CHAPTER 1

INTRODUCTION
1.1 SIGNIFICANCE OF THE PROBLEM

"Education" is the main factor that develops human life so it is necessary to put a special emphasis on education development which should be considered in accordance with global change. Because of globalization, there is high competition and rapid change at the present time. People can communicate easily, conveniently and quickly. Technology of mass communication is believed to be essential. It should be improved for good quality and efficiency in usage. Such technology should be global network and should be applied easily. One implement which serves people's needs is "internet". Sippanon Kettat (1998: 23) spoke of an approach to Thai education relating to curriculum reformation by stating that memorization teaching method should be forgotten because knowledge is so great that teachers cannot teach all of it. Instead, Thai youths must be trained in order to be able to live in the world of competition. They must have knowledge fundamentals, language competence and know how to use a computer. The reasons for this are to prepare them for "universal vision" which is based on social and cultural understanding of different countries and specifically to make them familiar with new methods of learning and sources of knowledge, both of which are necessary for their living.

Nowadays many countries have brought e-Learning method to apply in school education. It could affect equality in education for everyone. Make good opportunities to every locality especially any schools where shortage of teachers. Thailand faces education
difficulty that why the education reform could not get through the goal.

The evaluation of education in Thailand and foreign countries found that education in Thailand faces critical problems and the quality of education personnel could not pass the standard even in academic, creativity, analysis, synthesis, self searching of knowledge, eager to learn, teamwork and good attitude to good careers including the infrastructure of the foundation of science and technology of Thailand is not strong that affected the education system in Thailand to human resource development and the competition at present and in the future.

According to National Education Act 1999 section 22 the education management must extend the principle that everyone can learn and self develop and the learners are the center. The process of education has to promote the learners can develop by nature with full capacity. And section 23 declares that it should be concentrate with knowledge, ethics, learning process and integration according to the appropriation of each education level. Education management process must support the students to develop naturally and completely. Therefore, Thai education needs revolution both in the system and in the learning process. Appropriate learning methods are greatly required and all authorities concerning must co-operate in education management. The goals of the new education management system revolution are as follows:-

1) Providing the Thais who are in Thailand with good education all their long life.
2) Revolution in education system and management process must focus on students so that the school is the place of learning not the place of teaching.

3) Everyone in the society should participate in education management.

One of the objectives in Education Plan, section 8 (1997-2001) states that education must be the process to prepare and to lead the Thais and the Thai society to move towards a new age firmly and progressively, to compete with various nations proudly and strongly and to make Thai people, Thai families, Thai communities and the Thai nation happy and peaceful. Hence, only the good and efficient education system will create such potential. The most important point is that the process of learning must be developed. Learners have various methods of learning and are able to learn at any time and any place as they want to. Since the information in the world continuously creates new knowledge, students have to learn all the time and have to solve problems by themselves by using technology and other information media. E-Learning method can disperse into any school around the county via internet and television for using as education media. It is expected that would decrease the education problem partly and develop the evaluation effect of The Office for National Education Standards and Quality Assessment as the standard as follows :-

1) The adjustment of teaching by e-Learning was used in the school around the country by the quality of the principles and concept of content of study. From this concept the students can get
idea and knowledge equally around countries that cause teachers can manage teaching method efficiently.

2) The adjustment of teaching and integrate moral and ethics about the learning content and testing in every lesson that cause the juvenile get concept and can apply in their daily and good attitude in their career.

3) To bring the teaching media integrate and sufficiency economic principle altogether. The students can understand how to apply academic to their daily life and help students to analyze and Synthesis with value judgment, creativity and vision.

4) The design of the classes can help students to search and learn repeatedly by e-Learning method via computer in the classes and study further without any burden. From this procedure would help the learners practise themselves by e-Learning and self develop continually.

![Diagram](image)

Figure 1-1 : Education Media Serviced Centre
Moreover, the violent situation in the three southern provinces in Thailand; Pattanee, Yala and Narativad which are having a crisis about terrorists who burned schools and shot teachers from time to time. It caused the insecure in their life especially teachers and educational personnel. They would like to move from that area. New teachers still have not enough experience and the numbers of teachers are not enough. The Ministry of Education closed the schools because of the violence. Students dared not go to school. From evaluation of educational achievement, the students’ scores are under the standard.

E-Learning method can promote the teaching method for students and teachers. The research of the result finds out the factors which using e-Learning efficiency. The environment of school as the South had been set and gets the result to apply e-Learning at the school in the South. The education media was dispersed around the country efficiency and decreased problem in doing research safely.

Because of the importance of the ideas above “e-Learning System” should be solve those problems. Research student who is one of the executives at Education Ministry and is in charge of education system development is thinking of including e-Learning system in Thai education curriculum, and is interested in “Key Factors for Secondary School in Applying e-Learning System”, a case study of the Mathayomnaknavaoupatump School. So, the result of this research will be useful in improving Thai education system, which will be the standard education of Thailand in the future.

(6)
1.2. OBJECTIVE OF THE STUDY

1) To study the successful factors of using e-Learning system.
2) To evaluate the benefits of using e-Learning system.
3) To study the problems of using e-Learning system.

1.3. HYPOTHESES

1) Inexperience in e-Learning system of teachers.
2) Inexperience in e-Learning system of students.
3) Lack of infrastructure.
4) Satisfaction of teachers and students.

1.4. SCOPE OF RESEARCH

Computer method and e-Learning program are modern for Thai educated system. This research focuses on the secondary schools, which based to university level, the teachers who are the professionals have transferred from this area to the new area and the new teachers have not much experience, teachers are not enough for classes. Students from different grades join in one class, otherwise announcements are made at times that there are no classes. Moreover, nowadays there are big problems in the three southern provinces in Thailand; Pattanee, Yala and Narativad which are having a crisis about terrorists who burned schools and shot teachers from time to time. Students dared not go to school. From evaluation of educational achievement, the students’ scores are under the standard. As a result
of this, research student expect this research can solve a shortage of schools and teachers.

At the first time, the research student should research in the schools of southern provinces in Thailand. But those schools are often to close, the students can’t go to schools everyday, so it’s very difficult to give the questionnaires for the research. Then the research student choose the pilot project of e-Learning system, the Mathayomnaknavapatump School, there is environment nearly the schools of southern provinces in Thailand. The pilot school is in responsible of Department of Education Bangkok Metropolitan Administration, located at suburb and there are half-half Buddhism students and Muslim students, aims at transmitting the lessons taught by professional teachers in the central via the television both online system and offline system to all classes in all schools. The main subjects to deal with are Mathematics, Science, Thai, English, Yavee, and Social Studies. This will be done in secondary level in order that the students can practice and review their lessons at any time they want to whether at school, at home, or at any place. Hence, all students have a chance to develop themselves as much as other students all over the country. This project started for the first time in the second semester in 2006.

The pilot project of educational media centre started on May 17, 2006 and will end on March 16, 2007. This research deals with the skill of teachers and students in using e-Learning in applying e-Learning system of secondary school in suburb of Bangkok as stated in the hypotheses that inexperience in e-Learning system of teachers and students, support and budget from the government has not been
provided. Hence, this is not the research on e-Learning system because every e-Learning system which has been used all over the world at the present time is still in the beginning step of its usage. There is no conclusion that which e-Learning system is the best or the most proper one.

The factors used in this research and the research methods to test the success of using e-Learning are as follows:-

1) Each student’s character such as age, sex, religion, order of child in the family, student’s computer skill, student’s comprehension of computer language.

2) The subjects which are required: Mathematics, Science, Social studies, Thai, and English. The subjects are classified into 2 groups :-

- Skill subjects via Mathematics, Science
- Non-skill subjects via Social studies, Thai, and English.

3) Find each student’s difference in scores in the same students in each subject between the second semester in 2006 (e-Learning) and the first semester in 2006 (no e-Learning).

4) In the first semester 2005 and the second semester 2006 which there are no e-Learning, collect the students’ scores in two subjects that need skill in learning (Mathematics and Science) and do the same with three subjects that do not need skill in learning (Social Studies, Thai and English).

5) Compare the students’ achievement, when they use e-Learning and when they do not use e-Learning by differentiating the mean of achievement scores between e-Learning group and an ordinary group (no e-Learning) with the application of the statistic t-
test (Independent Sample t-test) at the statistically significant level of 0.05.

1.5. DEFINITION OF TERMS

1) Definition of e-Learning

(EN.wikipedia.org) E-Learning most often means an approach to facilitate and enhance learning through the use of devices based on computer and communications technology. Such devices would include personal computers, CDROMs, Digital Television, P.D.A.s and Mobile Phones. Communications technology enables the use of the internet, email, discussion forums, and collaborative software.

(WWW.eduspecs.ca) What occurs when education and training (typically credit but also non-credit) are delivered and supported by networks such as the Internet or intranets. Learners are able to learn any time and any place. In this report, we use the terms "online learning" and "e-Learning" interchangeably.

(WWW.mba.hobsons.com) Education offered using electronic delivery methods such as CD-ROMs, video conferencing, websites and e-mail. Often used in distance-Learning programmes. Elective courses most MBA programmes require that students complete specified core courses, plus choose a set number of additional (elective) courses to complete.

(WWW.neiu.edu) Covers a wide set of applications and processes such as web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via Internet, intranet/extranet, audio and videotape,
satellite, and CD-ROM. However, many organizations only consider it as a network-enabled transfer of skills and knowledge.

(www.worldwidelearn.com) Learning that is accomplished over the Internet, a computer network, via CD-ROM, interactive TV, or satellite broadcast.

(www.intelera.com) The delivery of a learning, training or education program by electronic means. E-Learning involves the use of a computer or electronic device to provide training, educational or learning material.

(www.internal.bath.ac.uk) Learning facilitated and supported through the use of information and communications technology, e-Learning can cover a spectrum of activities from supported learning, to blended learning (the combination of traditional and e-Learning practices), to learning that is entirely online.

(www.digitalstrategy.govt.nz) Learning that is facilitated by the use of digital tools and content. Typically, it involves some form of interactivity, which may include online interaction between the learner and their teacher or peers.

(www.usd.edu) Any technologically mediated learning using computers whether from a distance or in face to face classroom setting (computer assisted learning).

(www.websight.co.uk) Software created to teach the user new skills and delivered using web technology and methods.

(www2.automation.siemens.com) This term has two different meanings. It can mean a comprehensive offer of courses
and "on-the-job" e-Business training modules for all levels of management for the purpose of accumulating internal e-Knowledge and promoting e-Business-related networking and the exchange of know-how. It can also mean learning via electronic media.

The terms of 'Information, Communication and Technology' (ICT) and 'e-Learning' are often used interchangeably. However, there are differences in approach and emphasis. It is useful to refer to ICT as the learning tools and infrastructure that support e-Learning.

On-line learning or e-Learning is the learning through computer network, internet or intranet. It is the learning by oneself. The learner learns according to his own ability and his own interest. The content of the lesson which consists of contexts, pictures, video, and other multimedia is transmitted to the learner through Web Browser. The learner, the teacher and the classmates can get in touch with one another and can consult an can exchange ideas in the same way as they do in the usual class by means of modern devices (e-mail, web-board, chat). It is the learning for all: anyone, anywhere and anytime.

On-line learning has 4 important elements. Each element has a proper design. After they are composed, the whole system can work and is integrated well.

1. Content Delivery in Multiple Formats. This element deals with the content which will be used as e-Content. This is teacher from the author or the teacher who teaches that content, which is designed to be proper multimedia and can be learned from a computer through internet network.
2. Management of Learning Experience. This element is Learning Management System (LMS). It is the software that is the database programme which functions as database application software. Its main functions deal with study plans, registration, presentation of lessons through internet, follow-up a student’s result and measurement.

3. Networked Community of Learners. Because e-Learning is done through the internet network, networked community of learners is to be concerned.

4. Content Developers and Experts. The last element to be considered is an expert or a content developer.

By conclusion, e-Learning is the learning which a learner can study or learn by himself. Learning Management System (LMS) is the center which sets order of contents in the lesson and transmits them through the computer network to a learner. Besides, the system can evaluate the success of the lesson, control and give services in all sections to a learner. Therefore, it is the most important element of e-Learning and is called ‘e-Learning Management System: LMS’.

2) Definition of Primary and Secondary Education in Thailand

In the education area, a new National Education Law, mandated by the new 1997 constitution and promulgated in August 1999, makes nine years of education compulsory and requires that all Thai citizens be guaranteed twelve years of free education. The law also mandates the implementation of key education reforms. Two key elements of the reform are decentralization of education to Local
Education Areas and school-based management and the reform of learning to a participative learner-center approach. To the extent that these reforms can become reality, Thailand's opportunities to be internationally competitive and improve its standard of living will be dramatically enhanced.

Figure 1-2: The Thai Educational System

**Primary Education** aims to provide a basis to form desirable character encompassing morality, ethics, ability and basic knowledge to retain literacy and arithmetic ability.
Secondary Education: There were two levels

1. Lower Secondary Education aims to promote learners' morality, knowledge, ability and skills beyond the primary level to enable them to identify their needs and interests and to be aware of their aptitude both in general and vocational practices relevant to their age.

2. Upper Secondary Education aims to enable learners to progress according to their aptitude and interests and acquire the basis either for pursuing higher education or for working and pursuing a career suitable for their aptitude both as entrepreneurs and paid workers. It also promotes their morality, ethics and social skills necessary for working, pursuing a career and leading peaceful social lives.

3) Definition of School

This research tests in the Mathayomnaknavaoupatum School, is in responsible of Department of Education Bangkok Metropolitan Administration, which located at suburb of Bangkok and there are half-half Buddhism students and Muslim students.
4) Definition of Student

Sample students are male and female of 166 students in Matayom 1 of the Mathayomnaknavaoupatump Secondary School.

5) Definition of Likert Scale

Likert Scale has 5 levels such as most, more, moderate, less, least as follows: -

<table>
<thead>
<tr>
<th>Levels</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most</td>
<td>5</td>
</tr>
<tr>
<td>More</td>
<td>4</td>
</tr>
<tr>
<td>Moderate</td>
<td>3</td>
</tr>
<tr>
<td>Less</td>
<td>2</td>
</tr>
<tr>
<td>Least</td>
<td>1</td>
</tr>
</tbody>
</table>

6) Definition of the student’s satisfaction level

The meaning of the student’s satisfaction level as shown below: -

<table>
<thead>
<tr>
<th>Levels of Satisfaction</th>
<th>$\bar{x}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most</td>
<td>5.00 – 4.21</td>
</tr>
<tr>
<td>More</td>
<td>4.20 – 3.41</td>
</tr>
<tr>
<td>Moderate</td>
<td>3.40 – 2.61</td>
</tr>
<tr>
<td>Less</td>
<td>2.60 – 1.81</td>
</tr>
<tr>
<td>Least</td>
<td>1.80 – 1.00</td>
</tr>
</tbody>
</table>

7) Definition of Words

ICT : Information, Communication and Technology
LMS : Learning Management System
LCMS : Learning Content Management System
MOE : The Ministry of Education
OBEC : The Office of Basic Education Commission
ONEC : The Office of the National Education Commission
SCORM : Shareable Content Object Reference Model

1.6. EXPECTED BENEFIT FROM THE RESEARCH

1) For Students and Parents

- Students all over the country will equally get the educational media data.
- Students can analyze and synthesize within 6 years.
- Students will get more virtue and ethics.
- Students can develop their unlimited competence in terms of aptitude in classrooms.
- Students have a chance to learn in Bilingual system; Thai / English.
- Students can communicate in English well.
- Students can learn vocation and local knowledge from all over the country, then can develop to entrepreneurs.

2) For Teachers and Educators

- Teachers and educators all over the country have the educational search engine centre.
- Teachers have a chance to learn and develop the teaching skill in the field which they don’t specialize.
- Teachers and educators all over the country have a channel to take the developed media to reveal in centre.
- Teachers can create easier learning media.
- Teachers get more income about the rights of the courseware development when they put it into system.
- Teachers who have the stability in vocation don’t earn more income from other business.
- Teachers develop their teaching and searching for permanence in knowledge and technology.
- To solve the teachers’ bad debt in long term.

3) For Thailand

- To create the equal learning in schools all over the country.
- To develop patterns of training virtue, ethics, cleanliness and safety of children via e-Learning system.
- To solve a significant problem which is the shortage of the specialized teachers in each subject.
- To support learning of the local knowledge and developing of the community vocation.
- To create the unity all over the country.
- If Thailand successfully reforms the education, it should have the unique e-Learning system, to operate in the same method all over the country.
- To get the best benefit in using the ICT budget efficiently.

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