CHAPTER 3

RESEARCH METHODOLOGY

This chapter introduces the approach taken to conduct and evaluate the development of the eight lessons in hospitality industry for Lao undergraduate students. The paper is organized into five sections: 1) population and samples; 2) research instruments; 3) data collection procedures; 4) data analysis; and 5) statistical procedures.

3.1 Population and Samples

The population of this research included 214 third-year students from the whole 5 classes who enrolled on General English 6 Course in the second semester of academic year 2013 at Savannakhet Teacher Training College in Kaysone Phomvihane district, Savannakhet province, Lao PDR.

The samples of this research were 41 third-year "A" students, who enrolled on General English 6 Course in the second semester of academic year 2013 at Savannakhet Teacher Training College in Kaysone Phomvihane district, Savannakhet province, Lao PDR. The samples were selected by using simple random sampling technique by using classroom as a sampling unit.

3.2 Research Instruments

The main instruments employed in this study were as follows:

3.2.1 Ten lesson plans in English listening and speaking using authentic materials in hospitality industry for the third-year students. Eight lesson plans out of ten included eight lessons for listening and speaking and two lesson plans out of ten were the pre-test with orientation, and the post-test with questionnaire.

3.2.2 English listening and speaking tests using authentic materials in hospitality industry for the third-year students constructed by the researcher. The two types of achievement tests were conducted: listening test in parallel, and speaking test in subjective test.

3.2.3 The questionnaire on students' satisfaction towards authentic materials in hospitality industry to enhance their listening and speaking abilities used to collect the information from the samples before and after learning.

3.3 The Construction of Research Instruments

The procedures of research instruments construction and the determination of the instruments' quality explained as following:

3.3.1 Lesson Plans by Using Authentic Materials in Hospitality Industry

Lesson plans in English listening and speaking using authentic materials in hospitality industry for the third-year students constructed by the researcher were as the following steps:

3.3.1.1 The researcher studied and analyzed the causes and problems while teaching and learning listening and speaking from observation and students' listening and speaking.

3.3.1.2 The researcher studied English Language Curriculum (2010) for the third-year students on General English 6 Course about vision, principles, goals, learners' key competencies, desirable characteristics, learning standards, indicators, learning areas, and strands and learning standards of foreign languages.

3.3.1.3 The researcher studied and reviewed the principles, and theories of lesson plans.

3.3.1.4 The researcher chose the appropriate contents and designed the purposes, objectives and contexts of lesson plans based on English Language Curriculum (2010) for the third-year students on General English 6 Course.

3.3.1.5 The researcher constructed ten lesson plans as follows:

Lesson plans 1: Orientation, and doing the pre-tests of listening and speaking.

Lesson plans 2: Hotel - Checking in (Listening and speaking lessons using two videos about checking in at the hotel, worksheets of word study and conversations, a picture of receptionists, CDs, hotel brochures of three famous hotels in Savannakhet province namely, Savan Vegas Hotel and Casino, Dao Savan Hotel, and Hoong Thip Hotel).

Lesson plans 3: Restaurant - Ordering Food and Drinks (Listening and speaking lessons using two videos how to order food and drinks, worksheets of word study and two conversations, a picture of waiter, CDs, three different types of menu from three restaurants).

Lesson plan 4: Direction - Asking for and Giving Directions (Listening and speaking lessons using two videos how to ask for and give directions,

worksheets of word study and conversations, a map of Savannakhet city, CDs, and a map of Savannakhet city).

Lesson plan 5: Shopping - How to Make a Deal (Listening and speaking lessons using two videos how to make a deal, worksheets of word study and conversations, CDs, and real objects: clothes, mobile phones).

Lesson plan 6: Transportation - Mode of Transportation (Listening and speaking lessons using a video about mode of transportation, worksheets of word study and conversations, CDs, and real objects such as bicycles, motorbike, tuktuk…etc).

Lesson plan 7: Tourism - Savannakhet's Historical Sites (Listening and speaking lessons using a video about tourism in Savannakhet city, Tourism brochure in Savannakhet province, and worksheets of word study and conversations, CDs).

Lesson plan 8: Festival-Savannakhet's Festival Ceremonies (Listening and speaking lessons using two videos about Savannakhet's festival ceremonies, and worksheets of word study and conversations, CDs).

Lesson plan 9: Culture - Culture Activities (Listening and speaking lessons using two videos about culture activities in Thailand and Laos, worksheets of word study and conversations, CDs).

Lesson plan 10: Doing the post - tests of listening and speaking and answering the questionnaire toward the lessons after learning through authentic materials.

3.3.1.6 The lesson plans were given comments and examined by

the thesis advisors about content validity quality and overall picture. Then the researcher improved the lesson plans based on their suggestions.

3.3.1.7 The lesson plans were examined by 3 experts about content validity quality by using five-point Likert scale as follows (Srisa-ard. 2002 : 102):

5 marks for the most appropriate answer

4 marks for more appropriate answer

3 marks for moderate appropriate answer

2 marks for less appropriate answer

1 marks for the least appropriate answer

Therefore, the instruments of the lessons presented validity. The names of three experts were as follows:

1. Dr. Surachai Piyanukool, the English lecturer at Buriram Rajabhat University.

2. Mr. Phomma Xayavong, the English lecturer at Savannakhet Teacher Training College.

3. Ms. Megan Fry, the English lecturer at Savannakhet Teacher Training College.

3.3.1.8 The researcher analyzed the scores from the experts to find out the mean scores and compared with these criteria (Srisa-ard. 2000 : 99-103)

Scale	Meaning
4.51 - 5.00	the most appropriate answer
3.51 - 4.50	more appropriate answer
2.51 - 3.50	moderate appropriate answer
1.51 - 2.50	less appropriate answer
1.00 - 1.50	the least appropriate answer

Appropriate score at 3.50 and over considered that the lessons could be utilized (See Appendix B). The mean score obtained was 4.03 and the standard deviation was 0.49.

3.3.1.9 The researcher improved lesson plans according to the experts' suggestion and proposed them to check again.

3.3.1.10 The lesson plans were tried out with 47 students from one class of the third-year students who were not the samples in academic year 2013 at Savannakhet Teacher Training College in Kaysone Phomvihane District, Savannakhet Province in order to find out the weak points and then improved the lesson plans before using with the samples (See Appendix C).

To appraise the efficiency of lesson plans, there were three steps to perform. The three steps of the pre-trials were as following (Phromwong. 1978) :

1. The Individual Trial

Lesson plans were utilized with 3 different proficiency level students, namely, 1 high, 1 moderate and 1 low proficient students who were not the samples in the research. The criteria of discrimination divide the students into different levels of English learning achievement were: 1) the student who had got grade 4 in English in the third-year in the first semester in the academic year 2013 was high proficient

student, the student who had got grade 3 or 2 was moderate proficient student, and the student who had got grade 1 is low proficient student; and 2) the three students allocated to carry out pre-tests for one hour. While the students were studying the lessons, they were requested to do the exercises. After that, they were requested to do post-tests for one hour, to do questionnaire about their satisfaction towards the lessons using authentic materials in the hospitality industry. Then the researcher improved lesson plans based on the students' comments.

2. The Small Group Trial

Lesson plans were utilized with 9 different proficiency level students, namely 3 high, 3 moderate and 3 low proficient students who were not the samples in the research. The criteria of discrimination divided the students into different levels of English learning achievement were: 1) the students who had got grade 4 in English in the third-year in the first semester in the academic year 2013 were high proficient students, the students who had got grade 3 or 2 were moderate proficient students, and the students who had got grade 1 were low proficient students; and 2) the nine students were allocated to carry out pre-tests for three hours (listening and speaking tasks), While the students were studying the lessons using authentic materials in hospitality, they were requested to do the exercises. After that, they were requested to do post- tests for three hours, to do a questionnaire about their satisfaction towards the lessons thirty minutes. Then, the researcher improved lesson plans based on the students' comments.

3. The Field Trial

In this step, there are 47 third-year "B" students with three different proficiency levels of English achievement participated. They took pre-tests (listening

and speaking tasks) for three hours. Then, they learned the lessons in 32 periods; they also did mini-tests from each. After learning, they took post-tests (listening and speaking tasks) for four hours and did questionnaire about their satisfaction toward the lessons thirty minutes. The scores of the activities in the lessons using authentic materials in hospitality industry, and the post-test scores from the field trial were decided to find out the efficiency of the lessons based on 75/75 standard level (Phromwong. 1978). The efficiency of the lessons revealed 79.56% / 80.10% which was higher than the criterion set

To conduct this research, the assessment of efficiency of lesson plans was performed as shown in the following figure.

Figure 3.1
Steps of Trying out Lesson Plans
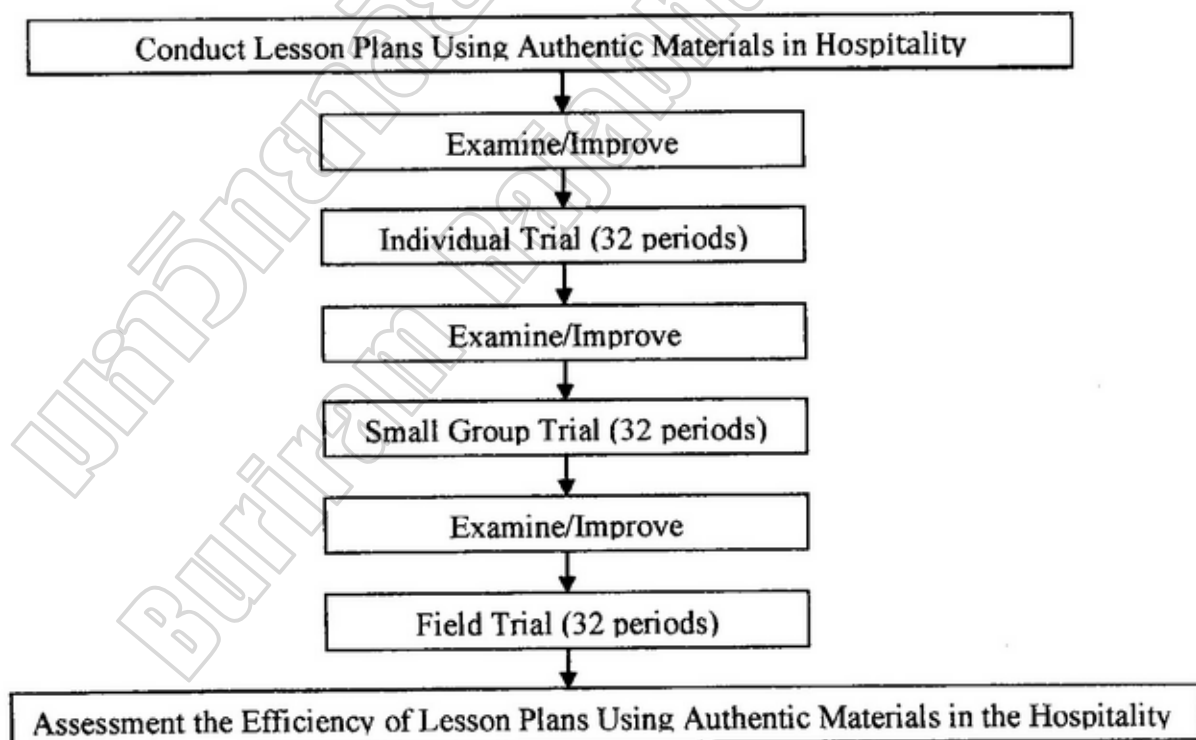
Source: Suwanbenjakul (2002 : 52)

3.3.1.11 The researcher conducted the complete lesson plans to use with the samples. (See Appendix D)

3.3.2 Achievement Test

Pre-tests and post-tests consisted of listening and speaking procedural that require students to listen and speak according to topics. The samples did both pre-tests and post-tests, which were the same parallel tests. The pre-post tests constructed by the researcher as following steps:

3.3.2.1 The researcher studied a syllabus for college level on General English 6 Course and the contents of listening and speaking using authentic materials for the third-year students.

3.3.2.2 The researcher studied literature review on how to construct the test.

3.3.2.3 The researcher constructed the listening and speaking tests using authentic materials in the hospitality industry. A pre-test consisted two types, namely listening test included 25 points (parallel) and speaking test included 25 points (individual work) in a total of 50 points. A post-test consisted two types, namely listening test included 25 points (parallel) and speaking test included 25 points (pair work), in a total of 50 points.

3.3.2.4 The tests were edited and revised by the thesis advisors before proposing to the experts to examine the validity by using IOC formula as follows (Phattiyathanee. 2000).

+ 1 = When sure that the validation of the hypothesis was a coincident.

0 = When not sure that the validation of the hypothesis was a coincident.

-1 = When sure that items of the test are not coincident with objectives.

3.3.2.5 The researcher calculated the IOC index, and chose the questions with the IOC index between 0.5 - 1.00 for the test (See Appendix F). The IOC was 0.67 – 1.00

3.3.2.6 The test was tried out with students in another class, who studied in the third-year that were not samples at STTC in the academic year 2013.

3.3.2.7 An items analysis was carried out from the data obtained from the study. It indicated the level of difficulty (p) was at 0.22-0.75, and the discrimination power (B) was at 0.21-0.75 (See Appendix I).

3.3.3 Satisfaction Questionnaire

The researcher designed and created a questionnaire concerning students' satisfaction towards the lessons using authentic materials in hospitality industry which had 2 main parts as following:

Part 1

This section comprised 12 statements of the five-point rating scales questionnaire with Liker's rating scale. It aimed to elicit learners' satisfaction toward the lessons for the third-year students. Five-point Liker scales used for rating their satisfaction (Srisa-ard. 2002:102) were as follows:

Scale	Meaning
5	The most satisfied
4	More satisfied
3	Moderately satisfied
2	Less satisfied

1   The least satisfied

Part 2

This section was about additional information or other opinion in learning the lessons using authentic materials in the hospitality industry apart from part 1. The question was in the open-ended form in which the samples could write their suggestions or comments in the questionnaire.

The questionnaire was constructed and developed gradually as follows:

3.3.3.1 The researcher reviewed the literature on satisfaction.

3.3.3.2 The researcher studied literature reviews on how to construct the satisfaction questionnaire as explicated by using Likert's method or five-point rating scales.

3.3.3.3 The researcher gathered and arranged the issues concerning the students' satisfaction towards the lessons (See Appendix G).

3.3.3.4 The researcher proposed the 15 statements to the thesis advisors to give the comments and suggestions.

3.3.3.5 The statements were examined by 3 experts to check for the correctness and appropriateness. There were five scales (Srisa-ard. 2002 : 102) as follows:

Scale	Meaning
5	The most appropriate
4	More appropriate
3	Moderately appropriate
2	Less appropriate
1	The least appropriate

The researcher calculated the obtained data to find out the mean scores. The appropriate scores at 3.50 and over were considered as the questionnaire item statements. The mean score was 4.67 (See Appendix G). The researcher edited and revised the questionnaire if they had weak points. Next, the questionnaire was proposed to the experts again.

3.3.3.6 The researcher organized the statements and tried out with the third-year students who were not the sample at Savannakhet Teacher Training College in academic year 2013.

3.3.3.7 Each item of five-point rating scales was calculated by utilizing Pearson's correlation coefficient formula to find out the discrimination power which had to be at 0.2792-1.00 level (Srisa-ard. 2002: 110). The discrimination was at 0.66-0.70 (See Appendix J).

3.3.3.8 The method of coefficient alpha of Cronbach (α-Coefficient) (Srisa-ard. 2002 : 99) used to find out the reliability coefficient of which the value must be more than 0.80. The data calculated by a software program. The reliability coefficient of the questionnaire was 0.8969 (See Appendix H).

3.3.3.9 The researcher selected 12 statements which had the most significant differences at level 0.05 to be the questionnaire.

3.4 Data Collection Procedures

In this study, research design was one group pre-test- post-test design as shown in table 3.1 below:

Table 3.1

Research Design

Group	Pre-test	Treatment	Post-test
Experimental	T_1	X	T_2

Source: (Sai-yot. 1995 : 248-249)

As shown in Table 3.1 above, T_1 is pre-test, X is the learning in eight lessons or treatment, and T_2 is post-test, respectively.

To collect the data, the present research included lesson plans, achievement tests, and satisfaction questionnaire. The procedures for collecting data was shown as follows:
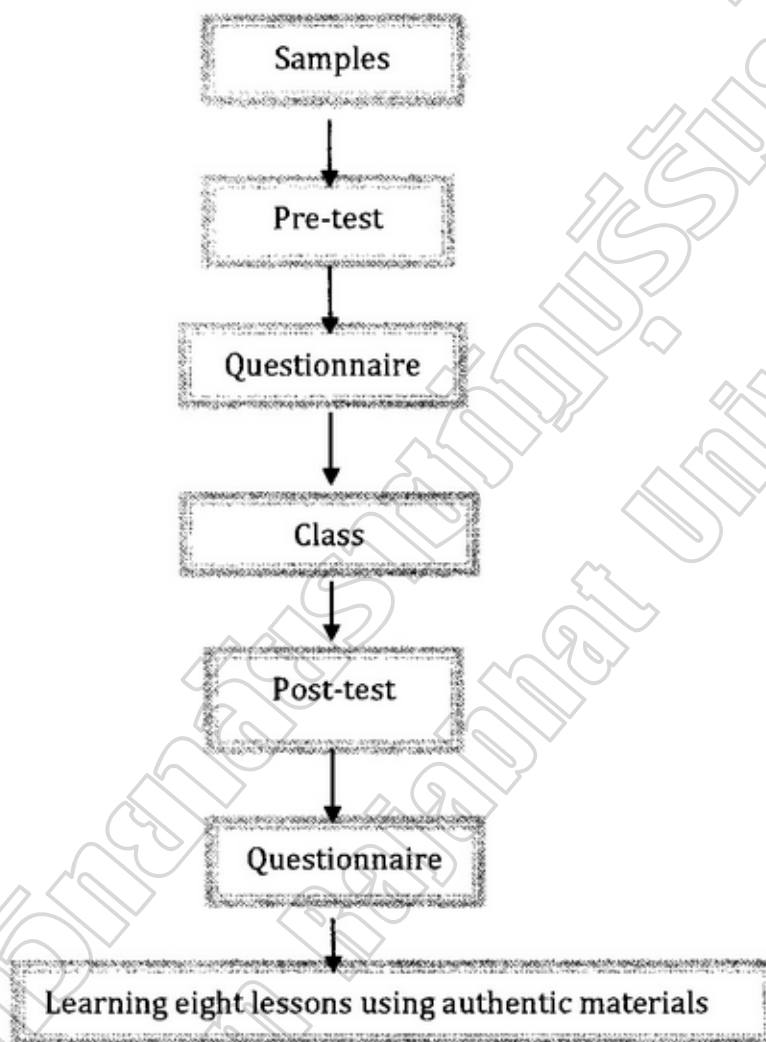
3.4.1 A pre-test was given to all of samples at the beginning of a class (during the first week of teaching). The tests consisted of two types (listening pre-test and speaking pre-test). In speaking pre-test, the samples chose one topic by themselves. The tests took three hours.

3.4.2 The samples were orientated to understand about the lessons. Then, they were taught by utilizing the lessons and did the activities (mini - tests in each lesson).

3.4.3 A post-test was administered with all of the samples after attending the course for three hours.

3.4.4 After doing a post-test, the samples were asked to fill out the questionnaire focusing on their satisfaction toward authentic materials after learning.

The steps in data collection will be illustrated below:

Figure 3.2

Steps in Data Collection

```
        ┌─────────────────┐
        │     Samples     │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │    Pre-test     │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │  Questionnaire  │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │      Class      │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │    Post-test    │
        └─────────────────┘
                 │
                 ▼
        ┌─────────────────┐
        │  Questionnaire  │
        └─────────────────┘
                 │
                 ▼
┌───────────────────────────────────────────┐
│ Learning eight lessons using authentic materials │
└───────────────────────────────────────────┘
```

3.5 Data Analysis Procedures

The data were analyzed and deduced procedures by using the data analysis methods as following.

3.5.1 Pre-test and Post-test Scores

3.5.1.1 In order to evaluate the students' listening and speaking abilities before and after being taught through the lessons using authentic materials,

the pre-tests and post-tests were computed to find out the percentage (%), mean ($\bar{x}$)

and standard deviation (S.D.).

      3.5.1.2 The scores obtained from the activities and post-tests were

calculated to find out the efficiency of process (E_1) and the efficiency of the outcomes

(E_2), respectively.

      3.5.1.3 Dependent samples t-test was used to compare the difference

between the pre-test and post-test mean scores to find out the significant difference set

at .05 level.

      3.5.1.4 The researcher used the Finnish Nation Certificate scale

(National Board of Education. 2002) which is a holistic scale with six levels (6-1) to

test students' speaking abilities.

3.5.2 Students' Satisfaction

      3.5.2.1 In order to evaluate the students' satisfaction toward authentic

materials before and after learning the lessons, the data from five-rating scales were

computed for mean ($\bar{x}$) and standard deviation (S.D.). The following criterion

employed for interpretation (Srisa-ard. 2002 : 103) was as follows:

Scale	Meaning
1.00 – 1.50	The most satisfied
1.51 – 2.50	More satisfied
2.51 – 3.50	Moderately satisfied
3.51 – 4.50	Less satisfied
4.51 – 5.00	The least satisfied

3.5.3 Additional Opinion Data

The data obtained from the learners' opinion and suggestions in the questionnaire were analyzed by the content analysis technique to find out the samples' satisfaction and reaction towards the activities from the lessons.

3.6 Statistics Used in Data Analysis

3.6.1 Statistics Used to Find out the Quality of Instruments

3.6.1.1 Validity of achievement test (IOC) the formula (Phattiyathanee. 2003 : 220), as follows:

$$IOC = \frac{\sum R}{N}$$

IOC = Index of Congruence

$\sum R$ = Total scores of experts' opinion

N = Number of experts

3.6.1.2 Discrimination power of each item for five-point rating scale questionnaire by using Pearson's Correlation Coefficient (Srisa-ard. 2002 : 110) as follows:

$$r_{xy} = \frac{N\sum XY - \left(\sum X\right)\left(\sum Y\right)}{\sqrt{\left[N\sum X^2 - \left(\sum X\right)^2\right]\left[N\sum Y^2 - \left(\sum Y\right)^2\right]}}$$

r_{xy} = Correlation coefficient between variable X and variable Y

X = Total scores of variable X Index

$\sum Y$ = Total scores of variable Y Index

$\sum XY$ = Total of multiplied result between variable X and variable Y

$\sum X^2$ = Total scores of variable X Index's square

$\sum Y^2$ = Total scores of variable X Index's square

N   = Number of a pair of variables Index or number of the

samples

3.6.1.3 Reliability coefficient of the satisfaction questionnaire by using Cronbach's Alpha-coefficient (α-Coefficient)(Srisa-ard. 2002: 99) as follows:

$$\alpha \quad = \quad \frac{k}{k-1}\left[1-\frac{\sum S_i^2}{S_t^2}\right]$$

α = Reliability coefficient

k   = Number of statements

$\sum S_i^2$ = Total of each statement's variance

S_t^2 = Variance of total scores

3.6.1.4 The efficiency of lesson plans (E_1/ E_2) (Kitrakarn. 2002: 44-49).

$$E_1 \quad = \quad \frac{\frac{\sum X}{N}}{A} \times 100$$

E_1 = Efficiency of the process

$\sum X$ = Total scores of post-test

N   = Number of samples

A   = Total score of the exercises in the lessons

$$E_2 \quad = \quad \frac{\frac{\sum F}{N}}{B} \times 100$$

E_2 = Efficiency of the outcomes

$\sum F$ = Total score of students who pass the post-test

N   = Number of samples

B   = Total score of the post-test in the lessons

3.6.2 Basic Statistics Used to Analyze the Data

3.6.2.1 Percentage (Srisa-ard. 2002 : 104) as follows:

$$P = \frac{f}{N} \times 100$$

P   = Percentage

f   = Frequency of the data

N   = Numbers of total frequency

3.6.2.2 Mean ($\bar{x}$) (Srisa-ard. 2002 : 105) as follows:

$$\bar{x} = \frac{\sum x}{N}$$

$\bar{x}$ = Mean

$\sum x$ = Total scores in group

N   = Number of scores in group

3.6.2.3 Standard Deviation (S.D.) (Srisa-ard. 2002 : 106) as follows:

$$S.D. = \sqrt{\frac{\sum\left(X - \overline{X}^2\right)}{N - 1}}$$

S.D.   = Standard Deviation

$$X \quad = \text{Score of each item}$$

$$\overline{X} \quad = \text{Mean}$$

$$N \quad = \text{Number of scores in group}$$

$$\sum \quad = \text{Total Scores}$$

3.6.3 Dependent Samples t-test

The differences between pre-test and post-test mean scores were calculated by dependent samples t-test formula (Srisa-ard. 2002 : 112) as follows:

$$t = \frac{\sum D}{\sqrt{\dfrac{n \sum D^2 - \left(\sum D\right)^2}{(n-1)}}}$$

t = Statistics Index used to compare with critical Index to

find out significant difference

D = Different result of minus between a pair of scores

n = Number of samples or a pair of scores

3.7 Summary of the Chapter

This chapter presents research procedures, namely population and samples of the study, research instructions, how to construct research instruments, how to collect data and analyze them and how statistics used in data analysis. The results of the study is indicated in the next chapter.