CHAPTER III

RESEARCH METHODOLOGY

This chapter includes further elaboration of how the research carried out, which consist of five sections. It covers the research problems, then follow by research design, and It also describes the research site and participants, techniques of collecting data, and data analysis.

3.1 Purpose of The Study

The purpose of this study was to identify and describe the effectiveness of the use of pictures in increasing the rate of acquisition of vocabulary by students with mild intellectual disability. Research suggests that the more words the learners know, the more they are able to comprehend what they see, hear or read. Integrating pictures into vocabulary less purpose, one may not only offer them visual experience, but also may be a powerful tool in helping them to learn and remember new words. Based on the above the present study endeavoured to address the question:

1. Does the use of pictures increase the rate of acquisition of vocabulary by students with mild intellectual disability ?
2. What are the students' responses towards the implementation of the use of pictures?

3.2 Research Design

Relevant to the purpose and research questions, this study was conducted to find out whether the use of pictures increases the rate of acquisition of vocabulary by students with mild intellectual disability or not and the students' responses to the implementation of the use of pictures. This study employed an experiment design which mainly aims at describing as typically concerned with

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THE USE OF PICTURES IN TEACHING VOCABULARY TO STUDENTS WITH MILD INTELLECTUAL DISABILITY

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the manipulation of variables in order to determine their causal significance (Cohen, Manion and Morrison,2007).

Furthermore, experimental research is defined as a research in which the researcher manipulates the independent variable and interested in showing cause and effect (Johnson and Christensen, 2008). There are many types of experimental research design. Here, the writer used a Single Subject Researh (*SSR*). Tawny and Gast (1984) state that *SSR* is an integral part of the behavior-analytic tradition. The term refers to a research strategy developed to document changes in the behavior of the individual subject.

Through this research design, the researcher intended to determine the influence of the treatment (*intervention*) given to individuals repeatedly in a certain time. The model of research design was A-B-A, which had three phases; using two control conditions (*Baseline*) before and after the intervention. Controlling the intervention condition twice further enhanced confidence in a causal relationship between the intervention and behavior change. In this design there were three stages which consist of; *Baseline-1* (A-1), intervention (B), *Baseline-2* (A-2), with the following pattern:
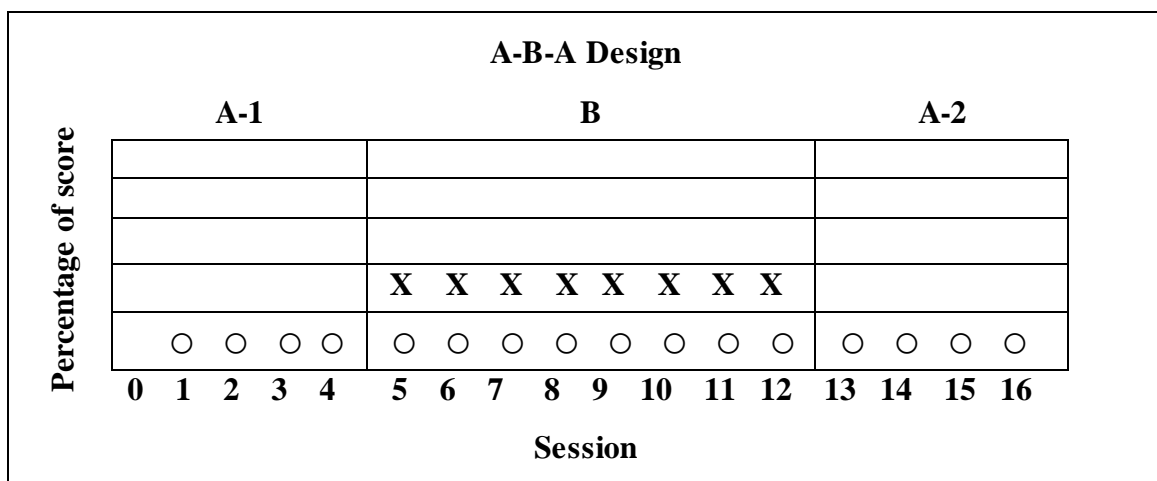

Figure 3.1 A-B-A Design

Baseline-1(A1) is a target behavior observation session of subject research before giving any intervention. In this session the target behavior is treated

naturally and continuously, until it gets a stable condition which becomes the basis for the next calculating. The stable condition is characterized by the number of observation points, located between the ranges above and below the range of the percentage of 85% -90%. The research subject in this session was treated naturally and continuously, until they reached a stable condition that became the basis for calculating the next.

Baseline-2(B) is an intervention activity undertaken after finding a stable and consistent numerical value at *Baseline-1* (A-1). Intervention was conducted through teaching learning sessions where the subjects are treated through the use of pictures repeatedly, in order to see the appearance of the target behavior that occurs during treatment given.

Baseline-2 (A-2) is the condition of the subject after intervention. The research subjects were treated naturally and repeatedly. It means that the subjects were not given the intervention with the use of pictures. This session was intended as a control for allowing intervention sessions to deduce the existence of a functional relationship between the independent variables and the dependent variable.

3.3 Research Site

This study was undertaken at a SMPLB Sungailiat It is located in Bangka Regency, the province of Bangka Belitung Province. The reasons for choosing this school were; first, English is taught in this school. Second, the convenience and the accessibility of the researcher to carry out the research. This was to follow Alwasilah (2011) who suggests that convenience factor should be taken into consideration to support the researcher in conducting the research. The third, The written permission from the principal of the SMPLB Sungailiat to conduct the study was requested and granted.

3.4 Participants of the Research

The participants of this study were two students with mild intellectual disability, AL and APN. The English teacher and the headmaster recommended the two students for participation in the study based on the characteristic of the researcher wanted, which was students with mild intellectual disability. The second grade students were chosen in this study with the assumption that they had already learned more English compared to the first grade students. In this study the third grade was not involved due to their final examination preparation. In sum, there were two second grade students and the researcher involved as the participants of the study. To preserve the confidentiality of the subjet, the name has been disguised under a pseudonym.

Table 3.1. The Student characteristics

Characteristic	AL	APN
Age	16	16
Gender	Male	Male
Diagnosis	Mental Devective	Mental Devective with low vision and phisical disability
IQ/instrument	60	59

Furthermore, agreements with the two students who were willing to participate in this experiment were verbally obtained. Verbal permission was also asked of the students who participated before they were asked about the targeted words. (see Figure 2.1)

3.5 The Research Variables

A variable is defined as an attribute of a person or an object which varies from one person to person or from object to object as it is stated by Hatch and Farhady (1982:12). However, in order to assess the influence of a treatment research, variables can be defined as independent and dependent variables.

According to Hatch and Farhady (1982:15), the independent variable is the major variable that a researcher hopes to investigate, and the dependent variable is the variable that the researcher observes and measures to determine the effect or the independent variable. Also, in the this research, the independent variable was known as the treatment variable. Thus, the independent variable of this research was the effectiveness of the use of picture in improving students' vocabularies.

The dependent variable is the variable that the independent variable is presumed to affect (Fraenkel and Wallen, 2007:43), and the dependent variable in this study was the students' vocabularies as it was the variable which was observed and was measured to determine the effect of the independent variable.

3.6 The Research Preparation

In preparing this research, the writer observed the spot of the research, gaining entry or establishing rapport (Alwasilah, 2011). After that, the preparation was focused on the teaching material and instruments. Besides, the writer needed to arrange the time allocation of the research.

First, the term material or often lesson is defined as a unified set of activities that cover a period of classroom time (Brown, 2001:149). Since this research engaged with the second grade students of SMPLB Sungailiat, the classroom time was thirty five minutes. Moreover, for the material, the writer was adapted to target vocabulary that gained.

Second, to accomplish every event of this research needed to be planned in a well-organized time schedule. In this case, this research was held for about one month and ten days from 31st October to 11th December 2014. Related to the final examination on odd semester 2013, so the schedule was changed. The writer revised the time. And the research was done after the students followed the examination.

Table 3.2 Time Schedule of the Research

No.	Day	Date	Time	Activities	Description
1.	Thursday	31 Oct	07.30 - 09.00	Observation	Join in

No.	Day	Date	Time	Activities	Description
		2013			English Class
2.	Monday	4 Nov 2013	08.05 – 08.40 08.40 – 09.15	- *Baseline-1* , 1st Session (Classical Learning)	Phase *Baseline* -1 35 minutes taking the test for Each session
3.	Wednesday	6 Nov 2013	08.05 – 08.40 08.40 – 09.15	- *Baseline-1*, 2nd Session (Classical Learning)	
4.	Friday	8 Nov 2013	08.05 – 08.40 08.40 – 09.15	- *Baseline-1*, 3rd Session (Classical Learning)	
5.	Monday	11 Nov 2013	08.05 – 08.40 08.40 – 09.15	- *Baseline-1*, 4th Session (Classical Learning)	
6.	Wednesday	13 Nov 2013	08.05 – 08.40 08.40 – 09.15	- Intervention, 1st Session (Using pictures)	Phase Intervention 35 minutes taking the test for Each session
7.	Friday	15 Nov 2013	08.05 – 08.40 08.40 – 09.15	- Intervention, 2nd Session (Using pictures)	
8.	Monday	18 Nov 2013	08.05 – 08.40 08.40 – 09.15	- Intervention, 3rd Session (Using pictures)	
9.	Wednesday	20 Nov 2013	08.05 – 08.40 08.40 – 09.15	- Intervention, 4th Session (Using pictures)	
10.	Friday	22 Nov 2013	08.05 – 08.40 08.40 – 09.15	- Intervention, 5th Session (Using pictures)	
11.	Monday	25 Nov 2013	08.05 – 08.40 08.40 – 09.15	- Intervention, 6th Session (Using pictures)	
12.	Wednesday	27 Nov 2013	08.05 – 08.40 08.40 – 09.15	- Intervention, 7th Session (Using pictures)	
13.	Friday	29 Nov 2013	08.05 – 08.40 08.40 – 09.15	- Intervention, 8th Session (Using pictures)	
14.	Monday	2 Dec 2013	08.05 – 08.40 08.40 – 09.15	- *Baseline-2* , 1st Session (Classical Learning)	Phase *Baseline* -2 35 minutes taking the test for Each session
15.	Wednesday	4 Dec 2013	11.00 – 11.35 11.35 – 12.10	- *Baseline-2*, 2nd Session (Classical Learning)	
16.	Friday	6 Dec 2013	11.00 – 11.35 11.35 – 12.10	- *Baseline-2*, 3rd Session (Classical Learning)	
17.	Monday	9 Dec 2013	08.05 – 08.40 08.40 – 09.15	- *Baseline-2*, 4th Session (Classical Learning)	
18.	Wednesday	11 Dec 2013	07.30 – 09.00	Farewell with the students and teachers, especially AL and APN	

3.7 Techniques of Collecting Data

To meet the purpose of the research, this study employed two techniques of collecting data namely tests and observations. Each of the techniques will be described below and the division of gathering the instruments is shown in Table 3.2.

3.7.1 Classroom Observation

The first instrument was classroom observation, where seventeen classroom observations were conducted before and during the research. To gain first-hand experience of the activity, the observation was done to get direct and actual information about students' activity in learning vocabulary. As Silverman (2001) said, the observation is aimed to get to know firsthand information about social processes in a naturally occurring context. As a participant observer in this study, the researcher acted as an observer and presented at the scene of action, interacted and participated in the activity.

Moreover, when the observations were taking place, the whole activities of the instructional practices were recorded using a video-tape recorder, as Richard (1990) emphasizes that the use of audio or video recording of lessons also provides a more reliable record of what actually happened in the classroom. During the observations, while "the memory of the observation was still fresh" (van Lier, 1988:241) the researcher wrote observation notes immediately after each session. The notes were made to record the information about when and how the classes began, and also the time of activities took place. This aimed to help "increase the researcher's sensitivity to her own classroom behavior and its effects and influence on students" (Allwright, 1988:77). Observation constituted a technique for evaluating the program as "it provides objective measures of pre-to-post-training changes in students" (Allwright, 1988:260).

3.7.2 Tests

The test was used in this study was to identify students' vocabulary achievement. The data of this study is students' scores. They were assessed and scored on selected indicators in a theoretical framework.

3.7.2.1 Try out of test

A good test must be valid, and practicable (Heaton, 1995). Besides, Arikunto (2006:168) states that a good instrument must be achieved at least two important requirements, which are valid and reliable. For that reason, in this research, the writer tries out the instrument to another class in the same grade from another school (SMPLB Pangkalpinang) the try out test was examined to find out the instruments was appropriate or not before *Baseline-1*, intervention, and *Baseline* -2 was administered. Moreover, the writer first consulted the instrument to be supervised by *expert judgements* before the instrument was tested to the students. This try out test was conducted in one meeting of 35 minutes instruction, and this test involved four students who have the same characteristics. In this research, the students were asked to answer the test given. After twice tests obtained, the original scores were analyzed using Pearson Product Moment.

3.7.2.2 The Reliability Test

The test was tried out before it was determined as the fixed instrument in this study. It was tested in the class, not included, as the sample students. The purpose of trying out of the test in this design was to find out the reliability and difficulty level of the instrument. As Johnson and Christensen (2008:143) states that the test reliability refers to the consistency or stability of the test scores. A test will have high reliability if it gives a consistent result. The consistency of an instrument is to minimize the influence of the scoring chance or other variables unrelated to the intent of the measure.

3.7.2.3 The Validity Test

A good test should have, at least, three characteristics; namely validity, reliability and practicality (see Harries,1979; Heaton,1988; Sudjana,2006). Validity test aimed to find the correspondence between the objective measurement gauges, or search for correspondence between measurements with what is to be measured, so that the learning result of the test can be said to be valid when the tests actually measure the learning outcome. Instruments which were used were validated by the expert or teachers who are competent in the field. The experts were asked their opinions about the instrument that had been developed. The experts made a decision: whether the instrument could be used without any improvement, need improvement or possibly overhauled. Data obtained through expert judgment were calculated using the formula:

$$P = \frac{\sum n}{\sum N} \, X \, 100\%$$

Note :

$\sum n$ = amount of match

$\sum N$ = amount *expert-judgement*

P   = percentage

Thus, the data instrument used was expected to be able to measure the ability of students with mild intellectual disability's vocabulary.

Table 3.3 Data Collecting Techniques Collected Based on Research Questions

Research Questions	Data Collecting Technique 1	Data Collecting Technique 2
1. Does the use of pictures increase the rate of acquisition of vocabulary by students with mild intellectual disability ?	Observation Video Records	Students' Vocabulary Test

2. What are the students' responses towards the implementation of the use of pictures?	Observation Video Records	

3.8 Data Analysis

Data analysis in this study was conducted over the course of the study. Ongoing data analysis and interpretation were done on the data from document analysis including observations and test. Each steps of analysis of the two sources of data was given in the following section.

3.8.1 Classroom Observation

Data from the observations were analyzed descriptively. This is to follow Cresswell (1994) who says that data that emerge should be reported in words (primarily the participants' word). The data analysis process was commenced by making a verbatim transcription of classroom interactions. Then, the transcription was read repeatedly. During the reading process, the researcher employed coding activity by matching the data with the research questions. This coding process was aimed at fracturing the data and rearranging them into categories that facilitate the comparison of data within and between these categories (Maxwell 1996:78)

3.8.2 Tests

After conducting the research, the writer obtained the score test related to the teaching vocabulary to Students with intellectual disability. The data were analyzed using descriptive statistics to obtain a clear picture of the results of interventions to increase the understanding of the English language vocabulary for students with mild intellectual disability after a given intervention within a specific period by using pictures and were presented in graphical form.

In the *Baseline* A-1 the students were given a test for four times until the data score in this phase stabilize, during this phase the target behavior (the students) has not given any intervention. Introduce intervention (B), the student were given intervention by using pictures for eight times. To control whether there

is any functional relation between independent and dependent variable, the next step was by giving test again to withdraw the intervention and return to *Baseline* conditions A-2, without giving any intervention. The score test in the A-1, B, and A-2 are raw score, and not analysed yet.

The data obtained are the mean score of student with the intellectual disability vocabulary test. The data analysis used in this study is analysis of changes within condition which is concerned primarily with the stability of the data and analysis of changes between condition which is a stable data path should be present in the condition immediately preceding the condition being analyzed.

The criterion/ component used to analyse the number of data points plotted within a condition are condition length, trend direction of slope, level stability, level change within a condition, data path within the trend, change one variable at a time, percentage overlap.

The use of this analysis was expected to see a clear picture of the implementation of the experiment before subjects received treatment at *Baseline* conditions and after obtaining intervention efforts over time.

AL's Testing Process
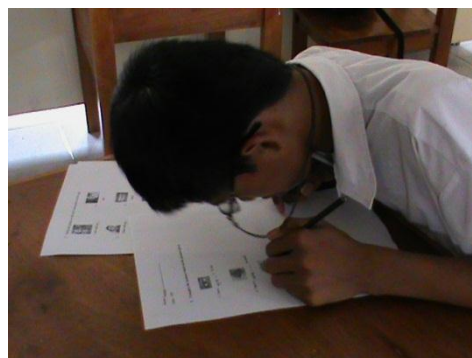
APN's Testing Process

3.9 Concluding Remark

        This chapter has outlined the research methodology and design applied in this study. It has discussed how this study was conducted. The research design, research site and participants techniques of collecting data and data analysis have been discussed clearly. The next chapter will discuss the result and finding of the research done by the researcher.