management. The sufficiency economics philosophy instructional   was   for developing learning and character of learners. Learning management was important thing to develop learners and able to use in daily. The learning management helped learners to completely learn and have high learning quality (Office of the Education Council 2009: 136-137) Thus, the development of learning management model for sufficiency economics philosophy instructional helped learners to see the relationship and relate knowledge to real life situations.   Administers should understand principles and learning process to promote and support the real development.

1.2 Teaching development

1) Teachers must have knowledge and understanding of the philosophy of sufficiency economy and have a good example in their practice. Is the philosophy of the sufficiency economy as a character.

2) Teachers need to be carefully planned learning. And activities appropriate to the grade level taught. Suitable atmosphere for learning.

3) To manage effective teaching by teachers should change their roles from knowledge transferor to be facilitators helping and promoting learners to learn, find answers and create knowledge concepts by themselves.

4) For the teaching management by using experience provision based on the constructivist concepts, learners learned by doing, searching, investigating, examining to find various kinds of knowledge and create knowledge concepts by themselves. To promote deep and broad understanding, teachers should not teach contents but they should select contents that can stimulate learners to study deeper and broader. They should also suggest books, teaching materials and related document for learners to study.

5) The research results showed that teachers spent a lot of time in doing activities at the beginning of the teaching management because learners were not familiar with doing activities and finding answers by themselves. Teachers had to stimulate learners to think by asking questions or practicing observation. Thus,

teachers should be facilitators to promote learners' enthusiasm to do activities, discuss and summarize learning points.

2. Suggestions for further study
        2.1 To extend the research results, the further study of development of a Learning management model for sufficiency economics philosophy instructional   should be done with learners in other educational levels.
        2.2 Should develop a model for the development activities of students at all levels.

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THE MULTI- LEVEL FACTORS AFFECTING THE EFFECTIVENESS OF SCHOOLS UNDER THE OFFICE OF THE BASIC EDUCATION COMMISSION USING ENGLISH AS THE MEDIUM OF INSTRUCTION

Lalita Pholphong
Garden International School, Rayong 188/24 Moo 4 T. Pla A. Banchang, Rayong THAILAND

Abstract

The purposes of this research were to study elements of the effectiveness schools and to study multi-levels factors relating to the effectiveness of schools under the Office of the Basic Education Commission using English as the medium of instruction.

The sample of this study consisted of 118 school administrators, 248 teachers and 346 students, totaling 721, obtained by multi - stage sampling. The research instrument was a rating scale questionnaire. The statistics used for data analysis were the frequency, percentage, mean, standard deviation, Pearson's correlation coefficients, and Multilevel of Path Analysis through the programs of Hierarchical Linear Model (HLM).

INTRODUCTION

Thailand firmly believes that   investment in education represents an investment in a better future. Education has a key role to play in restoring regional unity, harmony, peace and democratic ways of life and for stimulating the global economy. As one of the ASEAN countries, Thailand is sharing the belief that the provision of life-long learning and the achievement of education for all goals should remain key priorities. (Ministry of Education: 2012)

The Ministry of Education recognizes the importance of English as it is the most common language used around the world. Since the mid-1990s bilingual approaches to schools and higher education have become popular in Thailand. Different models have been applied. In 2003, the Ministry of Education approved the bilingual education policies in two models: (1) English Program (EP) for schools under the Office of the Private Education Commission and schools under the Office of Basic Education Commission and (2) Mini English Program (MEP) for schools under the Office of Basic Education Commission and schools under the Office of the National Primary Education Commission. The two models differ in costs, hours taught in English per week and numbers of subjects taught in English. In 2004 the Office of Basic Education Commission defined that public schools are to use English Program (EP) model.

From the introduction of bilingual education, educators have endeavored to improve the quality and effectiveness of bilingual schools. In the past decade research has shown several areas of concerns that effect the learners. Mainly; management policy, teaching and learning, teacher's quality, teaching and learning resources and assessment and evaluation (Yongkamol, 2000). Moreover reports from the Office of Basic Education Commission (2004) have also indicated similar areas of concerns. They were: capital management, teachers, parent's expectation, foreign teacher's recruitment and development and Thai teachers shortage.

For this reason, the researcher, as an educator, is interested in studying the effectiveness and improvement of schools under the Office of Basic Education Commission using English as a medium of instruction.

THE PURPOSES OF THE STUDY

The purposes of this research were:
1. to study elements of the effectiveness of schools under the Office of the Basic Education Commission using English as the medium of instruction.
2. to study multi-level factors relating to the effectiveness of schools under the Office of the Basic Education Commission using English as the medium of instruction.
3. to develop a multi-level factors model affecting the effectiveness of schools under the Office of the Basic Education Commission using English as the medium of instruction.

SCHOOL EFFECTIVENESS RESEARCH

In the early stage of school effectiveness research there was no distinction between the different levels within schools, such as departments and classrooms. Results were disappointing. To avoid disappoint conclusions, in the school effectiveness models developed later on, a relationship between the classroom level and school level can be found (Scheerens, 1989; Creemers, 1991; Slater & Teddie, 1992; Stringfield & Slavin, 1992; cited in Creemers & Reezigt, 1996).

Research including both the school level and classroom level showed that the classroom level was important, quite often even more so than the school level. Also, theory-oriented publications stressed the predominance of the classroom level. This implies that the school effectiveness research attention for the school level is diminishing whereas the classroom level gets more attention than before (Creemers & Reezigt, 1996). However, even taking classroom level factors in consideration, school effectiveness means more than outcomes in just one class. School effectiveness has to do with outcomes and effectiveness in successive classes in a school and educational system as a whole.

In consequent, the recent school effectiveness studies have integrated student level factors in terms of modeling and choice of variables. In integrated research, schools are depicted as nested, hierarchical layers (student, classroom, school, and higher level), and key variables from each of the paradigms, as well as key student background variables, are included at the appropriate layers (Scheerens, 2000). Student background factors are placed at the student level, instructional effectiveness factors are placed at the classroom level, effective-school factors are placed at the school level (Teodorovic, 2009). Then, all the variables are tested simultaneously using hierarchical linear modeling (HLM) to appropriately assess the relative net importance of each variable and schooling level on student achievement.

CONCEPTUAL FRAMEWORK

The researcher studied and analyzed relevant theories and research studies to identify the factors affecting the schools effectiveness. Literature review showed that these factors were a combination of multi-level factors, which was described in the earlier section. The author finalized the 3-level factors affecting the effectiveness of schools under the office of the Basic Education Commission Using English as the Medium of Instruction as shown in figure 1.

School Level Factors	School Effectiveness
1. Policy 2. Administrator's behavior 3. Administration resources 4. Organization climate 5. Teaching and learning 6. Evaluation and assessment	1. Leadership 2. Curriculum 3. School achievement 4. Pchool environment 5. Parent's participation

Classroom Level Factors	Teacher's job satisfaction
1. Teacher's behavior 2. Teacher's communication 3. Teacher-student relationship 4. Learning motivation 5. Teaching and learning materials utilization	1. Working environment 2. Working progression 3. Relationship with co-workers 4. Morality 5. Self development

Student Level Factors	Student's quality standards
1. Student's learning behavior 2. Student-student relationship 3. Parent's support 4. Language ability 5. Classroom climate	1. Student's well being 2. Student's ethics and desirable characteristics 3. Student's self-inquiry skills and self development 4. Student's analytical and creative thinking and problem solving ability 5. Student's knowledge and skills required by the curriculum 6. Student's working skills and attitude towards an honorable professions

Figure 1: Conceptual Framework

DEFINITION OF TERMS

1. Schools refer to schools under the Office of Basic Education Commission which use English as a medium of instruction in Mattayom 3 level.
2. School effectiveness refers to the school's management achievement.
3. Teacher's job satisfaction refers to the teachers' perception towards work and co-workers.
4. Student's quality standards refer to the standards of learners as indentified by the Ministry of Education.
5. School level factors refer to factors relating to the school management and administration which lead to school effectiveness.
6. Classroom level factors refer to behaviors of teachers and students in each classroom which lead to school effectiveness.
7. Student level factors refer to the characteristics of each student which lead to school effectiveness.

LITERATURE REVIEW FINDINGS

The findings from literature review indicated that:
1) Elements of the effectiveness of schools were: (1) School effectiveness consisted of, leadership, curriculum, school achievement, school environment and parent's participation; (2) Teacher's job satisfaction consisted of working environment, working progression, relationship with co-workers, morality and self development; (3) Student's quality standards consisted of student's well being, student's ethics and desirable characteristics,

student's self-inquiry skills and self development, student's analytical and creative thinking and problem solving ability, student's knowledge and skills required by the curriculum and student's working skills and attitude towards an honorable professions.

2) Factors relating the effectiveness of schools were three level factors: (1) School factors consisted of policy, administration behavior, administration resources, organization climate, teaching and learning and evaluation ; (2) Classroom factors consisted of teacher's teaching behavior, teacher's communication, teacher-student relationship, learning motivation and using teaching materials; (3) Student factors consisted of student's learning behavior, student-student relationship, parent's support, language ability and classroom climate.

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DEVELOPMENT OF A CURRICULUM MODEL IN HISTORICAL TOURISM COURSE FOR THE UPPER SECONDARY SCHOOL STUDENTS

Wichai Wongsuwan[1]
Siriwan Sripahol[2]
Kanchana Lindratanasirikul[2]
Praman Thepsongkroh[2]
[1]Hatyaiwittayalaisomboonkulkanya School, Hat Yai District of Songkhla Province, 90110
e-mail: wichaiwong@gmail.com
[2]School of Educational Studies, SukhothaiThammathirat Open University

Abstract

The objectives of this research were 1) to develop a curriculum model in the Historical Tourism Course for the upper secondary school students, 2) to try out the developed curriculum model, and 3) to evaluate quality of the developed curriculum model.

The research process comprised the following stages: Stage 1: Development of a Curriculum Model in the Historical Tourism Course. This stage consisted of two sub-stages, namely, 1.1 documentary studies and focus group discussion; and 1.2 development of the curriculum model, which consisted of the following activities: 1) constructing a curriculum model in the Historical Tourism Course, 2) constructing and verifying the curriculum structure quality, 3) constructing and verifying quality of curriculum supplementary documents, and 4) conducting a pilot study. Stage 2: The Try-Out of the Developed Curriculum Model. The sample for the try-out consisted of 31 Mathayom Suksa V students studying in the second semester of the 2011 academic year at Hatyaiwittayalaisomboonkulkanya School in Songkhla Province. The research instruments comprised 1) learning management plans for the Historical Tourism Course, 2) a learning achievement test, 3) a problem solving ability test, 4) a tour guiding ability test, and 5) a scale to assess the student's opinions toward instruction based on the developed curriculum model in the Historical Tourism Course. Stage 3: Evaluation, Improvement and Revision of the Developed Curriculum Model. The statistics used for data analysis included the percentage, mean, standard deviation, and t-test.

The research findings were as follows: 1) The developed curriculum model in the Historical Tourism Course for the upper secondary school students was composed of the following key elements: objectives, contents, instructional activities, and measurement and evaluation. Each of the elements was found to be appropriate at the highest level. 2) The try-out results of the developed curriculum model showed that (1) the post-learning achievement scores in the Historical Tourism Course of the students were significantly higher than their pre-learning counterparts at the .01 level; and every student got the achievement test score at the 60 percent or higher level; (2) the post-learning problem solving ability of the students was significantly higher than their pre-learning counterpart at the .01 level; (3) the tour guiding abilities of the students were found to be at the good and very good levels; and (4) the opinions of the students toward the instruction based on the developed curriculum model in the Historical Tourism Course were found to be at the high level. 3) The results of evaluation, improvement and revision of the developed curriculum model indicated that the quality of the developed curriculum model met the predetermined criteria; teachers teaching in the Social Studies, Religion and Culture Learning Area at the upper secondary level in Songkhla Province; school board members; and parents of students at Hatyaiwittayalaisomboonkulkanya School had opinions that the developed curriculum model in the Historical Tourism Course was appropriate and feasible to be implemented in the actual classroom situations.

Key words: Curriculum model; Historical Tourism Course; Matthayom Suksa

INTRODUCTION

Thailand is rich in both natural and human-made tourism resources spreading over the country and attracting a huge number of domestic and international tourists. In 2009, for example, international tourism generated an income of 510,255.05 million baht for Thailand. In 2010, international tourism brought in 592,794.09 million baht. For domestic tourism, the country received 264,780.93 million baht in 2009, and in the following year an increase of 402,574.39 million baht was recorded (http://tourism.go.th). This means tourism is a significant source of income generation for Thailand each year. Furthermore, tourism is vital to individual people, society, and national economy as stated by Supaporn Makjaeng (1996 : 3 – 4), Wichai Thiennoy (1997 : 8 -10), Paitoon Pongsaboutra and Wilaswong Pongsabutra (2004 : 17 – 18). The tourism organization and these scholars postulate that tourism is important to people in terms of recreation which is their basic rights that help open people's worldview and create mutual understanding among humanities. Socioculturally, tourism promotes the conservation and revival of arts and cultures and brings about development to the communities. Economically,

tourism is an actual source of international currencies which help the nation's balance of payment, employment in tourism-related industries, currency circulation, and income distribution to the communities.

Historical tourism is an aspect of cultural tourism based on the responsibility and awareness of cultural conservation and environmental values. It focuses on travelling to and touring on historical and archaeological sites for pleasure and an understanding of history and archaeology of the host country. Historical attractions include ancient sites and communities, historical parks, old city walls, religious temples, arts and architectures, and the like.

As mentioned earlier, Thailand is bountiful of historical attractions in every region throughout the country. These attractions have their own regional artistic and architectural uniqueness which attract tourists to such destinations. After the 1997 economy downturn, Thai tourists have been more interested in touring within the country especially travelling to gain new experiences, knowledge, and understanding of history, culture, and local lifestyles (Chatchai Sutcharith 2006 : 16). This phenomenon has subsequently boosted historical tourism. An increase of historical tourism popularity has led to the need for more local tour guides who are knowledgeable and competent in history, culture and local stories. Currently, it is unfortunate that lack of local tour guides has existed as pointed out by tourism scholars such as Pratchayakorn Chaikoch (2010 : 6) and Yupadee Setapan (2000 : 41) who emphasized the problems in guiding historical tours namely management of attraction, conservation, and lack of local tour guides. One of the solutions to this problem is providing knowledge of tourism to the involved bodies such as local people, souvenir sellers, hired-car drivers, or offering tourism courses in educational institutes as pointed out by Suthep Keusang (interview by Wichai Wongsuwan at 2010, 3 October). Ideally, an offer of tourism study to students at basic educational level on a particular content covering tourist attractions in their communities, the knowledge of how to deal with tourists and how to manage tourist attractions should also be a focus of schools and universities.

From the aforementioned notion, educating the youths in schools to be knowledgeable in local historical attractions and competent in guiding tours is a possible alternative solution. Furthermore, an additional curriculum involving historical tourism into the school curriculum is also an option, as the 2551 B.E. Core Basic Education Curriculum allows the school to add more curriculums to match the readiness and focus of each school complying with the 2541 B.E. Act of National Education, Section 27 which reads "The basic educational committee are required to design the national core curriculum for basic education to include Thainess, good citizenship, living and working, and further study while educational institutes are responsible for adding curriculum contents according to the curriculum objectives as previously mentioned concerning community problems and society, local wisdom, desirable attributes of the learners for being good members of families, community, society, and nation." As such, the 2551 B.E. Core Basic Education Curriculum is consisted of 3 elements: 1) a core curriculum, 2) a community and local context, and 3) extra contents developed and added to meet the needs of community or the school by educational institutes. For the third element, the educational institutes are allowed to add the courses and activities needed to implant into students with not more than 80 hours yearly for Prathom Suksa 1-6 (Grade 1-6), 240 hours for lower secondary level (M. 1- 3 or Grade 7-9), and at least 1,680 hours for the upper secondary level (M. 4- 6 or Grade 10-12) (Ministry of Education : 23).

This indicates that the core curriculum provides an opportunity for the schools to construct additional curriculums which also accord with the needs of the learners and the community to suit the ability, aptitude, and interest of the target learners. It is a possible solution to counteract the limitation in diversity of the core curriculum (1997 : 8).

Therefore, in order to assist learners in developing knowledge, insights and understanding of local historical attractions and the ability in guiding tours in their communities, the researcher has developed a curriculum for 'The Historical Tourism Course' for the upper secondary students as an elective subject which the students can choose to serve their interests.

As well as increasing the number of historical knowledgeable tour guides in the community, the model developed for this curriculum is expected to serve as the foundation for learners who are possibly interested in the tour guiding profession in the future. It is also a pre-evaluation of the learners' potential and interest before they make a decision to choose tourism-related programs/faculties in tertiary education.

The curriculum constructed is also a channel to teach the learners about their local history which leads to the love and pride in their own community. Yaowapa Prakongsil (1999 : 58) stated that local people educated in local history are likely to be proud of and attached to their communities because they have learned about the wisdom of their ancestors, collected and passed on from generation to generation to survive their lands and communities.

OBJECTIVES

1. To develop a curriculum model in the historical tourism course for the upper secondary school students.
2. To try out the developed curriculum model.
3. To evaluate quality of the developed curriculum model.

HYPOTHESES

1. That the students who are taught by the proposed model of historical tourism course curriculum obtain higher learning achievement after learning than before learning.
2. That the students who are taught by the proposed model have higher ability in solving problems after learning than before learning.

EXPECTED BENEFITS

1. An effective model of historical tourism curriculum for the upper secondary students which can be used as an additional course by social studies teachers is to be obtained.
2. The model constructed can be used as a means for constructing a curriculum strand of social studies, religions and culture, and others.

SCOPE OF THE STUDY

This study is a research and development (R & D) design conducted during a 2010-2011 academic year. The sample group of the study, selected by means of a cluster sampling method, consisted of 31 Matthayom Suksa V students of Hatyaiwittayalaisoomboonkulkanya School in Songkhla province, studying the Historical Tourism Course in the 2nd semester of the 2011 academic year.

DEFINITION OF KEY TERMS

1. The Historical Tourism Course curriculum model refers to a language pattern or model using the written language, pictures, or diagrams to demonstrate conceptual structures, elements, and their relationships in the model with which objectives, contents, learning and teaching experience management, and measurement and evaluation were covered.
2. Learning achievement means the scores the student obtained from the tests of learning achievement.
3. Problem solving ability means students' behaviors in systematically using knowledge and principles in finding solutions for arising problems.
4. Tour guiding ability refers to students' behaviors in managing time to guide a tour appropriately and in analyzing tourists' behavior as well as having techniques to attract interest from tourists and providing facilities and services to tourists.
5. Effective curriculum means the Historical Tourism Course curriculum developed for the upper secondary students of which efficiency was determined based on the following criteria.

     5.1 Learning achievement was judged from the pre-and post-test scores of which the post-test was higher than that of the pre-test. Achievement scores of all students were higher than 60 per cent.

     5.2 Problem solving ability was determined from the pre-and post-test scores of which the post-test scores were higher than those of the pre-test.

     5.3 Tour guiding ability was examined through the expert's judgment of which the guiding tour performance was rated at a high level.

5.4 The opinion of students on teaching through the Historical Tourism Course curriculum was ranked at a high level.

RESEARCH METHODOLOGY

Three stages of research were conducted as follows:

Phase 1: Development of the Historical Tourism Curriculum Course
1) Study of related documents and focus-group discussions to gather information and data, and an analysis and synthesis of basic data needed as a means to develop the model were carried out.
2) Development of the curriculum included summarizing information and data obtained from related documents, research reports, and focus-group discussions in order to build the model. Design of curriculum structure, curriculum supplementary documents evaluated by experts in model evaluation, curriculum and teaching, and hotel and tourism were employed.

Phase 2: Experiment of the Historical Tourism Course Curriculum
The 20 week-tryout with 31 Matthayom Suksa V students who enrolled and studied the Historical Tourism Course in the 2nd semester of 2011 academic year at Hatyaiwittayalaisomboonkulkanya School in Songkhla province. A one group pretest-posttest research design was conducted to measure learning achievement, ability in problem solving, ability in tour guiding, and the students' opinions toward the teaching by the Historical Tourism Course Curriculum.

Phase 3: Evaluation and Improvement of the Historical Tourism Course Curriculum
The suitability and possibility of the curriculum implementation were evaluated through the teachers teaching social studies strand of the upper secondary school in Songkhla province, school committee, parents, and Hatyaiwittayalaisomboonkulkanya School. The recommendations were applied in the design of the curriculum model.

CONCLUSION

Result of Phase 1: Development of the Historical Tourism Course Curriculum for the upper secondary students
     Research activities done in this phase result in the highest level of suitability for implementation of every single element of the curriculum, namely, objectives, contents, teaching activities, and measurement and evaluation. A curriculum model in historical tourism course for the upper secondary school students in table 1

Table 1 : A Curriculum Model in Historical Tourism Course for the Upper Secondary School Students

Curricular Objectives	Contents	Learning and teaching	Measurement and evaluation

Curricular Objectives	Contents	Learning and teaching	Measurement and evaluation

1. To provide students with an introduction to tourism , tourism management and roles of the tour guide.
 2. To provide students with knowledge the geographic, historical background as well as the historical attractions of Songkhla.
 3. To equipe the students with an ability to guide tour around the historical attractions of Songkhla
 4. To provide students with the ability to communicate, to solve problems and to use technology.
 5. To encourage the students to be self-disciplined, honest and committed to work.
	1 Introduction to tourism
	 2. An introduction to the tourism business, and the process of tour guiding.
	 3. An introduction to a tour guide
	 4. The geographical, social and cultural environment of Songkhla
	 5. The historical background of Songkhla and its important historical and tourist attractions.
		1. Learning activities in the classroom
		     The total time of learning is 40 periods and varieties of teaching methods are used such as an inductive approach, a collaborative approach. group discussions, problem solving methods, practical learning, and learning with games and competitions. Moreover, the teaching medias used to support a wide variety of activities include videos, songs, posters and worksheets.
		 2. Learning activities outside the classroom
		     Students are required
		     2.1.to practice writing itineraries and creating reservations for tourists. These will include car rentals , restaurant reservations and coordinating with other agencies involved in the tour.
		     2.2 to practice tour guiding about historical attractions in Songkhla with parents, friends and teachers in school.
		     2.3 To practice individually tour guiding of the historical attractions of Songkhla.
		     2.4 To Practice in groups steps of reserving tours from the start to the end.
		     2.5 To manage One Day Trip to the historical attractions of Songkhla .
		     2.6 To read the tourist guide book about the historical and cultural attractions of Songkhla.
		     2.7 To read the tourist guide book about the historical and cultural attractions of Songkhla.
		 3 Additional Activities
		     3.1 Youth Tour Guide Camp
		     The total time for the camp is 4 days: one day inside the classroom and three days outside of the classroom on a field trip to Songkhka's historical attractions, which will last for 30 hours.
		     3.2 A lecture on the topic "The Importance of Tour Guide" will be given by a professional tour guide for a hour and a half.
			Method of measurement
			 1. The test.
			     1.1 Formative test
			     1.2 Mid term exam
			     1.3 Final exam
			     1.4 Testing the students' knowledge of " the historical background and tourist attractions of Songkhla".
			     1.5 Testing the ability of the students to solve problems of a given situation.
			     1.6 individual test (oral test) of the historical attractions of Songkhla.
			     1.7 group test (oral test) on the process of tour guiding from the start to the end.
			 2. A practical assessment
			     2.1 observing students' discipline ,commitment to learning and honesty
			     2.2 observing students' presentation skills
			     2.3 observing the use of technology to deliver information.

Result of Phase 2: Experiment of the Historical Tourism Course Curriculum
The experiment yielded the following results.
1. The learning achievement of students after using the model of historical tourism curriculum course constructed was found to be higher than that of before at level .01 of significance and the post-test score of each student was 60 percent and over.

2. The ability in problem solving of the students after having been taught by the historical tourism course model was also found to be higher than that of before at level .01 of significance.

3. Following the intervention, the ability in tour guiding of 19 students was found to be at a very good level and tour guiding ability of 12 students at a good level. The two groups account for 61.29 and 38.71 per cent of the subjects respectively.

4. The students' positive opinions toward the model of historical tourism course curriculum were found to be at a high level.

Result of Phase 3: Evaluation and Improvement of the Historical Tourism Course Curriculum

After experimenting the proposed curriculum with the sample group, the results obtained were compared with the criteria set up, and the following were found.

1. The scores of learning achievement of students after being taught by the model constructed were found to be higher than those of before at level .01 of significance and the post-test score of each student was higher than 60 per cent.

2. The scores of the ability in problem solving of the students after being taught by the model were found to be higher than those of before at level .01 of significance.

3. The scores of the ability in tour guiding of the students accounted for mean scores of 12.21 – 14.58 and were found to be at a very good and good levels.

4. The mean score of the student's opinions toward the model was found at a high level of 4.42.

All of these indicate that the model of historical tourism course curriculum constructed is effective and meets the criteria established. When evaluated by the teachers teaching social studies strand of the upper secondary school in Songkhla province, school committee, parents, and Hatyaiwittayalaisomboonkulkanya School, its suitability and possibility for implementation into real contexts were found at a high level.

DISCUSSION

This section discusses findings of the study.

1. The outcomes of the historical tourism course curriculum development

In developing the historical tourism course curriculum, the conceptual framework of Tyler of which four steps of curriculum development namely 1) objective selection, 2) experience selection, 3) experience order, and 4) evaluation, was employed and discussion on each step is presented as follows.

  1.1 Objective selection

  In setting up the objectives of the historical tourism course curriculum, particular educational philosophical concepts namely progressivism, essentialism, and perennialism were integrated as seen in a focus of the content and ethics of the course for developing learners. These objectives serve the requirement of the 2542 B.E. Act of National Education and of the 2545 B.E. Additional Amendment, Section 23 (1) (3) (4) (6) and Section 27. Furthermore, the objectives, learners' potentials, and desirable attributes of the 2551 B.E. Basic Education Core Curriculum and notions of local scholars obtained from interviews and focus-group discussions were also integrated in the curriculum constructed. Particularly, the interviews and focus-group discussions of local scholars were of great benefit since they had various clear, informative and detailed views of the community as pointed out by Theerawut Akakul (2008 : 69). The integration in accordance with Tyler's assertion that the key source of information for analysis including educational philosophy, studies of social aspects, the learners, ideas of scholars and social philosophy be integrated in setting up curriculum objectives was taken into account (Thawesak Chindanurak : 2006 : 56 – 57).

  1.2 Experience selection

In creating experiences offered in the curriculum, the contents according to learning principles and learner's development psychology coupled with the information obtained from local scholars and the analysis of the core curriculum for the upper secondary level of the social studies, religions, and culture strand and the occupations and technology strand were also integrated.

  2.3 Experience order

  In arranging experiences offered in the curriculum, a variety of activities both inside and outside the classrooms including extra supplementary activities were designed. Learning and practicing in real situations such as taking the students on field-trip study at historical sites of Mueang Songkhla, allowing the students to do

the 'One-day Trip' exercise, and extra readings of history books on Mueang Songkhla were focused on in order to enhance the students' 'kidpen and Tampen' (critical thinking and doing) attributes, reading passion, and continuous enthusiasm as stated in the 2542 B.E. Act of National Education, Section 24 (3). Furthermore, contents of particular academic disciplines such as tourism, local history, and business were also proportionately integrated into the activities in accordance with the 2542 B.E. Act of National Education, Section 24 (4) and Section 24 (6) which state that learning should be taken place everywhere at anytime through the cooperation among parents and people in the community to develop students toward achieving their highest potential.

2.4 Evaluation

In measurement and evaluation, the investigator employed various types of testing such as paper test, oral test, observation while the students were performing the activities both inside and outside the classrooms, and work performance record form. To meet the requirement of the 2551 B.E. National Basic Education Core Curriculum, all skills of students, that is, knowledge, process skills, desirable attributes, and key potentials were measured (Ministry of Education 2009 : 28). Self-evaluation, peer-evaluation, evaluation by teachers, and parents were also included in the measurement and evaluation process.

2. The result of the historical tourism course curriculum experimentation

2.1 That the score of learning achievement of the students after being taught by the model constructed was found to be higher than that of before at level .01 of significance and that the post-test score of each student was found to be higher than 60 per cent met the hypothesis of the study. This results from the employment of a variety of teaching approaches such as inductive teaching approach, cooperative teaching, focus-group discussion, work practicum in real situations, study tour in historical sites and learning resource center. A variety of media such as video, songs, PowerPoint presentation were utilized in activities to attract student's interest and enthusiasm including learning from real situations also increase students' higher learning achievement and development [18]. Particularly, learning from real situations allows students to self-study about the history of the places to which they would take tourists and also to cooperate and share the information and experience with other fellow students. Through this direct approach, students could learn better as pointed out by Wattanaporn Rangabtook (1998 : 3). To boost students' learning achievement and the association of knowledge gained in classrooms with genuine direct experiences, including students' enthusiasm, both theory and field practice such as historical tourism youth camp activities were also created to serve the recommendations by scholars, namely, Thisana Khaemanee (2007 : 345 – 346) and Sirwan Sripahol (2010 : 194 – 195).

Furthermore, teaching and learning activity in form of competitions among groups of students could also increase students' learning achievement and support among fellow students. Group discussions, in particular, as suggested by Sumontha Promboon and Orapan Pornsima (1997 : 28 – 29), could boost long term memory of the learners.

2.2 Problem solving ability of students after being taught by the model constructed, which was found to be higher than that of before at level .01 of significance, also met the hypothesis set up. This is derived from the use of project teaching method of the curriculum. In doing so, each group of students was assigned to start with making tourism itineraries, application forms, and recruitment of tourists, coordination with transport, restaurants, involved organizations, and tour guides. These activities indeed promote an increase of problem solving ability of the students as well as problem-based learning activities because the activities allow students to practice solving problems while guiding tours at historical sites of Songkhla province. This approach is supported by Kanya Suwansaeng (2001 : 119) who believes that if the students are familiar with possible solutions while in practicum, they would be able to associate the skills to real situations, particularly student group solutions in which every member has the opportunity to discuss and share ideas of how to solve problems.

2.3 From the tour guiding ability analysis, the ability of the students was found to be at good and very good levels. This means they are considerably knowledgeable about local historical destinations, tourism processes and tour guiding. These qualities are discussed as follows.

2.3.1 The students are knowledgeable about the tourist attractions taught through various methods and learning activities together with historical and cultural tour guiding handbook assigned as an external book to study on which students can depend and self-study when needed as insisted by Kochai Sarikabutra and Somporn Sarikabutra (cited in Warin Binhosen 1993 : 42).

Participation in the youth tourist guide camp allows the students to complete various activities relating to historical tour guiding and to employ the knowledge they have gained from the course. This means that they can

transfer what they have learned in classrooms to the real situations which is an ultimate goal of learning as suggested by Thisana Khaemanee (2007 : 345 – 346) and Siriwan Sripahol (2010 : 194 – 195).

2.3.2 The students were found to employ a good historical tour guiding process through the practicum in real situations both in historical places and with recruited tourists. The success resulted from the use of a variety of teaching and provision of various activities in classrooms and field studies including taking the tour guiding oral tests. Repetition of this activity, following each step of the process, makes the students skillful, confident, and competent in systematically guiding and managing tours in real situations as suggested by the Academic and Educational Standards Bureau (2009 :18 – 19).

2.3.3 The students were found to have the ability to guide historical and cultural tours. The ability exists due to their learning according to the course curriculum constructed. Particularly, the tour guiding youth camp in which certain tourism scholars such as Asst. Prof. Kuldara Piancharoen, a lecturer of Hotel and Tourism Program of Raja Mongkala Technology University and Dr. Pongsak Thongnuekhang, a lecturer of Hotel and Tourism Program of Songkhla Rajabhat University, who were highly experienced in guiding tours, were invited to teach and join is a catalyst as well. The participation of these guest lecturers in tour guiding simulations allowed the students to see how to technically be good tour guides and how to dress up and have good personality. The inclusion of these activities was motivated by the suggestion made by the Academic and Educational Standards Bureau (2009 :18 – 19).

2.4 The opinions of the students toward the course curriculum constructed was found to be at a high level meeting the criteria set up. Each of the individual aspects of the opinion was found as follows.

1) Content of the curriculum aspect, every item of which was rated at a high level, derived from the focus-group discussions of the local experts. The information gained and the core-curriculum analysis results and experts' recommendations were implemented in the development of the curriculum. The arrangement of the content in accordance with the age of the learners, relevance of content, and the level of content difficulty from easy to more complex as suggested by Tylor (cited in Wichai Wongyai 1994 : 13). Furthermore, the suitability of the curriculum model in terms of objectives, contents, learning/teaching activities, and measurement of the course curriculum drafted were evaluated by experts, and the recommendations gained were put into use in the final design of the curriculum.

2) Learning activity aspect was also ranked at a high level and the highest level. This results from a variety of activities provided both inside and outside the classrooms. This means that learning according to constructivism, that is, the learners can self-educate and associate their prior knowledge and experiences with the new ones resulting in a new cognitive structure, as asserted by Thisana Khaemanee (2007 : 90 -91). This teaching approach is also in accordance with the 2542 National Education Act, Section 22 which emphasizes the importance of the learners and the development of their learning potential, particularly self-development. As well, the historical tour guiding youth camp including lectures from tourism scholars and practicum in both simulations and real historical sites, as previously mentioned, were rated the highest by the students due to the fact that students have had opportunities to learn from real situations.

3) For measurement and evaluation aspect through the opinions of the students, the result was also at a high level. This is perhaps because the investigator has employed various methods of measurement and evaluation such as paper and oral tests, observation while the students were performing activities, field practicum, self-evaluation, and allowing parents and fellow students to take part in measurement and evaluation. In doing so, the authentic assessment methods were explained to students during the orientation periods so that the evaluation criteria were consented and supported by the students. This means that multi- assessment methods namely testing and authentic assessment are more likely to accurately measure the students' learning achievement and promote their learning than is a single method. This belief is supported by Chaiwat Sudthirak (2010 : 491) who stated that authentic assessment helps the examiners to focus on each of the students' progress during the learning process, taking into consideration the problems and actual results of classroom and real life learning. These methods are deemed more appropriate than the traditional assessment methods.

4) The teacher aspect was rated at the highest rank due to a variety of activities and techniques provided. In particular, the invitation of guest lecturers from hotel and tourism programs of the local universities and study tours at the historical attraction sites are the most favorable among the students. This has proved the statement made by Sathit Jaisunthorn (1985 : 18 -19) to be true in that local experts are valuable in educating students on local contents.

5) Utility gained from the proposed curriculum was also rated at a high level. Particularly, the feeling of attachment to, love and pride of their own community and country have been implanted into the students. This is successful as Siriwan Sipahol (2010 : 207 – 209) and Yaowapa Prakongsil (1999 : 58) suggested that taking

students to the actual places of local history allows students to perceive and witness evidence of events which happened in the past and helps motivate their strong attachment to the mother land and appreciation of local wisdom so much that students want to preserve the treasures for their own offspring.

RECOMMENDATIONS

The following recommendations have been proposed for pedagogical implications and further research.

For policy-makers
1) School management under the Office of Basic Education Committee offering higher secondary education to students should include the Historical Tourism Course curriculum for the upper secondary school students into the school curriculum structure as an elective subject to promote students' knowledge about local history and the process of tour guiding management. The knowledge and experience gained at this educational level can be expanded when students enter their tertiary education.
2) School management should develop school teachers' competence and equip them with curriculum development skills so that they can bring their knowledge to develop other curriculums in accordance with the local contexts, the needs, and interests of their students. Hence, the school curriculums serve the objectives of the 2551 B.E. National Basic Education Core Curriculum and the 2542 B.E. Act of National Education.

For teachers
1) The Historical Tourism Course curriculum should be offered to students as an elective subject so that the students can choose it to meet their aptitude and interest.
2) The students who enroll in this course should be enthusiastic in applying communication skills, particularly speaking, since they need to take the tour guide role on actual historical sites; the speaking skill is a key to the success in tour guiding.

3) Provision of a tour guiding youth camp is vital for teachers and it should be offered to the students within the first one month of the semester so that students can go on field trips to witness the actual historical parks. This will allow them to bring back the direct experience and later employ in the exercises of trip preparation and management and itineraries.
4) Before the students can practice skills learned in the classrooms, they need to be tested to see whether they are knowledgeable in local history and attractions. Students need to pass the tests so that they can be competent in guiding tours.
5) Sufficient time allocation should be kept in mind by teachers. This includes the focus on learning activities of steps in tour guiding management and tour guiding performance through teachers' suggestions inside and outside the classrooms and through a regular monitoring and follow-up program.

For further research
1) Other tourism-related curriculum such as ecotourism should be developed.

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THE DEVELOPMENT OF INTEGRATED TEACHING MODEL WITH PROVISION OF EXPERIENCE BASED ON THE CONSTRUCTIVIST CONCEPTS TO DEVELOP ANALYTICAL THINKING AND LEARNING ACHIEVEMENT OF PRATHOMSUKSA 3 STUDENTS

Jutiporn Assawasowan[1*]
Wattana Makkasaman[2]
Preecha Nowyenpon[3]
Sumalee Kanjanachatree[4]

[1]Doctor of Philosophy in Education (Curriculum and Instruction), SukhothaiThammathirat Open University
[*]Corresponding author. Tel.086-6964319 E-Mail: assawasowan@hotmail.com
[2]Assistant Professor, School of Educational Studies, SukhothaiThammathirat Open University
[3]Associate Professor, School of Educational Studies, SukhothaiThammathirat Open University
[4]Assistant Professor, School of Educational Studies, SukhothaiThammathirat Open University

Abstract

The purposes of this research were to develop an integrated instructional model by using experience provision based on the constructivist concepts to develop analytical thinking and learning achievement and to evaluate the effectiveness of the developed instructional model. The research instruments were analytical thinking ability test and learning achievement test. The research samples were 44 prathomsuksa 3 students at Watpramahatat School, Nakhon Si Thammarat. They were tested analytical thinking ability and learning achievement before and after the experiment. The collected data were analyzed by using t-test for dependent.

The research procedures were divided into three phases. 1) the process of the instructional model development by analyzing constructivist concepts and developing the instructional model. 2) the examination of the instructional model. 3) the evaluation of the developed instructional model.

The research results were as follows:
1. The developed instructional model consisted of 4 main part : 1) principle 2) objective 3) teaching model process and 4) assessment and evaluation. The process of teaching model included 2 activities 1) developing contents and creating integrated learning units and 2) teaching with 5 teaching steps comprising of building interest, investigating, expanding ideas, practicing, summarizing and evaluating.
2. The students' analytical thinking ability and learning achievement after the experiment were significantly higher than before the experiment at .01 level.

Keywords: instructional model, integrated instruction, constructivist concepts

INTRODUCTION

Education is a factor effecting people's ways of life. Being well-educated helps people to develop themselves, their families, their jobs and their countries. However, intellectual development has been limited and unsuccessful for the past two decades. In Thailand, the quality of education has been unsatisfied. Most students acquire low learning achievement. The students possess only 12 percent of ability in systematic thinking (analytical, synthesis, creative and critical thinking), knowledge and skills required by the curriculum. They also possess 24 percent of ability in self-directed learning skills, having good learning habits and developing themselves continuously (Office of the Educational Council, 2009). To promote high quality education, students' thinking process should be developed. Most scholars believe that thinking ability can lead students to pay more attention in academic contents, having a strong desire for learning, having high achievement in working and having good ways of life (Morrison 2003:260). Critical thinking in particular is a basis for learning and living. A person with critical thinking ability will have better intellectual and ways of life than others. Critical thinking is a basis of other thinking skills and it is a skill that can be developed (Susaorat, 2008: 53). However, intellectual development has been limited and has not been developed to reach the highest goal. Learners can achieve basic skills but not for thinking and reasoning. The critical thinking problem of Thai students should be solved urgently (Bureau of Academic Affairs and Educational Standard 2007 b: 2).

From above information related to educational quality in critical thinking and learning achievement, the researcher would like to study and develop an integrated teaching model by using experience provision based on the constructivist concepts to develop analytical thinking skill and learning achievement of prathomsuksa 3 students.

OBJECTIVES OF THE STUDY

The objectives of this study are as follows:
1. to develop an integrated teaching model by using experience provision based on the constructivist concepts to develop analytical thinking skill and learning achievement of prathomsuksa 3 students, and
2. to evaluate the integrated teaching model by using experience provision based on the constructivist concepts in critical thinking and learning achievement aspects.

RESEARCH PROCEDURES

This study was a research and development research consisting of 3 phases: 1) the process of the teaching model development, 2) the examination of the teaching model and 3) the evaluation of the developed teaching model.
Phase 1: The process of the teaching model development
The following 3 steps were done.
1. Synthesizing the teaching model concepts included:
        1.1 studying fundamental information related to curriculum, teaching and learning states, critical thinking problem of Thai students, learning opportunities and stimulus,
        1.2 analyzing and synthesizing integrated teaching, and
        1.3 analyzing and synthesizing constructivist concepts.
2. Developing the teaching model included:
        2.1 developing principles of teaching model,
        2.2 specifying objectives of teaching model derived from the educational problems in analytical thinking and learning achievement which should be developed,
        2.3 developing learning model process, the following two activities were employed.
            2.3.1 Developing contents and learning units included 4 steps.
            1) Specifying teaching topics by studying curriculum and analyzing the correlation of related contents
            2) Studying learning standards and grade level indicators of major and minor learning areas (the area with higher number of indicators was chosen to be the main learning area)
            3) Specifying learning objectives and contents that matched grade level indicators   by further studying document, textbooks and teacher manuals
            4) Planning teaching by developing learning units, lesson plans and learning schedules
            2.3.2 Developing teaching steps by using constructivist concepts consisted of 5 steps.
                Step 1: Building interest
                Step 2: Investigating
                Step 3: Expanding ideas
                Step 4: Practicing
                Step 5: Summarizing and evaluating
        2.4 specifying the assessment and evaluation
            2.4.1evaluating and improving teaching by analyzing collected data to improve and develop complete integrated lesson plans.
            2.4.2 Examining of the teaching model by experts

Phase 2: The examination of the teaching model
The following 2 steps were done.
1. Creating research instruments including 1) lesson plans used for teaching experiment and   2) analytical thinking and learning proficiency tests used for colleting research data
2. Conducting the experiment and improving teaching and learning models

The developed teaching model was used with prathomsuksa 3 students in WatPromlok School. 3 days of experiments were employed with a fifty-minute lesson plan a day. After improving the teaching model, the teaching model was employed with prathomsuksa 3 students in Ban Klongkwae School. The experiment results were used to improve the complete teaching model.

Phase 3: The evaluation of the developed teaching model
The following 3 steps were done.
1. Preparing to conduct the experiment of the developed teaching model included:
    1.1 specifying the experiment plans by using one-group pretest – posttest design,
    1.2 specifying population and research samples. The population included 384 prathomsuksa 3 students from 8 classes in WatPramahatat School in the second semester of academic year 2011. A 44 students-class were selected by using cluster sampling technique as the research samples.
    1.3 Preparing 2 research instruments including 1) 11 lesson plans used for teaching experiment and 2) analytical thinking and learning achievement tests used for collecting research data.
2. Teaching research samples by using the developed teaching model
    The experiment was conducted in the second semester of academic year 2011 for 8 weeks with 2 days a week. Pretest, analytical thinking and learning achievement tests were delivered accordingly. The teaching model was employed and posttest, containing the same test items in pretest, was delivered.
3. Evaluating analytical thinking and learning achievement results by comparing the students' pretest and posttest scores by using t-test (dependent sample).

RESEARCH RESULTS

1. The result of Teaching Model Evaluation
    1.1. The developed instructional model consisted of 4 main part:1) principle 2)objective 3) teaching model process and 4) assessment and evaluation (Shown in Figure 1)
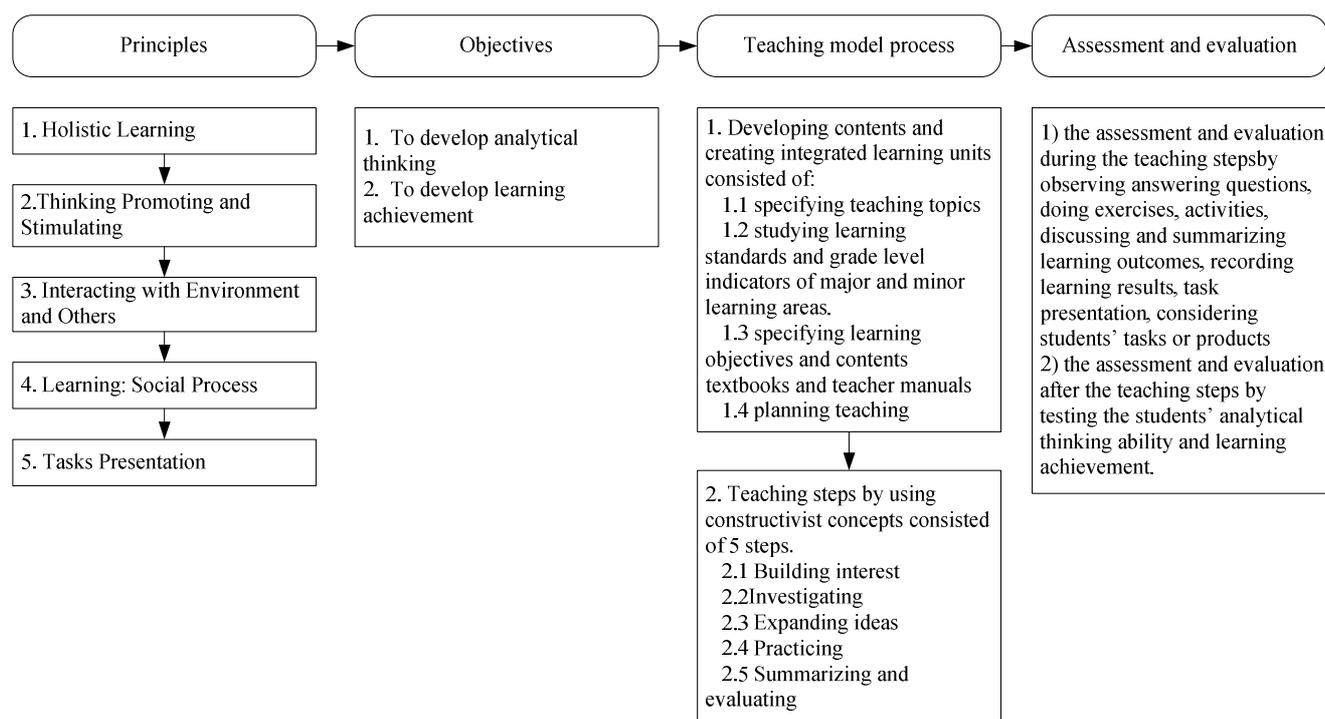

Figure 1: Integrated teaching model with provision of experience based on the constructivist concepts to develop analytical thinking and learning achievement

2. The result of the efficiency teaching model evaluation
    2.1 Analytical thinking
    The result of analytical thinking before and after the experiment of the developed teaching model in each aspect was shown in Table 1.

Table 1 The comparison of mean score of analytical thinking before and after the experiment

analytical thinking	score	$\overline{X}$	S.D.	t
discriminating	Pretest	8.20	2.993	6.893**
	Posttest	11.00	1.431	
classification	Pretest	8.52	2.663	5.237**
	Posttest	10.61	1.674	
inferring	Pretest	2.07	2.337	19.043**
	Posttest	9.66	2.273	
applying	Pretest	6.34	1.684	10.748**
	Posttest	9.39	1.944	
predicting	Pretest	3.55	1.731	13.613**
	Posttest	7.93	2.073	
all 5 aspects	Pretest	28.68	7.32	18.323**
	Posttest	48.59	6.55	

** significant level .01

The mean score of analytical thinking in each aspect was shown in Figure 2.
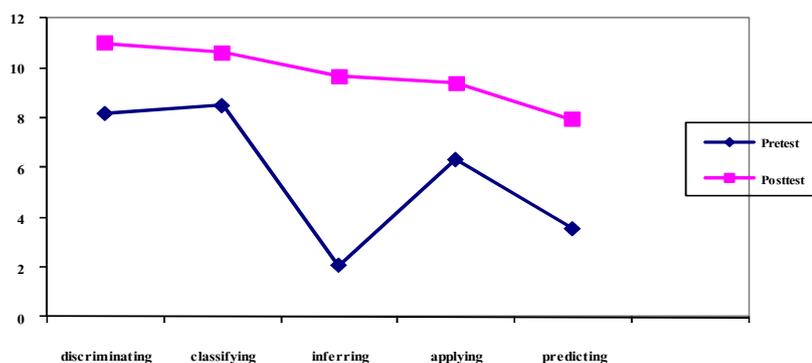
Figure 2: Line graph showed the mean score of analytical thinking in each aspect before and after using the integrated teaching model with provision of experience based on the constructivist concepts
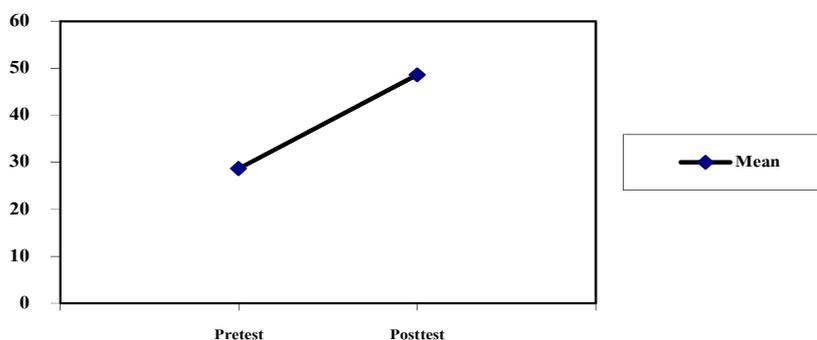
Figure 3: Line graph showed the mean score of analytical thinking before and after using the integrated teaching model with provision of experience based on the constructivist concepts

From Figure 3, the mean score of analytical thinking after using the developed teaching model was higher than before the experiment at statistically significant level of .01. This could be described that the integrated teaching model with provision of experience based on the constructivist concepts helped to increase analytical thinking.

2.2 Learning achievement

The comparison of learning achievement before and after using the developed teaching model was shown in Table 2

Table 2 The comparison of learning achievement before and after using the developed teaching model

learning achievement	N	df	$\overline{x}$	S.D.	t
pretest	44	43	28.66	5.50	14.117**
posttest	44		18.50	6.079	

* *significant level .01

From Table 2, it was found that the mean score of learning achievement before and after using the developed teaching model was higher than before the experiment at statistically significant level of .01. This could be described that the integrated teaching model with provision of experience based on the constructivist concepts helped to increase learning achievement.

DISCUSSION

1. The developed teaching model can be discussed as follows:

1.1 The teaching model was based on accepted concepts and systematically developed.

This teaching model was developed from an integrated concept which was an important way of student-centered learning reform. According to Section 22 of the National Educational Act B.E. 2542 (1999) and Amendments (Second National Education Act B.E. 2545 (2002)), 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. Furthermore the Section 23 states that education through formal, non-formal, and informal approaches shall give emphases to knowledge, morality, learning process, and integration of knowledge, depending on the appropriateness of each level of education. However, the in the past, learning and teaching activities focused more on transferring knowledge more than authentic learning. Subject contents taught separately made learning irrelevant to learners and also brought about meaningless learning. Integrated teaching activities could lead to holistic learning providing opportunities for learners to see the relationship of all subjects. Learners could also apply what they have learned to use in their real lives. The development of integrated teaching model by using experience provision based on the constructivist concepts was a holistic learning deriving from relating related subject contents together. Beside, this teaching model was developed from philosophy, beliefs and theories of constructivist concepts emphasizing learners to build their own learning process by interacting with the environment and relating their own knowledge to new experiences. This could bring about meaningful learning by adjusting old knowledge to new experiences.

The development of integrated teaching model by using experience provision based on the constructivist concepts has been developed systematically. To elaborate, the teaching model was developed step by step relating together. Firstly, the synthesis of teaching model conceptual framework was done by studying fundamental information of curriculum outline, instruction state, analytical thinking problems of Thai learners and learning opportunities. Secondly, the analysis and synthesis of integrated teaching and the constructivist concepts were done to summarize the principles of the concepts. Then, developing teaching model and setting objectives by analyzing the thinking problems and learning achievement were operated. Next, the model components were synthesized and the model process was designed. The teaching model draft was prepared for the experts to examine. After the examination, the model was improved and piloted three times in two schools. The pilot study results were used to improve the efficient model to use in real situations. In conclusion, the developed teaching model was systematically constructed based on the integration and the constructivist concepts.

1.2 The teaching model had the outstanding feature.

1) This teaching model was used in accordance with the National Education Act. It was stated that teachers must develop integrated curricula, provide holistic learning, integrate various kinds of knowledge and provide opportunities for students to prepare body of knowledge. The most important thing was preparing integrated lesson plans. In addition, the Basic Education Core Curriculum 2008has been a standard-based curriculum which learning standards and indicators were clearly stated. This made what learners should be developed and achieved clearly seen by everyone. Thus, the development of curriculum in every educational level, from national curriculum to school-based curriculum, had to reflect quality according to learning standards and indicators stated in the Basic Education Curriculum(Office of the Basic Education Commission2009: 3)
From the above information, the developed teaching model integrated four learning strands including Science, Social Studies, Religion and Culture, Health and Physical Education, Occupations and Technology.Learning management was based on learning standards and grade level indicators and linked with objectives and contents related to indicators. This teaching model was based on learning standards and grade level indicator sin accordance with the Basic Education Core Curriculum 2008reflecting learners' quality according to learning standards and indicators.

2) Activities of this teaching model could develop analytical thinking ability which was the main problem of Thai learners that should be solvedurgently (Office of the Education Council2009: 120). There were five teaching steps comprising of building interest, investigating, expanding ideas, practicing, summarizing and evaluating. The outstanding feature of this teaching model was the teaching process was appropriate for present educational reform period. Because various teaching activities emphasizing on learners were provided, learners could create body of knowledge by themselves and had their own goal to develop analytical thinking skill and learning achievement. This was related to the National Educational Act B.E. 2542 (1999) and Amendments (Second National Education Act B.E. 2545 (2002) supporting learner-centered teaching activities especially in Chapter 4, Section 24 stating that in organizing the learning process, educational institutions and agencies concerned shall provide training in thinking process, management, how to face various situations and arranging learning activities focusing on learners' thinking and doing (Office of the Educational Reform 2002: 13-14). Moreover, teaching management should provide opportunities for learners to develop knowledge by themselves through authentic learning. To help learners to see the relationship between living things and their lives, learners should be supported with learning by doing activities in authentic learning resources (Richardson 1994: 6), studying, searching, and investigating in authentic contexts.

2. The evaluation of teaching model using results was discussed as follows:

2.1 The result on analytical thinking ability

The research result confirmed the research hypothesis. The research samples' analytical thinking post-test scores were higher than their pre-test scores at statistically significant level of .01. The result showed that the developed teaching model can develop learners' analytical thinking ability due to many principles promoting analytical thinking development could be found. The principles were as follows:

1) The teaching model stimulated learners' thinking.

Thinking stimulating was described as stimulating learners' curiosity by doing thinking activities. This resulted in expanding knowledge and experiences of learners. This confirmed the concept of Office of the Basic Education Commission (2006: 6) stating that thinking was automatic working of human's brain. Thinking skill could be developed and practiced. We should prepare enough learning activities or stimulus to stimulate learners' thinking. The stimulus helping learners to think was the first teaching step, building interest, including doing group discussion and persuading students to share their ideas about raised issues. Learners' understanding could be stimulated through learning by doing and thinking. Arising students' interest led to analytical thinking and predicting answers. This was confirmed by the research conducted by Chirdsak Kowasint(1987: 103-110). He found that Thai students doing brain training activities had better thinking quality than those who did normal activities. Thinking was a brain process used for processing data and also an intellectual process used for creating meaning from gained experiences

2) Learning was a social process.

The developed teaching model emphasized learners to work together. In real life situations, learners have to live with others. Providing opportunities for learners to work in groups helped them to know and accept different potential of each other. This provided the opportunity for learners to change their understanding reasonably. Teachers should provide opportunities for learners to exchange their understanding between group

members by discussing, asking and answering questions, negotiating conflicts. This could result in right and clear understanding between teachers and learners, learners and learners or learners and others involved in learning (Henriques. 1997: 4-5; Yore et. al. 1998: 4-6 and Shymansky et. al. 1998: 3-6).

This teaching model helped learners to consider their own thinking process and change their understanding about learning contents. Reducing thinking conflicts, doing group discussion brought about analytical thinking.

2.2 The result on learning achievement

The research result confirmed the research hypothesis. The research samples' learning achievement post-test scores were higher than their pre-test scores at statistically significant level of .01. The result showed that the developed teaching model can develop learners' learner achievement due to providing five effective teaching activities. The main and important teaching activities included 1) building interest by arising learners' interests, 2) investigating by doing thinking activities, 3) expanding ideas by searching for knowledge and developing deep and broad understanding, 4) practicing by proposing description on the basis of activities learners did, studying deeper and broader contents and using concepts in new situations, and 5) summarizing and evaluating by writing and presenting learning output. Teaching learners to discover knowledge according to Piaget' learning theory and Brunner's discovery learning theory was emphasized. According to these theories, the best learning was discovery learning because learners could increase their intellectual levels. Learning by doing and thinking by themselves and integrating of learners' experiences and new knowledge promoted clear and permanent remembering and retention. This increased learners' higher learning achievement.

SUGGESTIONS

To develop effective integrated teaching model by using experience provision based on the constructivist concepts to develop analytical thinking and learning achievement, the researcher suggested the following suggestions:

1. Suggestions for applications

1.1 Policy making

School administrators were important personnel to supporting teaching management. The integrated teaching was ne for developing learning and skills of learners. Integrated teaching management was important thing to develop learners' learning and skills. The integrated teaching management helped learners to completely learn and have high learning quality (Office of the Education Council2009: 136-137) Thus, the development of integrated teaching model by using experience provision based on the constructivist concepts according to integration principles helped learners to see the relationship and relate knowledge to real life situations. Administers should understand principles and learning process to promote and support the real development.

1.2 Teaching development

1) Because the integrated teaching model by using experience provision based on the constructivist concepts was the integration between various related learning strands, teachers from all learning strands should choose learning strands they would like to integrate, analyze standards and indicators, write learning units, specify learning schedule together.

2) For the teaching management by using experience provision based on the constructivist concepts, teachers played the most important role to transfer the written teaching model to teaching activities in classrooms. Thus, teachers should study teaching steps to get important concepts of learning management process and improve appropriate teaching for contents in each learning unit.

3) To manage effective teaching by using experience provision based on the constructivist concepts, teachers should change their roles from knowledge transferor to be facilitators helping and promoting learners to learn, find answers and create knowledge concepts by themselves.

4) For the teaching management by using experience provision based on the constructivist concepts, learners learned by doing, searching, investigating, examining to find various kinds of knowledge and create knowledge concepts by themselves. To promote deep and broad understanding, teachers should not teach contents but they should select contents that can stimulate learners to study deeper and broader. They should also suggest books, teaching materials and related document for learners to study.

5) The research results showed that teachers spent a lot of time in doing activities at the beginning of the teaching management because learners were not familiar with doing activities and finding answers by

themselves. Teachers had to stimulate learners to think by asking questions or practicing observation. Thus, teachers should be facilitators to promote learners' enthusiasm to do activities, discuss and summarize learning points.

2. Suggestions for further study
    2.1 To extend the research results, the further study of an integrated teaching management by using experience provision based on the constructivist concepts should be done with learners in other educational levels.
    2.2The results of using an integrated teaching model by using experience provision based on the constructivist concepts in different aspects such as working skill of learners, learners' working responsibility, learning interest and learning retention should be studied.
    2.3The follow up research should be done in order to check critical thinking ability of learners.
    2.4The satisfaction of teachers, school administrators and parents should be studied.
    2.5The evaluation of teaching model efficiency should be based on E1 /E2 technique in considering the appropriate evaluation portions suitable for standard criteria for model efficiency evaluation.

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EQUITY OF QUALITY FOR BASIC EDUCATION

Nitiya Larnthai
Choochat Phuangsomjit

INTRODUCTION

Education is a catalyst for social transformation. It alleviates chronic inequalities and various kinds of social injustice (Coombs, 1985). Several researches have also proven that education plays an important role in improving well-beings of citizens (UNDP, Asia-Pacific Regional Centre 2010). If all school age population is equally able to access high quality basic education, they will be equipped with essential skills for their further study as well as their work and life in the future. Especially for the underprivileged, basic education is a sustainable means to overcome their poverty trap (World Bank, 2000). Therefore, education should be considered as a service public and it is mandatory that the Government shall commit itself to providing high quality basic education to all children regardless of gender, socio-economic status, and religion etc. (Boramanant, 2009).

'Educational equity' is a western concept which has been dynamically developed along with other dimensions of equity (Coombs, 1985). Worldwide recognition and consensus on the right to basic education has initiated since 1945 when the United Nation, Educational, Scientific and Cultural Organization (UNESCO) has endorsed the right to basic education for all individuals. This right should be provided intentionally, not accidentally, and it should not depend on personal ability and attributes of individuals (Benedeck & Nicholova (Eds), 2003; EFA Global Monitoring Report Team, UNESCO 2004; UNESCO, 2010). At the national level, the equality concept should be underlined in macro educational policies together with other concepts such as freedom, efficiency and excellence (UNESCO, 2010).

In Thailand, equity dimension of educational provision has been firstly emphasized in the 1932 Constitution. Later, the 1997 Constitution Section 81 prescribed the first-ever National Education Act of 1999. Under this constitution, the right to free twelve-year basic education for all is also guaranteed by its Section 43 (Lertpaitoon, 2005; Singkhanaeti, 2009; and Jumpa, 2010). Noting that the National Education Act has been the master plan for educational reform efforts in Thailand, it is obvious that 'equity' has been an important paradigm embedded in this new millennium reform.

Although UNESCO (2004) has encouraged all member states to ensure an equal access to high quality basic education for all school age population, inequity problems has persistently existed around the world (UNESCO, 2010). No matter how difference the societies are, the causes of these inequities have been attributed to impoverishment and socio-economic unfairness. Thailand is not an exception. According to monitoring and evaluation by several agencies e.g. Office of the National Education Commission. (2009); Office of the National Economic and Social Development Board 2011; Office of the National Economic and Social Development Board 2012; National Reform Committee (2011), various kinds of ceaseless inequity in Thailand has been derived from chronic structural inequalities within the society.

Thus, educational policies should take into account four dimensions of equity; namely, equality of opportunity, justice of opportunity, equality of quality, and justice of quality. For several decades, constitutions of Thailand has evidently guaranteed and protected the right to basic education for all citizens; however, educational inequities has still existed and led to other kinds of structural inequalities. Therefore, it is compelling to identify the causes of this failure and find the promising ways to end this undesirable cycle.

OBJECTIVES

1. To analyze policies related to equity of quality for basic education as stated in the constitutions of Thailand.
2. To evaluate outputs and outcomes of the above-mentioned policies.

CONCEPTUAL FRAMEWORK

Analyzing concepts, theories, and previous researches in this field both in Thailand and throughout the world, the following conceptual framework are proposed in this current study.
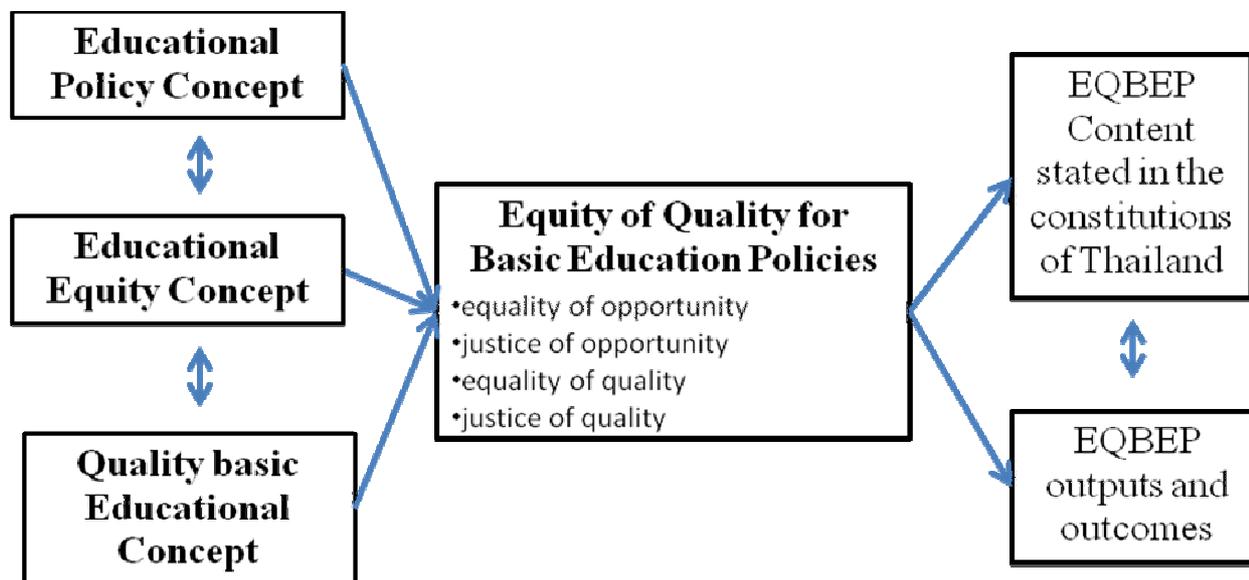

Figure 1: Conceptual Framework

RESEARCH METHODOLOGY

This research employs documentary research methodology and analytical induction technique in order to holistically gain insight into the problem of inequities in basic education in Thailand. With advantages of documentary research for analysis across time, the research specifies its scope for the duration 15 years, staring from when the 1997 Constitution was promulgated until the present. The selection of documents is purposive based on their validity and reliability. Data triangulation technique is additionally employed in order to ensure accuracy of findings.

KEY FINDINGS

The Researcher has conducted a study on the equity and quality in basic education in line with the Constitution of the Kingdom of Thailand which includes: (1) the Constitution of the Kingdom of Thailand of B.E. 2540; (2) the Constitution of the Kingdom of Thailand (Interim Edition) of B.E. 2549; and (3) the Constitution of the Kingdom of Thailand of B.E 2550. Hereafter in this Research, these Constitutions will be referred as "the Constitution of B.E. 2540", the Constitution of B.E. 2549" and "the Constitution of B.E. 2550" consequently. The research findings have shown Thailand's implementation on equity and quality in basic education as follows:

1. The essence of Thai Constitution
  1.1 Based on the general principle of equity in education and the significance of equity that has been certified by Thai Constitution, the basic rights of Thai people has been guaranteed for all Thais to access to basic education.
  1.2 Based on Thai Constitution, the rights of people to access in basic education has been emphasized in 11 items of the Constitution of B.E 2540 and the Constitution of B.E 2550. The rights of people in basic education have been divided into four areas as follows:
   1.2.1 The equal opportunities of people to access to basic education which includes: (1) the guarantee of the basics right of Thai people to access to 12 year, free of charge of basic education; (2) the equal

opportunities of local governments or private sectors to participate in educational management; and (3) the protection of rights in educational management.

   1.2.2 The justice opportunities of people to access to basic education which includes: (1) the guarantee of the rights of the disadvantaged or people in difficult circumstances; (2) the guarantee of the rights of the child and youth who have no guardians; (3) the protection of the rights of old people; (4) the protection of the rights of disable persons or the handicaps; and (5) the protection of the rights of the homeless or low income.

   1.2.3 The equal of people to access to the quality for basic education consisting of: (1) the guarantee of the freedom to access to education and trainings of all people; (2) the enforcement of law for child and youth protection so that they will not be confronted with violence and unfair practices in their families; (3) the protection of the rights of the child and the youth to live happily in society, to be enhanced their capacities and appropriate skills in accordance with their requirements. This also includes openness of their opportunities in social development.

   1.2.4 The fairness of people to access to the quality for basic education (This issue is not stated in the Constitution).

2. The policy implementation in equity and quality basic education in line with Thai Constitution

   To follow-up the policy implementation in accordance with the proclamation of Thai Constitution of B.E. 2540 (the Office of Education Commission of B.E. 2552, the Office of National Economic and Social Development Board B.E. 2554, the Education Reform Committee of B.E. 2554, and the Office of National Economic and Social Development Board of B.E. 2555,), the equity of education can be divided into four areas as follows:

   2.1 The provision of equity of all Thai people to access the quality education services

   2.2 The provision of equal access and opportunities of all Thai people to quality basic education without discrimination in economic or social status.

   2.3 The provision of equal access and opportunities of all Thai people to quality education services, by eradicating problems such as the shortage of teachers, low-standard of curricula and educational assessment, unqualified quality assurance system of educational institutions. The production of vocational workforces cannot respond to the need of the factories and the labor market. The vocational graduates are lacking necessity skills and appropriate qualification. Those who graduated with non-formal education are lacking basic knowledge and skills to earn their living.

   2.4 The provision of equal opportunities of all Thai people to access to quality education services. The country is being challenged by the wide gap of quality education between general public schools and educational opportunity expansion schools. The special education schools, the schools for disable people in particular, are not ready to provide quality education service to the targeted group. In consequence, Thai schools cannot compete with other nations in terms of quality.

DISCUSSION

The findings are in line with the previous studies conducted by several educators. According to this research, the inequity of people to access to education has resulted from the country's fundamental factors than their social background (Coleman & Campbell, Hobson, McPartland, Mood, Weinfeld, York 1966; Hutmacher, 2002; Gamoran & Long 2006). The research has shown that the education reform will not be the only factor to solve educational problems. The success of education reform must rely on the engagement of all people.

RECOMMENDATIONS

1. The Ministry of Education should be the coordinating agency to develop policy recommendations to provide equal access of all people to quality of basic education.
2. The educational action plan should be integrated into the budget and fiscal plan to ensure the implementation of policy in the provision of equity and quality in basic education.
3. The encouragement of civil society to take active roles in supporting and making assessment of the policy implementation is vital.
4. The Ministry of Education and all relevant sectors should conduct a feasible study on the provision of equity and quality in basic education in line with Thailand's Education Act and relevant education laws. Besides, an in-

depth study quality research on equity and quality basic education should be undertaken to ensure that all people can access to quality basic education.

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FIRST STEP TO INCREASE INFORMATION LITERATE LEARNERS: A STUDY OF UNDERGRADUATE STUDENTS IN SCIENCE AND TECHNOLOGY

Hathairat Kunakornsakul[1]
Pichet Pinit2

[1]Ph.D. Candidate, Learning Innovation in Technology Program (53501817@st.kmutt.ac.th)
[2]Lecturer, Department of Mechanical Technology Education (pichet.pin@kmutt.ac.th)
[1, 2]Faculty of Industrial Education and Technology,
King Mongkut's University of Technology Thonburi, Bangkok, 10140, Thailand

Abstract

21st century learners need information literacy (IL) skills. Especially students in Science and Technology, to be sophisticated in IL skills by citing more scholarly works in the higher education will influence them increasing more innovative experiments and developments. Therefore, the IL skills enhancement is necessary since their first year in the university. To increase information literate students, we need to know their prior knowledge in IL including their learning characteristics as people learn most effectively when they develop learning skills in both their preferred and weaker learning stages. This study aims to identify the learning styles of undergraduate students in Science and Technology and to determine if the difference of IL-comprehension levels exists among the learning styles. Kolb's Learning Style Inventory (LSI) was additionally administered to 550 freshmen of King Mongkut's University of Technology Thonburi who have done the IL questionnaire formerly. The data from 442 completed surveys were analyzed by percentage and Chi-square test. The results reveal that over 90% of participants were rather low information literate while their learning styles were relatively evenly between Divergers (31.0%) and Assimilators (30.5%), followed by Convergers (20.8%), and Accommodators (17.7%). There was no significance difference in students' IL-comprehension levels based on their learning-style preferences. The findings describe the diversity of learning style and the limitation in IL skills of the students. Therefore, to increase information literate person, the Kolb's learning cycle was notified to benefit all types of learners as the further study.

Keywords: Investigation; Information literacy skills; Learning styles; Science and Technology; Undergraduate students

INTRODUCTION

In a rapidly-evolving world, science and technology education is an important instrument in the search for sustainable development and poverty reduction (UNESCO, 2011). With this quickly changing science and technology landscape, the sophisticated information literate persons are required increasingly. The measurement is a key to the usefulness of IL as a concept. The IL's definition depends upon an ability to recognize the difference between those who are so literate, and those who are not. Additionally, the recognition of these differences will help in designing programs to correct deficiencies (Town, 2003). Therefore, an information literacy (IL) assessment is performed to assess the students' performances and determine the important issues for IL skills development (Kunakornsakul, & Pinit, 2012). However, knowing just only their prior knowledge in IL may be not enough to reach their needs or to understand their problems in the IL skills. The ability to address the learners' characteristics will advocate the effective learning process. As people have their own preferred styles of learning and they learn most effectively when they develop learning skills in both their preferred and weaker learning stages to getting more out of each learning experience (Kolb, 1984; Stice, 1987). In this way, both existing IL-comprehension level and learning-style preference of the individual should be focused as a primary process of IL skills development. The findings from this initiative step will be utilized as the effective skills contribution.

Research Background

Information Literacy Skills and Assessment

Information Literacy (IL) becomes an essential part of the learner's success. In 1989, American Library Association (ALA) has defined information literacy skills as "A set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information".
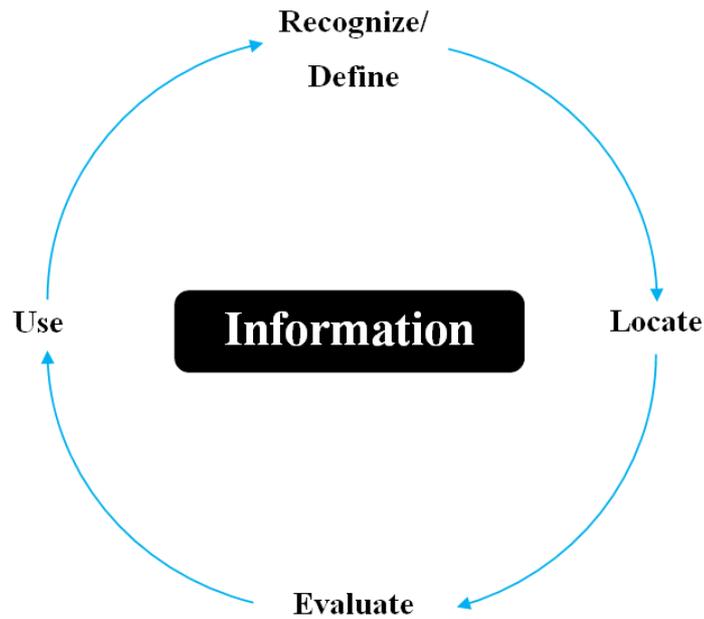
Figure 1: Information Literacy Cycle as adapted from ALA (1989)

In Thailand, the term "information literacy" has come into policy arena in 2009 in the Second ICT Master plan (2009-2013) with the vision on people at all levels of society should be smart and information literate with the knowledge and capacity to access, create, and use information in an information-literate way in order to benefit education, work, and everyday life (Pooparadai, 2010).

There are several kinds of assessment were developed to evaluate IL performance but the most widely used assessments have been conducted under the standards of the Association of College and Research Libraries (ACRL). In Canada, the Working Group on Library Instruction of the Subcommittee on Libraries of the Conference on Rectors and Principles of Quebec Universities (CREPUQ) has developed a questionnaire based on ACRL standards to compile data on the information research skills of undergraduate students entering Quebec Universities in 2003 (Mittermeyer, & Quirion, 2003). The study of CREPUQ has identified the information research skills into five areas: 1) Concept Identification, 2) Search Strategy, 3) Documents Types, 4) Search Tools, 5) Use of Results, and the skills in each area became twenty variables as represented in 20 multiple-choice questions.

In our previous study (Kunakornsakul, & Pinit, 2012), we also adapted this questionnaire to assess the IL skill levels of the first year students in Science and Technology. The results were summarized in Table 1.

Table 1: Summary of results by areas of information research process (Kunakornsakul, & Pinit, 2012)

Information research process	Specific knowledge of the question	No.	% of correct answers
Area 1 Concept identification	Using appropriate terms to identify the main concepts	4	47.7
	Distinguishing between significant and non-significant words	8	31.4
	Formulating synonym to identify a concept	13	**56.1***
Area 2 Search strategy	Using keywords	2	**69.5***
	Using Boolean operator "OR"	9	39.4
	Using appropriate search indexes	11	29.6
	Using a thesaurus to get the preferred vocabulary for a particular database	12	30.3
	Using Boolean operator "AND"	16	45.5
Area 3 Documents types	Knowing when to cite an encyclopedia	3	18.8
	Knowing when to cite a scholarly journal	15	49.5
	Knowing the criteria of a scholarly journal	20	11.3
Area 4 Search tools	Knowing when to use a database	1	9.7
	Knowing when to use a search engine	6	**55.2***
	Knowing how to find information in a library catalogue	7	13.1
	Knowing the characteristics of meta-search engines	14	5.2
	Knowing what information can be found in a library catalogue	17	12.7
Area 5 Use of results	Recognizing the type of document in a bibliographic reference	5	11.8
	Knowing what a bibliography is	10	40.3
	Knowing the criteria used in evaluating the quality of a website	18	9.7
	Knowing when to include a reference to avoid plagiarism	19	14.7

Note: *A rate of above 50% of participant who selected the correct answers

The results indicated the percentage of respondents who scored from each question in five areas with the total score: 20 points. The average of students' range score was between 5 to 8 points. For that matter, there were only three questions consisting of specific understanding in formulating synonym to identify a concept, using keywords, and knowing when to use a search engine, that over half of the respondents could select the best answers (56.1%, 69.5%, and 55.2%, respectively).

This insufficiency understanding of all areas in information research process demonstrates the students were rather low information literate. It is also indicative the serious problem that requires the academic institutes' attention to strengthen their students' information competency with the initiative approaches especially a

mandatory program of IL skills evaluation for new entry students and IL skills development courses for particular students in Science and Technology.

Learning styles and Information Literacy Skills

There are several different ways to define, classify, and identify learning styles. Cushner, McClelland, and Safford (1992) provided the definition of "Learning Style" as "A consistent pattern of behavior and performance by which an individual approaches educational experiences; learning style is derived from cultural socialization and individual personality as well as from the broader influence of human development".

Learning styles can be broadly categorized into three groups: 1) Information processing-based learning style assesses individual cognitive approaches to understanding and integrating information. This learning style is likely to distinguish among the ways that individuals sense, perceive, solve problems, organize, and remember information. 2) The personality-based learning style examines the influence of individual personality on preferred ways of acquiring and organizing information. It tends to gauge the ways in which individuals react to different learning situations 3) Multi-dimensional and instructional preferences-based learning style looks at individuals' preferred environment for learning (Yeap, Myint, Lim, & Low, 2005).

Based on perception and information processing, Kolb (1984) has created the Experiential Leaning Model to measure learning styles that relies on the way of perceiving and processing information as described on a cycle of learning which consists of four stages: Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE) (Figure 2). In this way, Learning Style Inventory (LSI) was developed to assess the strengths and weaknesses of individuals' learning style (Table 2) which can be described as Divergers, Assimilators, Convergers, or Accommodators depending on dichotomies, their preference for perceiving (CE to AC) and processing (AE to RO) information.

Kolb (1984, 1985) described four types of learners as 1) Divergers (CE/RO) have ability to view concrete situations from many different points of view and approach problems through observation rather than action 2) Assimilators (AC/RO) have strengths in understanding a wide range of information and putting it into concise, logical form 3) Convergers (AC/AE) can find practical uses for ideas and theories, and have the ability to solve problems and make decisions based on finding solutions to questions or problems 4) Accommodators (CE/AE) learn from hands-on activities, and relies on people for information rather than technical analyses.

Kolb's learning model has been applied to a variety of instructional levels and is popular in educational practice (Wartman, 2006; Suriyakrai, 2011; Woods, 2012). Several researchers have used Kolb's LSI to exam the relationship between learning styles and achievement (Raksasuk, 2000). In Thailand, the Kolb's LSI has also been performed widely as an instrument to assess the students' learning preferences such as the study of Thaveesin, Pattrakorn, and Vicheanpant (2002), they administered the LSI to identify the learning styles of undergraduate engineering students in Bangkok and surrounding areas.

In a part of IL skills enhancement, learning styles pertain to the manners in which individuals typically acquire, retain, and retrieve information (Felder, & Henriques, 1995). Liao, Finn, and Lu (2007) have stated that "It is important for university libraries to examine the characteristics of its user population and to develop and implement appropriate and effective services for relevant user groups". Therefore, understanding the students' learning styles and their potential in IL skills can help librarians, educators, and all academic stakeholders become better supporters to meet the needs of students, and thus help students to become lifelong learner.

Considering to all above aspects, this research aimed to identify the learning styles of undergraduate students in Science and Technology and determine if the differences of IL-comprehension levels existed among the learning styles.
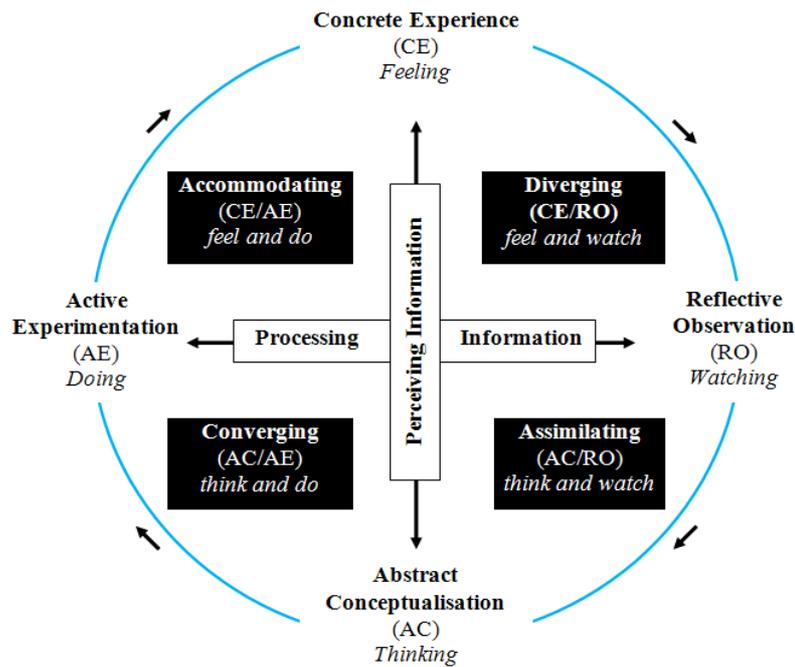
Figure 2: Kolb's learning cycle based on experiential learning model [adapted from Kolb (1984)]

Table 2: Strengths and Weaknesses of Learning-Style Types (Green, Snell, & Parimanath as cited in Stephanie et al., 2002)

Learning-Style Type	Strengths	Weaknesses
Diverger	Imaginative ability; understands people	Inability to make decisions
Assimilator	Builds theoretic models; uses inductive reasoning	Lack of practical applications generated from theory
Converger	Uses deductive reasoning; prefers application of ideas	Makes decisions too quickly; solves the wrong problem
Accommodator	Involvement in new situations with trial and error; risk taking	Trivial improvements; being involved in seemingly meaningless activities

OBJECTIVES

This study aims to investigate the learning preference of undergraduate students in Science and Technology in order to find evidence and insights supporting their existing understanding in information research process and to identify the issues for the IL skills development.

Research Questions

- What are the preferred learning styles of undergraduate students in Science and Technology?
- Is there any significant difference in learning styles of undergraduate students in Science and Technology?
- Is there any significant difference of IL-comprehension level exist among each learning style of undergraduate students in Science and Technology?

METHODOROGY

Participants

Five hundred fifty undergraduate students in Science and Technology participated in this study were the same group of our previous research in IL assessment (Kunakornsakul, & Pinit, 2012). They were drawn from first year students of King Mongkut's University of Technology Thonburi who enrolled in GEN121-Learning and Problem Solving Skills (regular course) in the second semester of academic year 2011 and had completed the IL questionnaire.

Materials

The Kolb's Learning Style Inventory (LSI) was additionally employed to this study. The used LSI was adapted from Thai version of Narumol Raksasuk (2000) with the obtained permission of using the test in this study. It consists of 12 questions in which the student is asked to rank 4 statements for each question that best describes his or her preferred manner of learning. This LSI distributed to 550 participants in the class and 442 complements were returned.

Data Analysis

The obtained data from IL questionnaire in the prior study and the Kolb's LSI were analyzed by percentage and Chi-square test to show the students' IL-comprehension levels, their preferred learning styles, and relationship between IL-comprehension levels and learning styles.

RESULTS

In our prior study, the students' scores from IL questionnaire were classified into 5 levels based on their IL comprehension (Table 3). The results indicate that most students (68.3%) had understanding in IL at level 2-Poor and there was no student scored to level 5-Very good.

The results from the Kolb's LSI reveal that the students' learning styles were relatively evenly between Divergers (31.0%) and Assimilators (30.5%), followed by Convergers (20.8%), and Accommodators (17.65%). We found significant difference in the distribution of learning-style type using the LSI among the freshmen in Science and Technology ($X^2 = 24.44$, $P = 0.00$) (Table 4)

Table 3: Number and percentage of students classified by IL-comprehension levels

Level of IL Comprehension	Number of Students N (%)
1-Very poor	114 (25.8)
2-Poor	302 (68.3)
3-Fair	25 (05.7)
4-Good	1 (00.2)
5-Very good	0 (00.0)

Table 4: Chi-square analysis of learning-style preferences on the Kolb's LSI

Learning-Style Preference	Observed Results N (%)	Expected Results N (%)
Diverger	137 (31.0)	110.5 (25)
Assimilator	135 (30.5)	110.5 (25)
Converger	92 (20.8)	110.5 (25)
Accommodator	78 (17.7)	110.5 (25)

Note: $X^2 = 24.44$; P = 0.00; N indicates number of participants

The finding in this research also suggests that there was no significant difference in students' IL-comprehension levels based on their learning-style preferences ($X^2 = 9.13$, $P = 0.43$) (Table 5)

Table 5: Number and percentage of students classified by learning styles and IL-comprehension levels

Learning-Style Preference	Level of IL Comprehension										Total	
	1-Very poor		2-Poor		3-Fair		4-Good		5-Very good			
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Diverger	39	28.5	90	65.7	8	5.8	0	0	0	0	137	31.0
Assimilator	33	24.4	98	72.6	3	2.2	1	0.7	0	0	135	30.5
Converger	20	21.7	64	69.6	8	8.7	0	0	0	0	92	20.8
Accommodator	22	28.2	50	64.1	6	7.7	0	0	0	0	78	17.7
Total	114	25.8	302	68.3	25	5.7	1	0.2	0	0	442	100

Note: $X^2 = 9.13$; P = 0.43; N indicates number of participants

DISCUSSION

Based on the completed surveys in IL comprehension and learning-style preference of 442 undergraduate students in Science and Technology, the findings indicate that there were very few students understood in IL skills. Most of them were at "Poor" and "Very poor" level in IL comprehension (68.3% and 25.3% respectively).

Besides that, the findings from Kolb's LSI identified diverger and assimilator as the most preferred learning styles of the first year students in Science and Technology. These results were consistent with a study of learning style of undergraduate Science and Technology students in Rajamangala University of Technology Suvarnabumi (Thailand) in which the most preferred learning style found was diverger (Phanphuttarat, Meecharean, Hayee-uma, & Suvanprateep, 2009).

Even the significant difference in learning-style type was found among the freshmen in Science and Technology, there was no significant difference in students' IL-comprehension levels based on their learning-style preferences. It is because over 90% of students were rather low information literate.

The findings demonstrate the problem of insufficiency information skills that all four different types of students were facing. It impacts directly to Science and Technology students who need to learn and practice from a wide variety of information sources and formats for rapidly changing fields (Kunakornsakul, & Pinit, 2012). UNESCO (2011) also stated that the educational systems are faced with the challenge of science and technology education that has lost relevance not being able to adapt to current scientific and technological developments. Therefore, the IL skills development is highly important to be focused on practicing scientists or engineers who continually searching for innovations and new sources of experimental or research data (ACRL, 2006).

According to Kolb's Experiential Learning Model, the students who are diverger or reflector style would prefer discussion, group work, question and answer, or sharing ideas in learning activities while the students who are assimilator or theorist style prefer working with abstract concepts, analyzing an existing theory, or developing a new one using logical step-by-step approach (Woods, 2012). These kinds of learning activities may be applied to the IL skills development for undergraduate Science and Technology students. However, Suriyakrai (2011) has suggested educators to be aware that learner can use other learning styles in some situations. For the same reason, Kolb advocated that teacher should encourage students to engage in all four stages of learning cycle (Healey, & Jenkins, 2000). Therefore, the variety of learning activities should be designed to essential all types of students in current educational system as well as in IL competencies enhancements.

All aspects from the study explain that the understanding students' background in IL skills and their learning styles can be used to influence the design of IL sessions more effectively and specifically to Science and Technology students as the lessons or learning activities draw on their interests. By mapping the information research process to the Kolb's Experiential Learning Model, the new paradigm will be proceed to increase information literate learners as the further study.

CONCLUSION

The findings indicate that the most preferred learning styles of undergraduate students in Science and Technology were relatively evenly between divergers and assimilators while the least preferences were accommodators. However, there was no significance difference in students' IL-comprehension levels based on their learning-style preferences because all types of learner were rather low information literate. The study describes the diversity of learning style and the limitation in IL skills of the students. It is, therefore, important for IL educators and stakeholders to address the needs and problems of all different types of students in IL skills enhancement. In addition, Kolb's experiential learning model was considered to establish a balance of IL skills development for diverse learners in Science and Technology as the further study.

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