

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

The third chapter of the study provides the research methodology in this study. It consisted of the research design, the participants of the study, the instruments of the study, the research procedure, the method of collecting the data and the procedure in analyzing the data.

#### **3.1 Research Design**

This study aimed to see the improvement of the use of speaking games in class and thus employed the Classroom Action Research (CAR). The purpose of CAR is to make changes in teaching and learning practices to make it more rational, productive and sustainable, and fulfill the needs of the class while solving any problems encountered (Kemmis et al., 2014). This study tried to provide a more productive gaming activity that can improve students' skills just like the purpose of CAR.

This research aimed to show how the game affected the classroom activities and students' speaking ability, thus containing both qualitative and quantitative data. The method of collecting data in this study was the sequential exploratory design mixed method because the data collection consisted of both qualitative and quantitative data, with qualitative data as the priority. Qualitative data in this study showed the process of teaching and learning activity and how it improved. It also provided reasoning on why the students' speaking skills and scores improve, whereas the quantitative data only provide information on whether the improvement made was significant.

This research has several cycles in accordance with the result of the study and the improvement of the use of games in class. Each cycle has four main steps: Planning, Acting (Execution); Observing, and Reflection. Several cycles needed to be done until the desirable result was achieved.

## **3.2 Data Collection**

### **3.2.1 Participants of the Study**

The participant of this study was a class of grade X students in one of high school in Bandung. The site was chosen for several reasons. First, the school was selected by considering the feasibility factors (McMillan & Schumacher, 2001). The school and participants were accessible which give benefits for the researcher in managing the effectiveness of the present study including some factors such as time, financial and energy invested. Second, the school has a history of using games in their teaching and learning activities which enable more insight into the use of games in class and how to improve it.

This study was done to high school students in English classes because English education in Indonesia formally starts at junior high school, and thus senior high school is seen as more mature and more experienced in the use of games thus was expected to be able to provide more coherent and in-depth view needed for this study. These reasons motivated the researcher to conduct research in this school.

The participant of this study was a class that was the subject of the reconnaissance done by the researcher and was purposefully chosen for their experience of using games in class. The class contained 26 students with 12 males and 14 females. The class was also chosen because the result of reconnaissance showed students' lack of abilities in speaking, which were shown by students' need to have written instruction to read and teacher's testimony on how the students' speaking score was still below Minimum Academic Achievement (KKM). The students' low abilities did not pertain to a specific aspect of speaking, such as vocabulary, grammar, etc. but because of the combine score still bellow desirable result.

### **3.2.2 Instruments**

This study employed the sequential exploratory mixed method data collection which allowed the collection of both qualitative and quantitative data. This method of data collection is characterized by starting with qualitative data collection and analysis followed by quantitative data collection and analysis with the qualitative aspect as the priority of the study (Creswell, et al., 2003). This study

started by collecting data on the process of the lesson and teacher opinion which indicates the start of the qualitative data collection and analysis. The quantitative data was collected after the lesson in the form of students' scores to prove whether the effects of the lesson seen on the observation have any significant effects on students' skills. This design is advantageous in improving or building an instrument or teaching method (Creswell, et al., 2003), which aligned with the goal of this study.

The qualitative data collection in this study consisted of two sets of instruments. The first set was the observation checklist for the researcher. This checklist was used when the games were tried to see whether the game fulfill the class need and fit with the criteria of a good game. This checklist was made based on the criteria of a good game by Wright et al. (2005) and the principles of teaching speaking by Nunan (2003). The checklist has Y=Yes (the aspect is observed and happened in class) and N=No (the aspect is not observed in class) for the observation aspects. Other problems outside of the list were written in the comment section. The use of the game was deemed successful if all observation aspects were seen.

Table 3.1

*Observation Checklist on the Appropriateness of the Game*

| No.      | Observation Aspects                          | Y | N |
|----------|--|---|---|
| 1.       | The game is easy to prepare in class         |   |   |
| 2.       | The execution of the game in class is smooth |   |   |
| 3.       | Students are interested in playing the game  |   |   |
| 4.       | The game has an appropriate length of time   |   |   |
| 5.       | All students have equal chance to talk       |   |   |
| 6.       | Focus on practice rather than teacher talk   |   |   |
| Comments |  |   |   |

The next set of the instrument was a questionnaire for the teacher to evaluate the appropriateness of the game used in class based on the teacher observation. The instrument of this stage was a questionnaire design by the researcher from the

adaptation of the theories on the criteria of a good game by Wright et al. (2005) and the principles of teaching speaking by Nunan (2003). The instrument is shown below, with 1 as the lowest value and 5 as the highest.

Table 3.2

*Teacher's Questionnaire on the Appropriateness of the Game*

| No.      | Aspects                                    | Scale |   |   |   |   |
|----------|--|-------|---|---|---|---|
|          |  | 1     | 2 | 3 | 4 | 5 |
| 1.       | Connection with the curriculum             |       |   |   |   |   |
| 2.       | Fit the topic of the lesson                |       |   |   |   |   |
| 3.       | Fulfill the objective of the class         |       |   |   |   |   |
| 4.       | Ease of preparation                        |       |   |   |   |   |
| 5.       | Ease of use in class                       |       |   |   |   |   |
| 6.       | Allowing speaking practice to students     |       |   |   |   |   |
| 7.       | Appropriateness of game time               |       |   |   |   |   |
| 8.       | Appropriateness with the level of students |       |   |   |   |   |
| 9.       | Increasing students' motivation            |       |   |   |   |   |
| Comments |  |       |   |   |   |   |

This study also used a speaking test to measure the improvement of students' speaking skills. The topic of the test was linked to the topic of the lesson and the game, which in this study was about the topic 'Talking about Self'. The speaking tests were assessed with 'Oral proficiency scoring categories' by Brown (2004). The scoring Table is as follow

Table 3.3

*Oral proficiency scoring categories' by Brown (2004)*

| No. | Name      | Grammar | Vocabulary | Comprehension | Fluency | Pronunciation | Task |
|-----|-----------|---------|------------|---------------|---------|---------------|------|
| 1.  | Student 1 |         |            |               |         |               |      |
| 2.  | ....      |         |            |               |         |               |      |

The scoring for each section is 1-5 with 1 being poor, 2 is satisfactory, 3 is good, 4 is very good, and 5 is excellent ability is speaking. The score of each section was added up, divided by 30 and then multiply by 10 to get the final score.

$$Student\ score = \frac{\Sigma\ score\ each\ section}{30} \times 10$$

The  $\Sigma$  data from each section was also be made separately to show the progress of each aspect. This data showed what aspect of speaking does the speaking game influence the most. This data was coupled with the analysis to describe what reasoning might influence those results.

### 3.3 Procedure

This study followed the process of CAR proposed by Lewin (1946). In this research, the researcher tries to improve the use of games for teaching and learning speaking in class. The research has four main steps: Planning, Acting (Execution); Observing, and Reflection. These steps were done for as many circles as needed until it fulfills the requirements of the observation checklist and the teacher's questionnaire of the appropriateness of games. The steps of the research procedure can be seen in Fig 2 below.

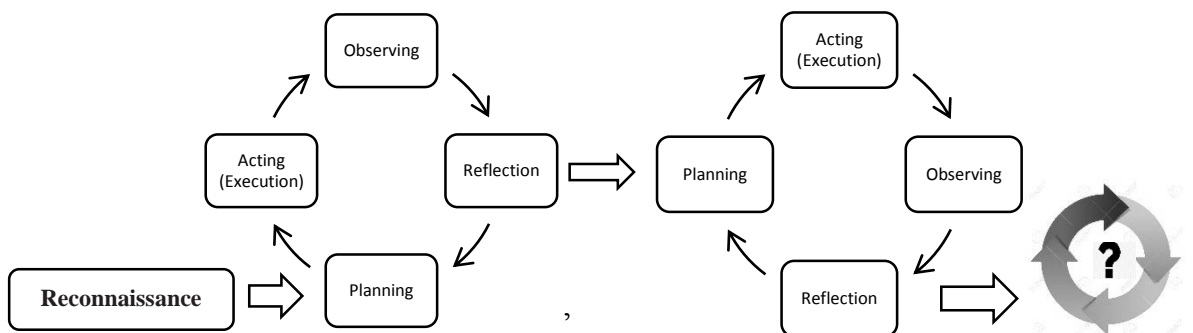


Fig. 3.1 CAR circle based on Kurt Lewin Action Research (1946)

This research was a participatory classroom action research because the researcher worked as the one who gave the treatment and made the lesson plan in accordance with the game chosen. According to Kemmis et al. (2014), participatory action research has many advantages including:

- It creates the conditions for practitioners to understand and develop the ways in which practices are conducted ‘from within’
- It allows conversations and critical debates of those whose action constitutes the practice being investigated
- It allows the participant to develop the forms of action and interaction in which the practice is conducted
- It allows the participant to develop the communities of practice
- It confronts three kinds of untoward consequences of their practice, namely; irrationality, unsustainability, and unjust

In this participatory classroom action research, the researcher was acting as the one who gave the treatment to the students. The treatment that the researcher give included: giving the explanations about the topic taught, teaching the students to use the game in class, scoring students’ performance in class, and attempting to fix students’ mistakes by giving further explanations at the end of the lesson. The role of the teacher in this study was as an active participant who took part in discussing the plan for the lesson with the researcher and in helping the researcher to organize the class because the authority of the teacher was better acknowledged by the students, observing the class to judge the successfulness of the lesson, and giving opinion on what might be done to improve the classroom activity.

Before the research was done, the researcher has done the reconnaissance step. This step was done by observing the use of games for teaching speaking in a class by a teacher in one school in Bandung. Interview with the teacher and students about what they think about the game and how it should be was also done.

The result of the reconnaissance shown both teacher and students show positive reactions to using the game in class and show more enthusiasm than the regular teaching and learning activity. They also expressed their desire to learn speaking and were excited about the prospect of using games to learn speaking. In the observation, the teacher employed the ‘Pass the bag’ where students passed a bag. In this game the whole class played as one group. The time needed until the music stop was inefficient if it wants to include the whole class. The lesson plan the

teacher provided also showed that not all students have the chance to speak as the topic provided in the bag was really limited.

The reconnaissance showed that the problems with the game used were: 1) it takes too much time 2) it did not allow all students the change to speak. Thus the researcher attempted to provide the teacher with a game that was short but can give all students the change to speak. For the length of the game, although the lesson plan provided by the teacher did not show how much time the game would take, from the interview with the teacher and the observation result, the range of time of the game need to be 10-15 minutes.

The game used in this study was a non-digital game because from the teacher's and students' opinion as well as the situation of the class non-digital games will be more effective for the class. The teacher expressed that acquiring permission to use the computer laboratory was not easy and it was also inefficient to move from class, thus wasting time. The students also express that if they play a speaking game, then it will be better to do it directly than using technology as an intermediate because they can just speak to their friends. In addition, they also express that if they use the game outside the school only then they would like to use a digital game. This decision on using non-digital games was also prompted by the fact that not all students have the necessary equipment to play a digital game.

The reconnaissance step did not show all of the students' speaking ability, thus before the first cycle was done, a pre-test to know the current ability of the students' speaking skills was conducted. After each circle, a post-test was given to know the improvement of the students' skills. The test was conducted by at least two people to avoid subjectivity of the test result. The test was conducted by the researcher and the colleague with certain certifications. The speaking pre-test used in this study was an interactive speaking test in which include multiple exchanges. The students were asked to take the test as a pair and acted like someone who met for the first time. In doing so they were asked to obtain information about their partner's name, ethnicity, family, and favorite food and drink in a natural way as possible. The ability in each aspect of speaking according to Brown (2004) was scored to know the extent of students' skills.

The tests done for each cycle was a formative evaluation that took place during the gaming activity in class. The speaking activity done by the students in the gaming activity was an interactive speaking, thus corresponded with the speaking done in the pre-test. The information exchange in the gaming activity was also the same as in the pre-test which was the name, ethnicity, family, and favorite food and drink. These were done because the goal of the tests, whether pre-test or post-test, was displaying speaking skills regarding 'Talking about Self' (content validity). Speaking tests can produce different results by different people thus to assure its validity and reliability it is important to score the test based on certain scoring and aspects (Brown, 2004). The tests done in this study followed the scoring and aspects of oral proficiency by Brown (2004) to prove its construct validity. The tests used in this study were based on the teachers usually used and have been approved by the teacher and the research advisor (face validity).

The formative test assessed how well the students speak, the differences in attitude with a normal test, and how the progress of the lesson improves. Formative test was chosen for several reasons. First, unlike tests of other skills that can be done for all students at the same time, a speaking test required more time to conduct as only several numbers of students can be tested at the same time. To ensure that all students got the same treatment in the test, the students tested were recorded and were asked to start a new game in a time limit. The time limit will be adjusted accordingly with the available time in the class. The recording then became the source for the researcher and the other examiner to score the students' speaking ability. Second, as the purpose of a formative test is to ensure an adjustment of the forming operation (Frunza, 2014) it fulfills one of the objectives of this study which was improving the classroom activity. This evaluation was also important to the success of using a game in class as after the game activity a debriefing has to be done. This debriefing activity involved the explanation of what the students learn by using the game and also addressing the problem noticed while the play. Lastly, the formative test is believed to be able to improve motivation and self-esteem, leading to additional learning gains (Fulcher, 2010). Formative test allows students to speak more freely without the anxiety of being 'judge'. This was particularly beneficial to less able students because the pressures of having less ability will



lessen. Thus with a formative test, the students are able to achieve much more than they otherwise would have done.

### **3.3.1 Planning**

Planning starts with the general idea of what to be done. In this step, the researcher searched ideas on what game to choose and how to integrate it into the teaching and learning activity. The researcher with the help of the school teacher formed a new lesson plan that potentially changes the practice of using games to teach speaking for the better. For the first cycle of planning it was based on the result of reconnaissance, while for the second cycle and on was based on the data from the reflection step of the previous cycle. In this step, the researcher has to answer the question 'What aspects of your practice will you change?' and 'How it makes the practice better?'

Several games planned for this study were games with an element of guessing with asking a yes/no question such as 'Who am I', 'Twenty Questions', 'Guess Who'. The game that was chosen to be tried was 'Who am I' because the preparation was the easiest among the game listed. The game was done in pairs of students so all students have a chance to speak. Other aspects of limitations such as limiting the number of questions (like 'Twenty Questions') or by presenting many boxes in one sheet (like 'Guess Who') can be added according to the problems faced in class.

The game 'Who Am I Game' was chosen because according to the result of Rohman's (2016) study using this game presented many advantages in Teaching Speaking such as

- It can make students more creative and communicative.
- It provides more opportunities for students to express their opinions and feeling
- It gives positively affects students' interest, motivation, and also their speaking ability.
- It increases cooperation and tolerance among students.

It was also chosen because 'Who Am I' was a guessing game. León and Cely (2010) found that guessing games, as well as storytelling games, were effective to be used in class, thus basing on this result the game 'Who Am I' which was a guessing game was chosen.

### **3.3.2 Acting (Execution)**

In the acting step, the researcher enacted or implemented the plan made. The game chosen was tried according to the lesson plan made. The researcher worked together with the teacher to present the game and monitoring the students. The acting step does not only consist of using the game but the lesson as a whole.

This study was a participatory classroom action research thus the researcher was acting as a participant who gave the treatment to the students with the help of the teacher. The treatment done by the researcher included giving explanations about the topic taught, teaching the students to use the game in class, scoring students' performance in class, and attempting to fix students' mistakes by giving further explanations at the end of the lesson. The role of the teacher in this study were discussing the plan for the lesson with the researcher, helping researcher to organize the class because the authority of the teacher was better acknowledged by the students, observing the class to judge the successfulness of the lesson, and giving opinion on what might be done to improve the classroom activity.

### **3.3.3 Observing**

Observing is the activity of collecting the data to supervise to what extent the result of 'acting' reaches the objective. The observation step in this study was done by employing two instruments: Researcher's Observation Checklist and Teacher's questionnaire. The researcher's Observation checklist was used while the game was presently used in class, while the teacher's questionnaire was given after the lesson was done to get teacher opinion on how they think about the game. The observation step provided the data on whether the games used can fulfill the criterion of a good game for teaching speaking.

### **3.3.4 Reflection**

Reflecting is the activity of evaluating critically about change on the students, teacher, and the teaching and learning process. In this step, the researcher analyzed whether the 'acting' activity produces any change or progress, what change happened in the progress, and whether the change was positive and negatives. In this step, the researcher reviewed what has happened in relation to the concern raised in the previous step, and reviewed the achievements and limitations of the first changes in practice. In this step, the researcher also ought to discuss the change with the teacher and have a discussion on what happened and what needs to be done next. In making any changes or modification to either the teaching and learning process or the game used, we have to keep in mind and reflect on what aspects we will change and what the expected effect of those changes are (Kemmis, et al., 2014).

In this step, the post-test on students' abilities was done to see the improvement of students' abilities. The result of students' speaking score was done by two examiners, who were the researcher and one colleague. The students' score presented was the average of the two scores given by the examiners. Next, the observation checklist, teacher's questionnaire, and the test results were analyzed and reflected. These are to show whether the students and the teaching process indicate any improvements, and indentify what other problems to address. The result of reflection then will be the basis of the planning of the next cycle.

### **3.4 Data Analysis**

The first data that was analyzed was the researcher's observation checklist. This showed whether all aspects of the appropriateness of use of the game in class was observed or not. If from the observation checklist it was shown that some aspects were not observed the researcher gave further analysis on the possible causes. Explanation on whether each item on the Observation Checklist was observed or not was provided descriptively to provide more explicit data that are easy to understand. The result of this analysis will be the base of reflection and what to change in the next cycle.

The next data analysis that was done was the evaluation of the appropriateness of the game by the teacher using a questionnaire. The questionnaire provides insight on what the teacher thinks about the game and whether the game used fulfilled the criteria of a good game and a good teaching method for speaking. The result of the questionnaire was scored and made into percentages. The scoring followed the score set for judging educational games by Aslan (2016), which is shown in Table 3 below.

Table 3.4

*The Score Set for Judging Game by Aslan (2016)*

| Nominal Score | Numerical Score | Description   |
|---------------|-----------------|---|
| Excellent     | [81-100]%       | Game comprehensively supports achieving quality attribute and resolves all related trade-offs                   |
| Good          | [61-80]%        | The game explicitly supports achieving quality attribute and resolves major related trade-offs                  |
| Average       | [41-60]%        | The game supports achieving quality attribute but major trade-offs remain to be resolved                        |
| Marginal      | [21-40]%        | Game implicitly supports achieving quality attribute but directly conflicts with one or more quality attributes |
| Poor          | [0-20]%         | Game is not suitable for achieving quality attribute  |

Even so, if the score reaches 81% but one or more aspects in the questionnaire score 2 or less, then a reflection of that aspect will still be done.

Next was analyzing the test result. The significance of the improvement of students' skills was calculated using matched t-test with  $\alpha = 0.05$ . The value of  $\alpha = 0.05$  was chosen because it is the minimum requirement for validation of social data. T-test was used to show the significance of the result of the study. It was also used in regard to the small number of students as the subjects. Match t-test was chosen because the comparison was made between pre-test and post-test of the same students. The data was calculated manually with the help of Excel to manage the data. Manual calculation with the help of Excel was done because of the researcher familiarity with this kind of calculation.

The analysis using match t-test was conducted to show the significance of the students' improvement in speaking skills as a whole. It was also used for

analyzing the improvement for each aspect of the speaking skills. The t-test was acquired using the following formula

$$t = \frac{\bar{X}_1 - \bar{X}_2}{S_{(\bar{D})}}$$

Where  $\bar{X}_1$  = The mean score of post-test

$\bar{X}_2$  = The mean score of pre-test

$S_{(\bar{D})}$  = The standard deviation