Chapter 3

RESEARCH METHODOLOGY

Methodology

The purpose of this study was to develop the guidelines in order to construct the local-based curriculum. This chapter described and explained the sampling plan, instrumentation used to generate data that answered the research questions outlined in the Chapter one. Data collection and data analysis procedure were also described in this chapter. The main tasks involved in this study were as follows:

1. The pre-survey procedure.

2. The data collection procedure.

3. The data analysis procedure.

Pre-survey procedure

During this step, the design of the study was selected, samples were determined, and data collection instruments were developed.

The organization of the study

This study was organized in three phases as follows,

The first phase was the review of the National Education Act of 2542/1999.This review was aimed to determine to what extent it provided the opportunity for designing a local-based curriculum. In this phase, only a documentary review was undertaken.

The second phase was to identify the various needs of learners, teachers, administrative staff as well as the communities. However, data collected in this phase were obtained from teachers and school administrative staff. In this phase the current curricula were investigated in order to find out to what extent they suited local needs.

.   The third phase was the appraisal of experts' opinion towards the proposed guidelines for constructing the local-based curriculum. Delphi technique was utilized in this phase in order to achieve the experts' consensus upon the proposed guidelines.

Sampling

In the first step of data collection procedure, no samples were needed since it was a documentary review. In the documentary review, the National Education Act 2542/1999 was studied. In the second step of data collection procedure, samples were selected by employing a random sampling method. As a result, three provinces out of four were selected as samples of the study and three schools from each sample province were selected. In each school 40 teachers, 20 academic teachers, and 20 religious teachers, were selected. Total samples of this step were 360.

Besides teachers, school administrative staffs, including school administrators and school principals, were selected by using a purposive method. 26 school administrators from large schools, whose standards had been recognized by the government before the year 1996, were selected.

In the third procedural step of data collection, experts were selected as samples. The experts who participated in this study were selected by using a purposive method.

Thus, the criteria for selecting experts were based on expertise rather than randomness. According to the below criteria, 23 experts from various institutions were invited to take part in the study, 5 from government university, 4 from the Office of Educational Region 2, 5 from the College of Islamic Study, 2 from the Office of the District Educational Supervision, 2 from Yala Islamic College, and 5 from Islamic private schools. Selected experts had to meet the following criteria:

1. Possess a doctoral degree with at least 4 years experiences in curriculum planning, development, improvement or the likes or;

2. Possess a master degree in curriculum studies with at least 6 years experience in curriculum planning, development, improvement or the likes or;

3. Possess a master degree in education with at least 8 years experience in curriculum planning, development, improvement or the likes or;

4. Possess a bachelor degree in education or Islamic studies with at least 10 years experience in curriculum planning, development, improvement or the likes.

Sample size

In determining sample size in the second section of the data collection procedure, the researcher decided to adapt the Krejcie and Morgan's table for determining sample size. With a population of 3081 the sample size is 346. (Krejcie and Morgan,1970 as cited in Cohen, Lawrence & Keith,2000). This sample size agrees with the table of Yamane, with a population of 3000 the sample size is 353 (Yamane,1967). Arkin and Coltan's table proposed that with a population of 3018 the sample size is 261 (Arkin & Coltan, 1963 as cited in Suraphon, nd.). This sample size is also consistent

with the general rule of determining sample size for descriptive survey which proposes ten percent of the population. Another approach to determine the sample size of this study is the application of confidence levels and sampling error. With confidence levels of 95 percent the sample size of this study should be 357 (Cohen, Lawrence & Keith, 2000).

In the third section of the data collection procedure in which Delphi technique was applied, sample size was determined by referring to the table provided by California Junior College Association (1971) as cited in Kasaem Bu-on,1979.

Instrumentation

Since the first step of data collection procedure was a documentary review, no specific instrument was used at this stage.

In the second step of data collection, various instruments were designed for the study. They were questionnaires including rating and ranking scales. Regarding rating scales used in the study, 5 point of Likert scales were adapted for use. Each item of the instrument of the investigation was first written in Thai and then it was translated into English so that it had to meet the greatest extent possible, the same meaning as the original instrument.

The instrument of this step was divided into three categories as follows:

1. Questionnaire for school administrative staff, either school managers or principals.

2. Questionnaire for academic teachers.

3. Questionnaire for religious teachers.

The questionnaire for school administrative staff (see Appendix A) was divided into three parts. Part one was about his personal data, part two and three were about his perceptions towards the current curriculum as well as the curriculum that would be implemented after the official announcement of the National Education Act of 2542/1999 in 2002. This instrument was mailed to 26 selected samples but only 25 questionnaires were returned. Since the Percentage of return was very high, no further visit was undertaken by the researcher.

Questionnaires for academic and religious teachers (see Appendix B and C) were divided into three parts. Part one was about his personal data, part two was about his perceptions towards the current curriculum and part three had to deal with his perceptions towards some guidelines for designing new curriculum in accordance with the new Education Act. The handing of this instrument in person to samples was determined to be the most appropriate method of data collection.

The reliability of the above instruments was analyzed by using SPSS for Window. The reliability coefficients of the items concerning the perceptions of school administrative staff towards the current curricula which was achieved through the pilot study were more than .90 while the items about curriculum standards which would be proposed to be incorporated in new curriculum were about .87. The purpose of this procedure was to enable the researcher to validate the reliability of the above instruments.

The third step of data collection procedure was an attempt to study the responses of educational experts towards the proposed guidelines for constructing the

local-based curriculum, Delphi technique was employed in this stage. The instrument used in this stage was a series of questionnaires which were distributed to 23 experts by hand. Responses from each round of questionnaire were received from 100 percent of the experts who participated in the study, details shown in Appendix F.

Data collection procedure

There were three steps in data collection procedure: First, a documentary review was employed, the National Education Act of 2542/1999 was thoroughly studied. The aim of studying the National Education Act of 2542/1999 was to determine to what extent it provided opportunity for designing the local-based curriculum. During this step each section of the National Education Act of 2542/1999 was studied.

Second step was field survey. This step was to answer the research question number 2 and 3. The instrument used in this step was a questionnaire including rating and ranking scales. This instrument was distributed to 360 sample teachers in selected schools and 26 administrative staff in large schools in southern border provinces of Thailand. Experts were not the samples of this step. This step attempted to study the variety of needs. The primary needs were related to the needs of learners, teachers, administrative staff as well as the communities. Since teachers and school administrative staff always contact with the learners and are involved in the communities' activities, the researcher decided to collect data concerning the needs of learners and societies through the responses of teachers and school administrative staff.

Third, a series of questionnaires for Delphi were distributed by hand to the selected experts. The overall purpose of the application of the Delphi technique was to achieve the most reliable consensus of a group of selected educational experts, who met the stated criteria, regarding the proposed guidelines for constructing the local-based curriculum for Islamic private schools. This questionnaire consisted of four series distributed in four rounds. The researcher did not provide opportunity for experts to know each other in an effort to minimize the biased effects of dominant individuals, group pressure and irrelevant communications.

The first round questionnaire was open-ended. This questionnaire was based on the literature review and the summary of the data obtained from the second step of data collection. The confirmation letter of expert's willingness to participate in the study was attached with this round questionnaire. In addition, the researcher attached with this questionnaire the appendix used as additional information for each expert to consider before answering each item.

The first round questionnaire was divided into two sections. The first section was about the personal data of each expert, namely, his degree, place of graduation, work experiences, current position, and experiences in curriculum development or other close related fields. The second section was about the proposed guidelines for constructing the local-based curriculum. The proposed educational standards of each subject area shown in the proposed guidelines were presented to subject specialists before proceeding to expert panelists.

The second section in which Delphi technique was utilized was about the guidelines for constructing the local-based curriculum. The guidelines had covered the proposed curriculum goals, standards, and structure. The researcher presented in this round the proposed guidelines by providing spaces for each expert to add or delete items provided. Data obtained in this round was analyzed and summarized for developing the second round questionnaire.

The second round questionnaire was the summary of experts' responses in the first round. All items in this questionnaire were presented in the form of rating scales. Delphi technique was utilized in this round. In processing this round for preparing the third round questionnaire, SPSS for Window was utilized in order to find out median and interquartile range. Median was used to determine the majority of experts' responses while interquartile range was used to show the relationship of each expert in each item.

The third round questionnaire was similar to that of the second round. Only few items were revised. In this step statistical summary was presented. Median and interquartile range were shown in order to indicate the spread of opinion regarding each item. In this step, each expert was able to reconsider his previous answers. His answers may be either one of the following:

1. He could reaffirm his previous answers if his previous answers fell inside the interquartile range.

2. He might change his previous answers if his previous answers were outside the interquartile range.

3. He might reaffirm his previous answers outside the interquartile range but he had to state his reason for maintaining his answers outside interquartile range.

The fourth round questionnaire was a repetition of the third round questionnaire. The purpose of the repetition was to achieve the most reliable consensus of a group of selected experts on the proposed guidelines. When all the above processes were completed, the researcher made a judgment again and new guidelines for constructing the local-based curriculum were presented together with recommendations. This judgment was achieved by utilizing educational philosophy and psychology. A summary of data collection procedure was shown in figure 15.

Besides data obtained through the above instruments, additional data were collected through observations, unstructured interviews and documentary reviews. Since this study concerned with the issues of curriculum development, all materials and information pertaining to the curriculum conditions were closely scrutinized.

Figure 15, A summary of data collection procedure

Survey procedure:
>   Data collection procedure
>   1 st step A documentary review
>
>   2 nd step Survey
>   Diagnosis of needs
>   - Questionnaires
>   - Rating scale
>   - Ranking scale
>
>   3 rd step Delphi technique
>   1 st round open ended questionnaire
>   2 nd round rating scales
>   3 rd round rating scales with statistical summary
>   4 th round rating scales with statistical summary
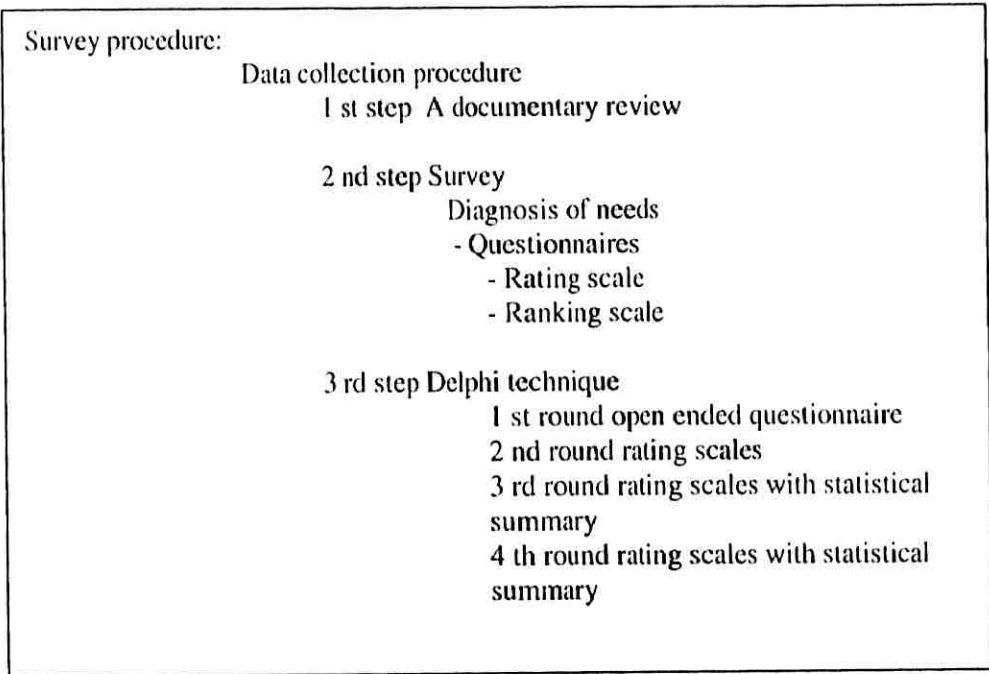
Data analysis procedure

Data collected through the study were analyzed in various ways that were divided into three phases (see details in figure 16).

Phase one attempted to answer the research questions number 1. This analysis was accomplished by a documentary review.

Phase two was to answer the research questions number 2-3. Data obtained from this phase were statistically analyzed. Among the statistics used in this phase were Frequency, Percentage, mean and standard deviation. Data obtained from this analysis were used as the basic data for designing the tentative guidelines for constructing the local-based curriculum. To design the tentative guidelines educational philosophy and

psychology were utilized as the screen. Then tentative guidelines were proposed to educational experts by using Delphi techniques.

Phase three was to answer the research question number 4, the core of the study. Data analysis was accomplished by using Delphi technique. The purpose of the application of Delphi techniques was to achieve the most reliable consensus of a group of selected experts. To achieve the consensus, a computer program was used to determine the consistency of the expert's opinion on the proposed guidelines for constructing the local-based curriculum. Statistics used in this phase were mode, median and interquartile range. Differences between mode and median ≤ 1.00 meant that there were consistencies in the expert's opinion. Interquartile range ≤ 1.50 meant that there were high consistencies in the expert's opinion. Interquartile range $\leq 1.51 - 1.99$ meant that there were moderate consistencies in the expert's opinion. Interquartile range ≥ 2.00 meant that there were no consistencies in the expert's opinion. To compare the results between rounds to determine the consistency of the experts' opinion, Wilcoxon matched-pairs signed-ranks test was used.

When all the above analyses were accomplished, educational philosophy and psychology were applied again for developing the guidelines for constructing the local-based curriculum.

Statistical analysis

Statistical analysis in this study will be analyzed by using SPSS/FW Program. Among the statistics used in the study were Frequency, Percentage, mean, standard

deviation, mode, median, interquartile range and Wilcoxon matched-pairs signed-ranks test.

Frequency, Percentage, mean and standard deviation were utilized to analyze the responses from the second phase of data analysis while mode, median, interquartile range, and Wilcoxon matched-pairs signed-ranks test were used in the third phase when Delphi Technique was employed.

Figure 16. A Summary of data analysis procedure

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                    │ documentary │
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  │ tive staff │    │ teachers   │    │ teachers   │
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