CHAPTER 5

RESEARCH METHODOLOGY
5.1. CONCEPTUAL FRAMEWORK

The conceptual framework of e-Learning system in Thailand consist of teachers ability, students ability, satisfaction of teachers and students, local politic and political situation, which show in figure 2 below. In the student research opinion, students ability is the main problem to impact e-Learning system to successful or unsuccessful, this is the result for studying this title.

Figure 5-1: Conceptual Framework
<table>
<thead>
<tr>
<th>Description</th>
<th>Period (months)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Providing the network system</td>
<td></td>
<td>3 months</td>
</tr>
<tr>
<td>1.1) TV via satellite</td>
<td></td>
<td>To start the project, to promote the project, and to instruct how to use the implement via the television and the satellite.</td>
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<tr>
<td>1.2) Wireless network by Microwave</td>
<td></td>
<td></td>
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<tr>
<td>1.3) Internet and Intranet network</td>
<td></td>
<td></td>
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<tr>
<td>2. System installation and usage</td>
<td></td>
<td>6 months</td>
</tr>
<tr>
<td>2.1) Educational media centre at Commission for Teachers and Educational Personnel</td>
<td></td>
<td>Opening the Online system via Microwave which covers all areas in the six southern border provinces and supports Online both Internet and Intranet as well as other data communication systems.</td>
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<tr>
<td>2.2) Educational media centre at CAT in province</td>
<td></td>
<td></td>
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<tr>
<td>2.3) School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Description</td>
<td>Period (months)</td>
<td>Remarks</td>
</tr>
<tr>
<td>------------------------------</td>
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<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3. Collecting contents</td>
<td></td>
<td>Opening the pilot project in twelve provinces all over the country</td>
</tr>
<tr>
<td>3.1) Step 1 to 2</td>
<td></td>
<td>depended on the meeting opinion of Education Ministry.</td>
</tr>
<tr>
<td>3.2) Step 3 to 4</td>
<td></td>
<td></td>
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<tr>
<td>4. Distributing contents</td>
<td></td>
<td>9 months</td>
</tr>
<tr>
<td>4.1) Online</td>
<td></td>
<td>Opening compulsory education both Online and Offline for all</td>
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<tr>
<td>4.2) Offline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1) Training the installation and the maintenance</td>
<td></td>
<td>schools in the three southern border provinces and in the three nearby provinces.</td>
</tr>
<tr>
<td>5.2) Training the system &amp; e-Learning usage for the teacher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3) Training the computer &amp; e-Learning usage for the student</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Evaluating</td>
<td></td>
<td>12 months</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Evaluating and Expanding the project all over the country.</td>
</tr>
</tbody>
</table>
Evaluation:

1. Pre-test and post-test for the e-Learning system.
2. Evaluating the educational media production before the e-Learning system application and after the e-Learning system application.

Conception framework of this research, determine belong to objective which conclude in diagram for easy to read via:-

1) **Find factors affect the satisfaction of using e-Learning lessons** (SSL ONLINE SYSTEM)
Determine factors on students to affect the success of SSL using

Skill

Non-skill

Determine ways to measure the success of SSL using

Find the difference in scores in each subject of each Matayomnarknavaupathum School’s M1 student, altogether 166 students, between the second semester in 2006 (e-Learning) and the first semester in 2006 (No e-Learning)

Separate different scores above to 2-4 levels. Considerate between highest scores and lowest scores of each student in each subject

Find the correlation between students’ personal characteristics and Class Interval for the evaluation of success of e-Learning lessons by using Chi-Square test

Find the correlation level between each factor and e-Learning successful evaluation by Contingency Coefficient (Pierson)
2) Trend and step in comparison the student’s success between e-Learning and no e-Learning

Collecting the scores of the first semester and the second semester in 2005 and 2006 of skill subjects (Mathematics and Science) and non-skill subjects (Social Study, Thai and English)

- Measure each student’s successful learning which learns no e-Learning by bring scores of the second semester in 2005 (no e-Learning) divide by scores of the first semester in 2005 (no e-Learning)

- Measure each student’s successful learning which learns e-Learning by bring scores of the second semester in 2006 (e-Learning) divide by scores of the first semester in 2006 (no e-Learning)

Compare the difference of successful learning in each student which learns e-Learning and no e-Learning. By using t-test at significant level of 0.05 of Mean.

Find percentage of the increase scores from using e-Learning with no e-Learning of each subject
3) Trend and step to evaluate the students’ satisfaction in using e-Learning

Find the satisfaction level of the Matayommarknavaupathum School’s M1 166 students. By using Likert Scale which has 5 levels

Find percentage of satisfaction levels: most, more, moderate, less, least

Find the students’ satisfaction levels in each item: academic part, physical part, both parts and items

Determine meaning rules of the students’ average satisfaction in each item: academic part, physical part, both parts and items

Proceed the students’ satisfaction levels in each item of main part and both parts

Find the correlation between satisfaction levels in main parts (2 parts) and students’ personal characteristics (7 parts) by using Chi-Square test

Proceed the correlation level above and students’ personal characteristics (7 parts) by Contingency Coefficient (Pierson)
4) Benefit for using e-Learning :-
   - Answer in total what is the benefit
   - Skill subjects: more / less benefit
   - Non-skill subjects: more / less benefit

5) If research e-Learning in Thailand how to do to get good result.

6) If apply e-Learning in teaching in Thailand how to do.

7) Cause religion affect learning such as Muslim create rules for children to do :-
   - Pray (Lamad) 5 times per day
   - Ramadan Muslim fast
   - Muslim students have to learn in the evening after study time which are seriously for reading and writing.

5.2. DATA COLLECTION

1) Data Sources
   1.1) Primary Data will be collected from this result of research by :-
       1.1.1) Questionnaires
       1.1.2) Interviews
   1.2) Secondary Data will be collected from the report and relevant research such as :-
       1.2.1) Ministry of Education
       1.2.2) Ministry of Interior
       1.2.3) National Libraries
1.2.4) University Libraries
1.2.5) Government Documentation
1.2.6) Magazines, Periodicals Newspapers
1.2.7) Books & Websites

2) Targeted Population

2.1) Population and Sampling Procedures

This research collected data by choosing targeted population from Mathayom 1 students of the Mathayom -naknavaoupatump School, it is responsible of Department of Education Bangkok Metropolitan Administration. It was started to use SSL ONLINE SYSTEM in the second semester of 2006. There is half-half Buddhism students and Muslim students. Target group for this research is Matayom1 of 2006, at the started learning altogether 186 students, but some resigned and moved in the second semester so there was total 166 students for research.

2.2) Research Instruments

Research instrument is questionnaires with opened questions and closed questions, separated in parts via :-

2.2.1) Questions are the factors of student’s character such as age, sex, religion, order of child in the family, student’s computer skill, student’s comprehension of computer language.

2.2.2) Questions are the students’ e-Learning system using, such as learning advices, teachers, subjects, the results, e-Learning lessons, exercises.
2.2.3) Questions are the satisfaction in using e-Learning system, in 2 parts via Academic and Physical. Demonstrate the result by Mean, Standard Deviation, and students’ satisfaction levels of e-Learning lessons.

2.2.4) Questions are the problems in using the students’ e-Learning lessons with solving and suggestion.

3) Scope and Process of e-Learning System

The step of e-Learning system as below :-

![Diagram of e-Learning system steps]

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