

CHAPTER 3

RESEARCH METHODOLOGY

This study is quantitative research with a one-group design. This chapter discusses the research methodology in the following order.

- 3.1 Target group
- 3.2 Research instruments
- 3.3 Reliability and validity of the instruments
- 3.4 Research procedure and data collection
- 3.5 Data analysis

3.1 Target group

The target group was a class of 20 Mathayom Saksa 4 students in the first semester of the 2011 academic year at Samakkhiwitthayakhom School, Chiang Rai. All of them studied in the science program. There were 7 females and 13 males. The 20 students were randomized from the total 50 students who had the score of English Foundation Mathayom Suksa 3 in the second semester of 2010 academic year lower than grade 2 (<65 points from 100 points).

3.2 Research instruments

The instruction and data collection instruments were constructed as follows.

3.2.1 Instructional instruments

Instructional instruments were divided into two categories (1) the lesson plans based on CALL and (2) CALL materials selected from the English Discoveries Program: Basic 1 and the students' assignments to be posted on the weblog.

Lesson plans

There were seven lesson plans, which were based on CALL. The lesson plans were divided into two sections; speaking (lesson plan1–lesson plan4) and listening (lesson plan5–lesson plan 7). The topics were restaurant, street, hotel, office, answering machine, radio, and video activities. The first four topics were in speaking mode and the rest of the topics were in listening mode. Each of the lesson plans had three instructional stages: presentation, practice and production. The first stage was presentation. This stage involved opinion-sharing and information gathering activities. Students were asked to guess what each pair (from the CALL) was doing/talking about in advance of listening to the dialogue. This stage also focused on listening to the dialogues and learning the meaning of the dialogues by using the CALL bilingual dictionary. The students clicked on hypertext or hyper picture in order to enter to the content. This CALL technology supported independence learning style. Moreover, there were pronunciation handouts for students to study and practice pronouncing some difficult sounds in the presentation stage. Next, the practice aimed to have the students repeat words, sentences and questions after listening to the native speaker mode by themselves and practice speaking by memorizing the dialogue in order to increase student confidence in speaking. Students controlled their own learning by spending more time in exploring a dialogue/conversation session and/or practice speaking and listening after native speaker audio as much as they wish. Then, the teacher had every student communicate in pair from their memory without reading. Especially for listening mode, there were vocabulary match and listening test for students to practice and evaluate their understanding. The CALL provided immediate feedback, so the students realized their output. They could go through previous step/content over again. Finally, the production stage aimed to strengthen the students' speaking and listening skills by working in groups of 4 or 5 to produce their video clips on the weblog (<http://swkenglishclass.blogspot.com/>) at the end of each lesson, see Appendix G and to evaluate the development of their skills. Each class period lasted 60 minutes. The class met twice a week. For details of the frame work of the lesson plans, see Appendix A and the lesson plans, see Appendix B.

CALL materials

The teaching materials were the speaking mode and the listening mode of the English Discoveries Program: Basic 1. Every topic was presented through authentic dialogues in real life settings. Speaking mode consisted of four topics: restaurant, street, hotel and office. Each dialogue presented four pairs and each pair was speaking in one scene. The listening mode consisted of three topics; answering machine, radio and video activities. The listening texts consisted of three main types: messages in the answering machine, radio programs and video clips.

Language Functions in speaking mode focused on greeting, ordering food, asking for and giving information, asking for and giving an opinion, asking the time, purchasing, asking the direction, self introduction, telephone skill/talking on phone, asking for and giving opinion, asking for permission, asking for confirmation. The dialogues were presented by using present simple, can/may, present continuous.

Language functions in listening mode focused on listening for main idea and specific details, leaving messages on phone, guessing from contextual and phonological clues, asking for and giving information, listening for promoting product and listening to intention of speaker. Present simple, present continuous, can, verb phrase, let's, connectors (because, and, adjective) were presented in the dialogues.

The students used hypertext technology by clicking. They chose topics or couples (from the CALL) they would like to study according to their interest. They could develop their speaking and listening skills by listening to dialogues/passages for an unlimited number of times and repeating after native speaker without the feeling of self-consciousness or embarrassment in front of others. They experienced realistic language situations through listening to authentic dialogues, telephone calls, radio programs and video clips. So, CALL is a student-centered learning material.

3.2.2 Data collection instruments

There were 2 data collection instruments: pre-test and post-test and motivation questionnaire.

Listening and speaking pre-test and post-test

The data was collected by using the pre-test and post-test to investigate the effectiveness of Computer-assisted Language Learning (CALL) in enhancing the English listening and speaking skills of the students.

Listening and speaking pre-test and post-test (60 points) consisted of two parts: listening and speaking.

The listening part (30 points) included two sections (1) five listening conversations with four multiple choice questions for twenty points and (2) two listening passages with four multiple choice questions for ten points. The content of the listening conversations sections comprised three radio programs (arts, quiz and news), a conversation between two strangers on the street and a conversation between two girls. The listening passages sections comprised an advertisement and an outgoing message from the mother.

The speaking part (30 points) was divided into four sections (1) pronunciation test; (2) intonation test, (3) picture description and (4) conversations on situations. The students pronounced twenty minimal pairs. 0.25 points per each correct pronunciation. For example *choose–shoes*, *vase–ways*. There was 5 points for the pronunciation test. The students read the scripts of conversation and were awarded 0.25 points for each correct intonation. For example

A: *Who can you see, * Linda?* (0.25)

B: *Bill! I see the rock star, *Maxi!* (0.25)

A: **Really? (0.25) Is she* beautiful?* (0.25)

There were 5 points for intonation test. In the picture description, the students chose one picture; the teacher would ask them to describe the people and things illustrated in the picture for 10 points. After that, in conversations on situations test, the students chose one picture and the teacher asked each pair of students to have a conversation based on the situation setting in the picture for 10 points. For detail of the listening and speaking pre-test and post-test for students, see Appendix D and the listening and speaking pre-test and post-test for teacher, see Appendix E.

The speaking ability rating criteria was used to evaluate picture description and conversations on situations. There were four parts of the speaking test criteria: content, pronunciation, grammar and fluency with the description of the students performance. Five points for each category. The total point was 20 divided by 2 equaling 10. For detail of the teacher evaluation criteria form, see Appendix F.

After the pre-test and post-test was written, it was given to this research advisor to confirm the validity. Then it was tried out with twenty three students who were in the same class as the target group to check the reliability before being used in the actual research. The reliability was checked by using the Cronbach's co-efficiency calculated by using the B-Index program and the result obtained was 0.89 in alpha-coefficient value. See, Appendix C.

The target group took the pre-test, an English listening and test, before the CALL session. After that, they were exposed to a training session for the purpose of acquainting them with the computer program. The target group then met in the computer lab for a period of sixty minutes, two days a week during the two-month experiment by the researcher. Finally, they did the listening and speaking post-test which was the same test used as the pre-test.

Motivation questionnaire

The questionnaire was used to study motivation of the students through CALL. The questionnaire consisted of twelve items with five rating scales of response. The rating numbers could be interpreted as shown below. See, Appendix F.

Table 3.1 Rating scales of the interpretation of the motivation

Rate	Means	Interpretation
1	1.00 – 1.49	Poor
2	1.50 – 2.49	Fair
3	2.50 – 3.49	Good
4	3.50 – 4.49	Very good
5	4.50 – 5.00	Excellent

3.3 Reliability and validity of the instruments

The reliability and validity were assured as follows: After all of the instruments were constructed, they were given to the research adviser for the approval of their validity. They were tried out with 20 students to check the reliability. The Cronbach's coefficient alpha formula was used to check the reliability of the pre-post test. The alpha value for the pre-post test was 0.89 which was reliable.

3.4 Research procedure and data collection

The researcher processed the research as follows:

1. After selecting the topic and setting the title, the researcher studied the related documents and previous research focusing on learner-centeredness and CALL activities.
2. The target group was set.
3. The instrument were designed and constructed.
4. The research adviser checked the validity of the instruments.
5. The pilot study was carried out so that the instruments were tried out in the pilot group for adjustments to be appropriate for the actual use and for checking the reliability of the instrument.
6. The researcher explained the purpose of CALL to the target group.
7. The target group took the pre-test.
8. The students were exposed to a training session for the purpose of acquainting them with the computer program regard to the lesson plans based on CALL. It took 8weeks (1 week per 2 periods and 1 period per 60 minutes).
9. After finishing the lessons, the target group took the post-test.
10. The target group responded the motivation questionnaire.
11. The collected data from the listening and speaking pre-test and post-test and motivation questionnaire were analyzed quantitatively.
12. The final analysis and the interpretation were made and the report was written.

3.5 Data analysis

3.5.1 Pre-test and post-test analysis

The t-test value was calculated to analyze the pre-test and post-test of the study. The level of significance was 0.05. The mean with standard deviation was calculated by using the program of Statistical Package for the Social Science (SPSS) for Windows.

3.5.2 Analysis of questionnaire

The questionnaire was analyzed to investigate the motivation of the students. The mean (with standard deviation) was used in the analysis by using the program of Statistical Package for the Social Science (SPSS) for Windows.