# CHAPTER III

# RESEARCH METHODOLOGY

This chapter tells about research method that is applied to find out the research questions which are (1) does PBL improve the students' speaking skill, (2) what speaking aspects are improved through PBL, and (3) What speaking activities are used in PBL to improve the students' speaking skill. The chapter consists of research design, research site and participants, research procedures, data collection, and data analysis.

## 1.1    Research Design

The method that is employed in this research is action research. Action research designs are systematic procedures conducted by teachers or other individuals in educational setting to gather information about and subsequently improve the ways their particular setting operates, their teaching and their student learning (Mills, 2000 cited in Cresswel 1994). Ebutt (1985, cited in Hopkins 2008: 48) states that "CAR is the effort to improve the teaching learning process by a series of practical actions and to reflect towards the results of actions." This design is used when teachers have specific educational problems to solve in particular scope in educational setting such as classroom. According to Mettetal (2003), Classroom Action Research (CAR) is a way for instructors to discover what works best in their own classroom situation, thus allowing informed decisions about teaching. Alwasilah (2011) also states that CAR helps both

teachers and students to improve their performance. Thus, by using this method, it was expected that this study could investigate, analyze, and explain students' speaking improvement using PBL.

According to Kemmis and McTaggart (1990), there are four basic steps in action research. The first step is planning referring to the starting up of action research in which teachers plan what action to do in the classroom (Burns, 2010). This step might be based on previous observation or investigation done to get the picture of respondents' condition. The second step is action in which the teachers put the plan into actions in order to collect information or data during teaching and learning process. The third step is observing the result of the plan. The fourth step is reflecting the previous actions or treatments for the next cycle. Those four processes are considered as one cycle.

The model of action research is illustrated in Figure 3.1 below.
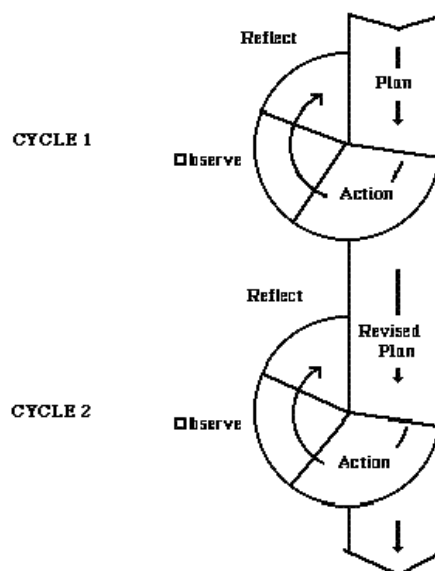


**Figure 3.1 Cycle of Classroom Action Research adapted from Kemmis and McTaggart (1990)**

This study took two reflective cycles consisting of the four processes proposed by Kemmis and McTaggart (1990).

**Table 3.1 Reflective Cycle of the Research**

| Cycle | Steps | Description |
|---|---|---|
| **Cycle 1** | Planning | Preparing pre-test assessment tools, conducting the pre-test to see students' speaking skill before given the treatments, making syllabus (see Appendix C), lesson plans (see Appendix D), media (see Appendix E), post-test assessment tools (see Page 54) to be used in the classroom during PBL implementation. |
| | Action | Implementing what had been planned in which the students were given necessary English materials related to their project (presenting Bandung tourism objects to audiences), such as related vocabularies, pronunciation, grammar, etc.<br>In this study, the materials and the actions of Cycle 1 can be seen in Table 3.2 and Appendix C and D. |
| | Observation | Observing the students during learning process to investigate their speaking skill improvement. The students were grouped, and each group was given a picture of a tourism object in Bandung. They were asked to discuss in the group about the following questions:<br>1) **What is this place?**<br>2) **What can you see in this place?**<br>3) **What can you do in this place?**<br>The students were also asked to make a dialogue about Bandung tourism objects they got that contained those questions (the dialogue was based on the dialogue that had been modeled by the teacher). After that, they were asked to come forward and perform their dialogue. The students' speaking proficiency was assessed by using students' speaking skill assessment criteria adapted from Harries (1984) and Brown (2004) (See Page 54).<br>The teacher also videotaped all of the teaching and learning processes to be replayed, transcribed, and analyzed later. |
| | Reflection | Reflecting and evaluating the result to determine the next actions in the cycle 2.<br>Based on the result of Cycle 1, some actions were remained and some were changed. The actions that were remained were for example speaking activities such as storytelling, question and answer, etc. This was because it was believed that those activities helped the students' to improve their speaking skill in Cycle 1 and could still be used in Cycle 2.<br>The changed actions were for example the teacher's way of assessing the students' speaking skill. In Cycle 1, the students were asked to make a dialogue and performed it. While in Cycle 2 the students were asked the questions directly by the teacher. This was because |

| | | the assessment in Cycle 1 took much time, while the time in Cycle 2 was very limited. |
|---|---|---|
| **Cycle 2** | Planning | Making lesson plans for new topic (Bandung public places) with some concerns based on the previous cycle. |
| | Action/ Treatment | Implementing what had been planned in which the students were given necessary English materials related to the project (presenting Bandung public places to audiences), such as related vocabularies, pronunciation, grammar, etc.<br>The materials and actions of Cycle 2 can also be seen Table 3.2 and Appendix C and D. |
| | Observation/ Assessment | Observing the students during learning process to investigate their speaking skill improvement. In Cycle 2, the students were introduced to some public places in Bandung and vocabularies related to the places. They were also grouped and each group was given a picture of Bandung public places and some pictures of things and activities that could be done in some public places. The students were asked to match the pictures.<br>In the end of the meeting, they were asked directly by the teachers:<br>**1) What is this place?**<br>**2) What can you see in this place?**<br>**3) What can you do in this place?**<br>In this cycle, the teacher also videotaped all of the teaching and learning processes to be replayed, transcribed, and analyzed later. |
| | Reflection | Reflecting and evaluating the result. |

Cycle 1 consisted of five meetings: one meeting for pre-test aimed to know the students' prior speaking skill, three meetings for treatments aimed to give the students related and necessary materials, and one meeting for post-test aimed to see their speaking skill improvement after PBL was implemented. While Cycle 2 consisted of three meetings: two for treatments and one for post-test.

The different number of the treatments in the two cycles was based on some considerations. First, the given time by the school was only eight meetings. Second, it was assumed that in Cycle 1 the students needed more time to be introduced to the project and to the materials, while in Cycle 2 they did not need it because principally the materials in Cycle 2 were similar with the ones in Cycle 1. The following table shows research topic and learning objectives in each cycle.

**Table 3.2 Research Topics in Cycles 1 and 2**

| Cycle | Meetings | Topic | Learning Objectives |
|---|---|---|---|
| 1 | Pre-test (May, 1$^{st}$ 2012) | Tourism Objects In Bandung | Describing some Bandung tourism objects using demonstrative article "this", modal "can", appropriate vocabulary about things that can be seen and done in the tourism object. |
| | Treatment (May, 2$^{nd}$ 2012) | | |
| | Treatment (May, 15$^{th}$ 2012) | | |
| | Treatment 1 (May, 16$^{th}$ 2012) | | |
| | Post-test (May, 22$^{nd}$ 2012) | | |
| 2 | Treatment (May, 23$^{rd}$ 2012) | Public Places in Bandung | Describing some Bandung public places using demonstrative article "this", modal "can", appropriate vocabulary about things that can be seen and done in the public places |
| | Treatment (May, 29$^{th}$ 2012) | | |
| | Post-test (May, 30$^{th}$ 2012) | | |

## 1.2    Research Site and Participants

This study was conducted at an elementary school in Northern Bandung. There are some reasons to make this school as the research site. First, English has been introduced since the first grade. Second, the school was developing English program to optimize students' speaking skill. Third, the school's facilities were sophisticated enough since teachers could use projector, laptop, and other facilities as teaching and learning media.

The participants of this study were Year 4 B consisting of 29 students. Of the total number of the students, only 18 students were included as participant. This was because of some considerations related to students' absence and their participation in some assessments in cycles 1 and 2.

To picture the students' condition and to decide appropriate project for them, preliminary observation was done before conducting Cycle 1 and Cycle 2 treatments. Based on the observation, the students' speaking proficiency varied. It was categorized into three main groups. The first one was for the students that could maintain simple conversations in English with the teacher even though sometimes they mixed it with Indonesian or Sundanese Language. The second one was for them who spoke mostly in Indonesian language but sometimes tried to speak English even though with some long pauses and hesitancy, and most of the students seemed to be in this second category. The last one was for them who could not respond teacher's talk in English at all.

## 1.3    Research Procedures

The procedure of this study is described in the following table:

**Table 3.3 Research Procedures**

| No | Steps | Time | Description |
|---|---|---|---|
| 1 | Conducting preliminary observation to define the problem of the students and having interview with the classroom teacher. | Week 1-2 (February, 14th-21th) | The problem is that most of the students could not respond or speak English in the classroom. |
| 2 | Designing project | Week 3-6 (February, 28th-March, 20th) | At first, the project was **"42 Days around Bandung"** (see Appendix A) because it was expected that the project would be conducted in a month and a half. However, after consulting with the school party, the project was changed to **"30 Days Around Bandung"** because the given time by the school was only 30 days so that. Thus, some topics and materials in the project were reduced. However, principally, the project was similar. It required the students to make a miniature of tourism object and a miniature of public place in Bandung. At last, they would present their miniatures in front of audiences including |

| | | | parents, teachers, and invited foreigners from Singapore at the end semester school celebration (school party). The purpose of this project is to get the students explore their own city (Bandung) and introduce it to others, especially to foreigners. |
|---|---|---|---|
| 3 | Designing instrument, syllabus, etc. | Week 7-9 (March, 27th-April, 15th) | In this step, syllabus (see Appendix C), lesson plans (see Appendix D), media (See Appendix E), and the instrument used to assess students speaking skill were made. The instrument used was speaking assessment sheet adapted from Harries (1984) and Brown (2004) (See Page 53) |
| 4 | Observing and videotaping learning processes in cycle 1 and 2. | Week 10-14 (May, 1st-31st) | The observing and videotaping were done in a month consisting of 8 meetings. It is because the school authority gave limited time and there was demand from school authority that the products should be displayed in the school celebration of end semester. |
| 5 | Transcribing video and coding the transcriptions. | Week 15-31 (June 1st-September 30th) | After transcribing the video, the transcriptions were coded (see Appendix F) |
| 6 | Comparing pre-test and post-tests in cycle 1 and cycle 2 | Week 32-36 (October 1st-31st) | Students' aspects of speaking in cycle 1 and 2 were categorized using the criteria scaled from 1-5 adapted from Harries (1984) and Brown (2004). |
| 7 | Analyzing data | Week 37-41 (November 1st-30th) | The data obtained were analyzed to see whether PBL improve students' speaking skill, what activities are used in PBL to improve the students' speaking skill, and what aspect of speaking skill are improved through PBL. |
| 8 | Presenting the result of the study. | Week 42-44 (December, 1st-16th) | The result of the study is presented in chapter 4. |

## 1.4 Data Collection

Tomal (2003) says that some methods that are commonly used in action research are observation, interview, survey, and assessing. To collect the data, this study employed two of them, namely observation and assessing through pre-test and post-tests.

### 1.4.1 Observation

Observation is a process of collecting data by seeing the object of study directly or indirectly to gain information needed. This study employed participatory observation in which the researcher interacted with the subjects while doing observation. Tomal (2003) states that by doing this kind of direct observation, researchers can obtain actual firsthand information regarding the subjects because the researchers picture directly what are observed in the real life situation.

During the observation, the researcher videotaped the teaching and learning process. Videotaping was employed to collect the data of the study. It was process of collecting data by recording what happened in the classroom during the implementation of PBL. There are some benefits of using videotaping. First, videotape that is considered as audiovisual material can preserve the data that will be analyzed by the researcher of the study or other researchers to gather information needed (Cresswell, 1994). Second, videotaping could be replayed for several times in order to check and assure the data (Fraenkel and Wallen, 1990). Third, the videotape can be shown to other researchers that might be used in the next relevant research (Fraenkel and Wallen, 1990).

In this study, videotaping was conducted to record students' oral communication during the teaching-learning process, especially during speaking assessment so that the researcher can evaluate students speaking skill more objectively.

Moreover, in this study the researcher also wrote some journals (see Appendix G) and field notes (see Appendix H). Journals were used to see how the lesson plans that had been made worked in the classroom and to note what needed to improve for the next meeting. While field notes were used to record students' behavior, feelings, and incidents during Pretest and Post-test in Cycle 1 and Cycle 2. Tomal (2003) said that by writing the journals and field notes, the information obtained was expected to be more detail.

### 1.4.2   Speaking Assessment

In this study, assessment technique that was used was limited response technique in which the students were required to respond the questions limitedly using aural cues (What is this place?) and by requiring spoken answer (This is Tangkuban Parahu) (Madsen, 1983). This technique was used based on some considerations. First, the students were considered as beginners that were assumed that they had not known many vocabularies. Second, their skills (reading, writing, listening, and speaking) had not developed yet (Madsen, 1983) so that the assessment needed to be fitted with their schemata or prior knowledge. Third, in the end of the lesson the students were expected to be able to answer those kinds of questions in the exhibition in their school party.

During the study, the assessment was conducted three times: Pre-test, Post-test 1 (in Cycle 1), and Post-test 2 (in Cycle 2). In the pre-test, the students were grouped into 5 groups and each group was given a picture of tourism objects and public places in Bandung. They were asked to think about what place they had

and what could be seen and done there. After 10 minutes, the students were asked three questions: 1) What is this place, 2) What can you see there, 3) What can you do there. Their ability to speak English was then assessed using speaking assessment sheet which was decided based on some criteria adapted from Harries (1984) and  Brown (2004) (see Page 54).

Post-tests 1 and 2 were conducted after the students were given some treatments to know the improvement of students' speaking skill after PBL was implemented. In the post-tests, the students were asked to explain the picture of certain tourism objects and public places in Bandung. In the post tests, their speaking was also assessed using speaking assessment sheet used in the pre-test.

The speaking assessment sheet used contains five aspects of speaking skill, namely comprehension, vocabulary, grammar, fluency, and pronunciation. Each aspect has its own criteria scaled from 1-5 (Harries, 1984). The criteria of speaking assessment are as follow.

## Table 3.4 The Criteria of Speaking Aspects

| Criteria | Comprehension | Vocabulary | Grammar | Fluency | Pronunciation |
|---|---|---|---|---|---|
| 5 | Appears to understand everything without difficulty | Speaks in L2 with accurate English words | Produces complete and accurate sentences (E.g. 1. This is Gasibu, 2. I can see many people there. 3. I can buy some clothes) | Speaks in L2 very fluently and effortlessly. | Speaks in L2 Intelligibly and has few traces of foreign accent. |
| 4 | Understands nearly everything at normal speed, although occasional repetition may be necessary. | Speaks mostly in L2 with few L1 words | Produces some phrases instead of complete sentences with consistent and accurate word order (E.g. 1. Gasibu. 2. Seeing many people. 3.buying some clothes) or produces consistent omitted sentence (E.g. buy some clothes, see many people) | Speaks in L2 less fluently due to few problems of vocabulary/selection of word. | Speaks mostly in L2 Intelligibly with mother tongue accent. |
| 3 | Understands most of what is said at slower-than-normal speed with many repetitions. | Produces 4-6 English words. | Produces inconsistent and incorrect sentences/ phrases (E.g. I can walking around, buy food, some game, etc). | Speaks mostly in L2 with some long pauses and hesitancy. | Speaks mostly in L1, but produces 1-3 English words and pronounce them in intelligible mother tongue accent. |
| 2 | Has great difficulty understanding what is said, often misunderstands the Qs. | Produces 1-3 English words (brands or place names such as KFC, Roppan, etc. do not count as English word/vocabulary) due to very limited vocabulary | Answers mostly in L1, with 1-3 English words/phrases (Madsen, 1983). | Speaks mostly in L1, Tries to speak in L2 but so halting with so many pauses and "er.." | Speaks mostly in L1, but produces 1-3 English words. Needs some repetition in pronouncing the words to understand them. |
| 1 | Unable to comprehend the material so that unable to express/respond the questions correctly. | Vocabulary limitations so extreme as to make conversation in L2 virtually impossible so that the student speaks in L1 all the time. | Unidentified because of speaking in L1 all the time. | Unidentified because of speaking in L1 all the time. | Unidentified because of speaking in L1 all the time. |

**Adapted from Harries (1984) and Brown (2004)**

## 1.5    Data Analysis

Before analyzed, the data obtained from the observation were transcribed and coded (see Appendix F) to make the analysis easier. Alwasilah (2011) states that there are some benefits of coding the data. First, it helps the researcher to simplify phenomena identification. Second, it helps the researcher to count the frequent of phenomenon emerging. Third, it helps the researcher to see the tendency of the findings. Fourth, it helps the researcher to organize the categorizations and sub-categorization of the inventions.

In this study, there are two types of codes to differentiate two different data. The first codes are used to analyze the students' speaking aspect improvement. The second ones are used to analyze speaking activities used in PBL. The table below shows the video transcript codes used in analyzing the data from merely pre-test and post-tests video transcriptions.

**Table 3.5 Video Transcript Codes for Speaking Aspect**

| No. | Explanation | Code | |
|---|---|---|---|
| | | **Main** | **Sub** |
| 1. | Speaker | Spkr | |
| 2. | Teacher | T | |
| 3. | Student | S | |
| 4. | Students | Ss | |
| 5. | Bahasa Indonesia | L1 | |
| 6. | English | L2 | |
| 7. | Questions | Qs | |
| 8. | Question 1: What is this place? | | Q1 |
| 9. | Question 2: What can you see there? | | Q2 |
| 10. | Question 3: What can you do there? | | Q3 |
| 11. | Pronunciation | P | |
| 12. | Pronunciation Criterion 1 (the lowest) | | P1 |
| 13. | Pronunciation Criterion 2 | | P2 |
| 14. | Pronunciation Criterion 3 | | P3 |
| 15. | Pronunciation Criterion 4 | | P4 |
| 16. | Pronunciation Criterion 5 (the highest) | | P5 |
| 17. | Grammar | G | |
| 18. | Grammar Criterion 1 (the lowest) | | G1 |
| 19. | Grammar Criterion 2 | | G2 |
| 20. | Grammar Criterion 3 | | G3 |
| 21. | Grammar Criterion 4 | | G4 |
| 22. | Grammar Criterion 5 (the highest) | | G5 |
| 23. | Vocabulary | V | |
| 24. | Vocabulary Criterion 1 (the lowest) | | V1 |
| 25. | Vocabulary Criterion 2 | | V2 |
| 26. | Vocabulary Criterion 3 | | V3 |
| 27. | Vocabulary Criterion 4 | | V4 |
| 28. | Vocabulary Criterion 5 (the highest) | | V5 |
| 29. | Fluency | F | |
| 30. | Fluency criterion 1 (the lowest) | | F1 |
| 31. | Fluency criterion 2 | | F2 |
| 32. | Fluency criterion 3 | | F3 |
| 33. | Fluency criterion 4 | | F4 |
| 34. | Fluency criterion 5 (the highest) | | F5 |
| 35. | Comprehension | C | |
| 36. | Comprehension Criterion 1 (the lowest) | | C1 |
| 37. | Comprehension Criterion 2 | | C2 |
| 38. | Comprehension Criterion 3 | | C3 |
| 39. | Comprehension Criterion 4 | | C4 |
| 40 | Comprehension Criterion 5 (the highest) | | C5 |

The table below shows the video transcript codes used in analyzing the data from the video transcriptions of the whole meetings.

**Table 3.6 Video Transcript Codes for Speaking Activities**

| No. | Explanation | Code | |
|---|---|---|---|
| | | Main | Sub |
| 1. | Imitative | IM | |
| 2. | Drilling | | DL |
| 3. | Storytelling | | ST |
| 4. | Intensive | IN | |
| 5. | Directed Response | | DR |
| 6. | Read Aloud | | RA |
| 7. | Sentence/Dialogue Completion | | SDC |
| 8. | Oral Questionnaire | | OQ |
| 9. | Picture-cued | | PC |
| 10. | Translation of limited stretches of discourse | | TrL |
| 11 | Responsive | Res | |
| 12. | Question and answer | | QA |
| 13. | Giving Instruction and Direction | | GID |
| 14. | Paraphrasing | | PRH |
| 15. | Interactive: Transactional | InTrans | |
| 16. | Interview | | ITV |
| 17. | Discussion | | DSC |
| 18. | Games | | GMS |
| 19. | Interactive: Interpersonal | Inter | |
| 20. | Conversation | | CON |
| 21. | Role-play | | RP |
| 22. | Extensive | EX | |
| 23. | Oral Presentation | | OP |
| 24. | Picture-cued Storytelling | | PCST |
| 25. | Retelling A Story | | RS |
| 26. | Retelling News Event | | RN |
| 27. | Translation of extended prose | | TrEx |

After coded, the data were analyzed using qualitative data analysis. According to Powell and Renner (2003), qualitative data analysis is a process of analyzing data that consist of words and observations, not numbers. This is in

accordance with the characteristic of action research applied in this study, as Alwasilah (2011) states that action research is very qualitative seen from the research problems and research purposes.

The problems or questions that were tried to be answered in this study were (1) to what extent PBL improves students speaking skill, (2) what aspect of speaking skill improves, and (3) what speaking activities are used in PBL. To answer those questions, there are three steps in analyzing the data. Those are data reduction, data display, and conclusion (Miles and Huberman, 1984 as cited in Alwasilah, 2011). Those steps are explained in the next section.

### 1.5.1 Data Reduction

Data reduction is a process of selecting data that were relevant to the research questions (Alwasilah, 2011). The data that were not necessary were reduced to make the analysis easier. After that, the relevant and selected data were then coded and analyzed based on students speaking criteria adapted from Harries (1984) and Brown (2004) to see students' speaking skill improvement.

In this study, the data reduced were some data from some particular students who did not follow the whole process of PBL treatments. From 29 students, only 18 of them were included as the participant of the study.

### 1.5.2 Data Display

The result of data analysis was explained descriptively. Descriptive technique was chosen because the data obtained in this research were qualitative

(non-numeric), not quantitative (numeric) and need to be given interpretation (Alwasilah, 2011). Some tables and excerpts were also going to be displayed to show the result briefly and clearly.

### 1.5.3 Conclusion

After displaying the result, the last step was drawing conclusion related to the research questions: (1) to what extent PBL improves students speaking skill and (2) what aspect of speaking was improved. Finally, the conclusion was going to be explained in chapter 5.

### 1.6 Concluding Remark

This chapter has described research methodology that is used in this study. The next chapter will present the findings and discussions of this study based on the data gathered using this method.