

III. RESEARCH METHOD

This chapter describes the design of the research, how to collect the data from the subject of the research and how to analyze the data. This chapter also describes research procedure, schedule of the research, validity and reliability of the test instrument, data treatment, and hypothesis testing.

3.1. Research Design

This research is a quantitative study which uses *one group pretest-posttest* design. There is one class as the subject of the research which will be chosen purposively.

The research design is as follows:

T1 X T2

T1: Pre-test.

X: Treatment.

T2: Post-test.

(Setiyadi, 2006:133).

The subject of the research was given the treatment of teaching vocabulary through storytelling. The pre-test was administrated before the treatment of teaching vocabulary through story telling was implemented to see the students' basic vocabulary mastery. Then, the treatment of teaching vocabulary through

story telling was implemented. The post-test was administrated afterward, to analyze the improvement of the students' vocabulary achievement through storytelling.

The interview was conducted in this research. The interview was conducted in the form of open questions and formal types. It was conducted toward some representatives of the students as the interviewees, which were chosen from low and high scores based on the mean score of the post-test, to find out the problems the students face in learning vocabulary through storytelling, in which their answers were classified and generalized as the resource.

3.2. Subject of the Research

This research was conducted purposively in Bunga Mayang Islamic Kindergarten School as the subject of the research.

3.3. Data Collecting Technique

In collecting the data, the research procedure uses these following steps:

3.3.1. Administering the Try-Out

The Try-out was administered in the B1 class of Bunga Mayang Islamic Kindergarten School as the experimental class in the first meeting before Pre-test of teaching vocabulary through Storytelling implemented in the observation class, as the consideration of the pre-test items.

3.3.2. Administering the Pre-test

The pre-test was administered in the B2 class of Bunga Mayang Islamic Kindergarten School as the observation class before giving the treatment of teaching vocabulary through Storytelling to see the students' basic vocabulary mastery.

3.3.3. Administering the Post-test

The post-test was administered in the B2 class of Bunga Mayang Islamic Kindergarten School after the treatment of teaching vocabulary through storytelling was implemented. The result of the post-test was compared with the result of the pre-test to analyze the improvement of the students' vocabulary achievement through storytelling.

3.3.4. Conducting the Interview

The interview was conducted in the B2 class of Bunga Mayang Islamic Kindergarten School, in which the students' answers were classified and generalized as the resource. The interview was conducted to find out the problems the students face in learning vocabulary through storytelling.

3.4. Research Procedure

In conducting the research, the research procedure uses these following steps:

3.4.1 Determining the population and chose the sample.

3.4.2. Conducting the Try-out Test

The try-out test was conducted in the first meeting in another class which

was chosen purposively out of experimental class, to know the quality of the test as the instrument of the research. The numbers of the tests items were 30 items which contained three options of answer for each (A, B and C). The time allocated was 30 minutes. This test was administered to the students in order to have a good test quality, which has not only good reliability and good validity, but also it was not too easy and too difficult.

3.4.3. Administering the Pre-test

The pre-test was administered in the B2 class of Bunga Mayang Islamic Kindergarten School in the first meeting before the treatment of teaching vocabulary through storytelling was implemented, to see the students' basic vocabulary mastery.

3.4.4. Conducting the Treatment

After having the pre-test, the treatment of teaching vocabulary through storytelling was implemented in the B2 class of Bunga Mayang Islamic Kindergarten School.

The steps of how to use storytelling proposed by the researcher according to Nichang (2008) as follows:

1. Pre-activity

- a. Warm up the children by activities, for example, singing or chatting. etc.

- b. Introduce children to the topic by asking them questions or hiding something from the story. Try to link to children's experience.
- c. Create a situation by aids or by questions.
- d. Introduce the main characters by puppets, masks and pictures to attract and keep children's attention.
- e. Set a purpose for children, give them a reason to listen to the story.

2. Whilst-activity

Teacher tells the story.

While telling the story, we need to have some skills. The use of language and aids can help to support children's understanding.

1. We can make the most to use visual aids such as masks, big pictures, puppets, real objects, cut figures, etc.
2. The use of language also supports children's understanding.

a. Voice

Appropriate intonation and stress, different voices of characters, different paces, and exaggeration can give children a deeper impression of the language in the story. This can help them pick up chunks.

b. Body language

To use enough body language can help to bring out the meaning of the story. The teacher's actions, gestures, facial expressions can create clear situations. Andrew (1995) suggested that while telling a story, we should make our movements simple and slow, a little bit exaggerated.

c. Pausing

It creates time for children to think and work out what happens at the point of the story.

d. Predicting

It can help to involve children in the story. They would try to work out meaning while they want to know the result.

3. Post-activity

Choose some suitable follow-up activities, related to the story, to check children's understanding, to give chance for children to try out or to practice the introduced language.

The vocabulary which was given in the pre-test was given again to the students, then telling them through a story that the students took part in some activities in the story. The students had the cards of the pictures related to the vocabulary that was learned. During telling the story, the students were asked to see the picture once it was mentioned.

3.4.4. Administering the Post-test

The post-test was administered in the B2 class of Bunga Mayang Islamic Kindergarten School after the treatment of teaching vocabulary through story telling was implemented by using the same topic like in the pre-test. The result of the post-test was compared with the result of the pre-test to analyze the improvement of the students' vocabulary achievement through storytelling.

3.4.5. Analyzing the result of pre test and post test

The researcher gave score for the students' answer in pre test and post test. In this step the researcher used inter-rater to check the students' result in order to avoid the subjectivity in giving correction.

3.4.6. Comparing the result of pre test and post test

After analyzing the result of pretest and post test, the researcher compared those results to answer whether there is significant improvement made by the students after being taught through classic songs.

3.4.7. Conducting the Interview

The interview was conducted in the B2 class of Bunga Mayang Islamic Kindergarten School, in which the students' answers were classified and generalized as the resource. Some representatives of the students as the interviewees were chosen from low and high scores based on the mean score of the post-test. The interview was in the form of open and informal questions in informal situation (the questions must be in the form of explanation or description rather than "yes" or "no" answers, to avoid the students from being reluctant to answer the questions given and the situation helps the students to express what they feel freely). The interview was conducted to find out the problems the students face in learning vocabulary through storytelling. The interview contained three questions

related to the advantages of using storytelling and problems that students might face in learning vocabulary based on students' perception.

3.5. Validity and Reliability

3.5.1. Validity

The validity of the test is the extent to which it measures what it is supposed to measure and nothing else (Heaton, 1991:159). In order to measure whether the test has a good validity, the researcher analyze the test from content and construct validity.

Content validity is concerned with whether test is sufficiently representative and comprehensive for the test. In the content validity, the materials given were suitable with the school curriculum. To fulfill this validity, the researcher saw all the indicators of the instrument and analyze them whether the measuring instrument represent the material that was measured or not. While all indicators were based on the material, it meant that the instrument was fulfilled the criteria of content validity. In this case, the researcher used the vocabulary from the book learned by the students. The book that was used was "Paket Super Lengkap Kurikulum TK B".

The researcher used the table of specification to check content validity of the test items. The total percentage in the table indicates the relatives' degree of emphasis of each content area and each instructional objective given in the test. The table of specification was used to determine which

test was more relevant to our particular situation and was also necessary to check whether test items had good content validity.

Table 1. Table of Specification of Try Out Test

Content	Aspect	Items	Percent
Vocabulary	Verbs	1, 2, 3, 4, 5, 6, 7	23.33%
	Adjectives	8, 9, 10, 11, 12, 13, 14, 15	26.67%
	Adverbs	16, 17, 18, 19, 20, 21, 22	23.33%
	Nouns	23, 24, 25, 26, 27, 28, 29, 30	26.67%
Total		30 Items	100%

Moreover, construct validity is concerned with whether the test is actually in line with the theory of what it means to know the language (Shohamy, 1985: 74). Construct validity focuses on the kind of test that is used to measure the ability. It means that the test items should really test the students whether they have mastered the material that has been taught or not. According to Setiyadi (2006:26), if the instrument just measure one aspect, for example vocabulary, the construct validity can be measured by evaluating all items in the test. If all items have measured vocabulary mastery of the students, this instrument has fulfilled construct validity.

Then, in order to measure content validity and construct validity, the researcher used *inter-rater analysis* to make the instrument more valid. Accordingly, the three teachers of Bunga Mayang Islamic Kindergarten School took part in measuring the content and construct validity of the instrument. If at least there are two raters agree, the item will be taken.

3.5.2 Reliability

Reliability of the test can be defined as the extent to which a test produces consistent result when administrated under similar conditions (Hatch and Farhady, 1982:243). Split-half technique was used to estimate the reliability of the test and to measure the coefficient of the reliability between odd and even group, *Pearson Product Moment formula* is used is as follows:

$$r_l = \frac{\sum xy}{\sqrt{[\sum x^2][\sum y^2]}}$$

r_l : Coefficient of reliability between odd and even numbers items.

x : Odd number.

y : Even number.

x^2 : Total score of odd number items.

y^2 : Total score of even number items.

xy : Total number of odd and even numbers.

(Lado, 1961 in Hughes, 1991:32).

The criteria of reliability are:

- 0.80 – 1.00: high.
- 0.50 – 0.79: moderate.
- 0.00 – 0.49: low.

(Hatch and Farhady, 1982:247).

To know the coefficient correlation of whole items, *Spearman Brown's prophecy formula* is used. The formula is as follows:

$$rk = \frac{2r1}{1+r1}$$

rk: The reliability of the test.

r1: The reliability of the half test.

(Hatch and Farhady, 1982:246).

3.6. Data Treatment

3.6.1. Normality Test

Normality test is used to measure whether the data in the subject of the research is normally distributed or not (Setiyadi, 2006:168-169). The students' scores of the pre-test and post-test in Bunga Mayang Islamic Kindergarten School class were analyzed by *One-sample Kolmogorov-Smirnov* formula through SPSS 17 to gain the normality test. The hypotheses for the normality test are as follow:

H_0	: The data is not distributed normally.
H_1	: The data is distributed normally.

In this research, H_1 will be accepted if $p > \alpha$, and the researcher used level of significance 0.05.

3.6.2. Level of Difficulty

Level of difficulty is related to how easy or difficult the item is from point of view of the students who take the test. To analyze the level of difficulty,

the following formula that is used is:

$$\text{LD} = \frac{R}{N}$$

LD: Level of difficulty.

R: The number of the students who answered correctly.

N: The total number of the students who are following the test.

The criteria are:

<0.30 = difficult.

0.30-0.70 = average.

>0.70 = easy.

(Shohamy, 1985:79).

3.6.3. Discrimination Power

The discrimination power refers to the extent to which the item differentiates between high and low level students on the test. A good item according to the criteria is one which good students will do well and bad students will fail. To know the discrimination power of the test, the formula that is used is:

$$\text{DP} = \frac{U-L}{\frac{1}{2}N}$$

DP: Discrimination power.

U: The proportion of upper group students.

L: The proportion of lower group students.

N: Total number of the students.

The criteria of discrimination power are:

1. If the value is positive discrimination, it means that a large number of more knowledgeable students than the poor students answer the item incorrectly. If the value is zero, there will be no discrimination.
2. If the value is negative, it means that more low-students than high-level students answer the item correctly.
3. Generally, the higher the discrimination index, it will be better, in which in the classroom situation, most items should be higher than 0.20 indexes. (Shohamy, 1985:81).

3.6.4. Scoring System

In scoring the students result of the test, Arikunto`s formula was used. The ideal higher score is 100. The scores of the pre-test and post-test are calculated by using formula as follows:

$$S = \frac{R}{N} 100$$

S: The score of the test.

R: The total of the right answers.

N: The total items.

(Arikunto, 1998).

3.7. Data Analysis

Analysis means categorizing, ordering, manipulating, and summarizing of data obtained to answer the research questions (Kerlinger, 1988:125). The purpose of analysis is to reduce data to be intelligible and interpretable so that the relation of the research problem can be studied. Therefore, the data from the interview was collected and interpreted to find out the problems the students face in learning vocabulary through storytelling.

In order to analyze the improvement of the students' vocabulary achievement through storytelling, the data was analyzed by these following procedures:

- 1) Scoring the pre-test and post-test.
- 2) Tabulating the result of the test and calculating the mean of the pre-test and post-test.
- 3) Drawing a conclusion from the tabulated results of the pre-test and post-test, then analyzing by using *Repeated Measure T-test* of SPSS 17 for windows, i.e
$$\frac{\overline{X1} - \overline{X2}}{Sd}$$
 to test how significant the difference between the

score of pre-test and post-test, in which the significance is determined by $p < 0.05$. (Hatch & Farhady, 1982:114).

The researcher also used qualitative data to support this research in order to see whether or not there were some problems or difficulties faced by the students during teaching learning process through Storytelling. The researcher knew whether there were some differences between the previous technique taught by the

teacher and the technique which was used by the researcher through Storytelling. The researcher also intended to know whether or not the students enjoy in learning through storytelling.

The instrument used was interview. The interview was conducted in experimental class in the form of open and informal questions (the questions must be in the form of explanation or description rather than “yes” or “no” answers, to avoid the students from being reluctant to answer the questions given). The interview was used to know the students’ opinions and respond toward the Storytelling technique that was used by the researcher. This interview was held after conducting the treatment and post test. The researcher asked the students’ opinion about effectiveness of using Storytelling in teaching listening. To analyze its qualitative data, matrix analysis, in this case description analysis was used, since the researcher used his own idea, including his own interpretation toward the data (Setiyadi, 2006:262).

3.8. Hypothesis Testing

In testing the hypothesis that the teaching learning through storytelling would improve the students’ vocabulary achievement significantly, *Repeated Measure T-Test* was used. The hypothesis was also statistically tested by using statistical computerization (SPSS 17), in which the significance was determined by $p < 0.05$. Therefore, the hypothesis which could be cited was as follows:

- H_1 : There is a significant improvement of the students’ vocabulary achievement through storytelling.

Besides that, the interview was conducted. The interview in the B2 class of Bunga Mayang Islamic Kindergarten School was in the form of open and informal questions in informal situation (the questions must be in the form of explanation or description rather than “yes” or “no” answers, to avoid the students from being reluctant to answer the questions given the situation helps the students to express what they feel freely); to analyze its qualitative data in order to find out the problems the students face in learning vocabulary through storytelling.