CHAPTER III

RESEARCH METHODOLOGY

This chapter will outline the design of the research, site and participants of the

study, and data collection techniques. The method presented is expected to serve

supporting and valid data in order to help the researcher to directional to the study.

The maximum result is expected to be able in answering the research questions.

3.1 Design of the Research

The researcher plans to do the research based on principal quantitative and

qualitative research. To answer the research question number one, the study will

focus on an experiment design as long as researcher will conduct the research more

than just observing the subject but measuring the performance of students This study

attempts at testing an idea (practice or procedure) to determine whether it influences

an outcome or dependent variable (Creswell, 2008: 299). The type of experimental

design of this research will be a quasi-experimental assignment because of inability

of the experimenter to randomly assign the existing class. Randomly assigning

students to the new group will disrupt classroom learning (Creswell, 2008: 134). To

answer the research question number two, the study will descriptively analyze how is

the teacher's perception towards students speaking skill achievement after using

performance based assessment. In order to find the answer of the two research

Suhaimi Tegamuni, 2012

58

questions above, some data collection techniques with research tools are delivered to obtain the appropriate data. There were pre-test and post-test and also questionnaire will be employed in order to answer the research questions. Through this methodological and some additional aspect within hopefully will support the research finding more reliable.

The treatment to the experimental group will be the material of speaking therefore the form of experimental design will be:

Table 3.1

Experimental design

Group	Pre-test	Treatment		Post-test
		Progress test-	Progress test-2	Ā
		1		•/
Control	01	X1	X2	O2
Experiment	O3	X1	X2	O4

Explanation:

O : Pretest and posttest of speaking skill material

X1 : Progress test

X2 : Progress test

The experimental design used in this study is in the form of quasiexperimental. The participant firstly will be pre tested both control and experimental group but treated differently and at the end they will be given the post test. Both pretest and posttest are given the same instrument of test specifically as below.

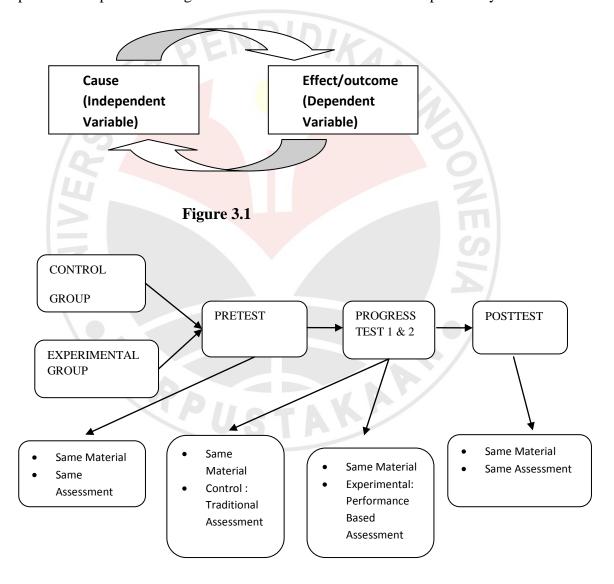


Figure 3.2

3.2 Site and Participant

The researcher plans to conduct this research in one RSBI elementary school in Ternate. This site is chosen because this school was one of popular school in Ternate, and located in researcher's hometown. Therefore it is possible for the researcher to gain more information related to this research. Other interest coming from the researcher's problem stated in this research problem that researcher wants to find out the performance based assessment on young learner's speaking skill. The participants will be students from the forth and fifth grade of that school. Because students at this stage are already familiar with English teaching and for the extent that at this stage it is proper to assess their performance, and the second participant will be the English teacher from that school. In this research, the researcher will observe how is teacher's perception toward the effect of performance based assessment to young learners' speaking skill achievement. To get more information on young learners' speaking skill achievement in English after treatment especially in their performance assessment, researcher will give questioners for teachers.

In this study there will be two classes, grade 5 will be the control group and grade 4 will be the experimental group, under consideration that grade 5 is one level higher in learning English, so it is possible to set the students as control group. The participants will be at least 35 students which has the same material to be treated, it is speaking subject. From the two groups, the control group will be assessed using non performance based assessment (traditional assessment) and the experimental group

will be assessed using performance based assessment. In pretest both two group will be served same material and assessed in same way. In progress test and posttest there will be different assessment but still given the same material. The control group will be assessed using non performance based assessment (traditional assessment) and experimental group will be assess using performance based assessment.

3.3 Techniques of collecting the data

To collect the data, some possible techniques will be used in this research, for example test and delivering a questionnaire. But the supplementary tools also take into account in order to get more specific information.

3.3.1 Test

Test is a group of questions or exercises or other instrument that used to measure skill, intelligence development or achievement of an individual or group. Test may be constructed primarily as devices to reinforce learning and to motivate the students or primarily as a means of assessing the young learners' performance in the language (Heaton, 1995: 5).

Testing the ability to speak is a most important aspect of language testing. However, at all stages beyond the elementary level of mimicry and repetition it is an extremely difficult to test (Heaton, 1995: 88). The speaking test will be gathered from textbook for students in grade 4. In order to meet the validity and reliability, the test item will be tested and delivered to students at higher level.

3.3.1.1 Pre-test

The pretest is carried out to detect the starting skill of the student before the trial test of the appointed teaching model is conducted. The data taken from the result of pre-test represents the controlled variable to see the speaking skill equity in the control class as well as experimental class through the matching test. Both the material and assessment given to control and experimental group are the same.

3.3.1.2 Progress-test

The progress test is given to both control and experimental group in order to examine the assessment. The material given is still the same, but the treatment it self then differ from other treatment model because this experiment is willing to test the effectiveness of performance based assessment. Under the consideration that the performance based assessment is an assessment that has positive effect on learning (Moskal: 2003), so the treatment to the groups will be based on the assessment. The control group will be assessed using traditional assessment (paper and pencil test) and the experimental group will be assessed using performance based assessment (PBA).

3.3.1.3 Post-test

The post-test is principally conducted similarly as the pre-test. The difference lays only the test conducted on posttest. Both groups are tested using the same assessment, for example the paper and pencil test. The data in this post-test is used to test the hypothesis of the research. The implementation of this post-test is conducted

after the treatment on performance has been completed. This is intended to find out the extent of the performance based assessment implementation and its contribution to young learners' speaking skill. The control group and the experimental group will be assessed using traditional assessment (paper and pencil test). The differentiation of the test is aiming at finding how well the performance assessment will contribute to young learners' speaking skill achievement as they have tested in progress test 1 and 2.

3.3.1.4 Scoring

The instruments use in the research is intended to find and elicit the whole relevant data. The instruments are the speaking test and questionnaire form. The speaking test made in this research based on the principles of performance based assessment which requires young learners' to produce their skill naturally. In order to avoid the bias, some reflection of document analysis will be conducted, for example the researcher will study the lesson plan and the textbook used by the teacher and how the standardized assessment criteria usually used in order to avoid young learners' confuse.

The component scoring of young learners' ability in speaking as suggested by Hadley (2001) will be used in this research;

Table 3.2

Scoring

1. Accuracy

	- NIDIDI:
A	show exceptional control of required grammar concepts and
/6	correctness in variety of context
В	make some grammar mistakes that do not effect meaning
C	makes more serious mistakes that often give unintended
	meaning, although generally adequate
D	meaning generally obscured by grammar mistakes, very poor
10-	control of a wide range of concepts
E	meaning completely obscured by grammar mistakes, totally
	inadequate control

2. Fluency

A	normal, 'thoughtful'delay in formulation of thought into		
	speech, language flows, extended discourse		
В	take longer than necessary to organize thought, say more than		
	required		
С	speech somewhat disjointed because of pause, language is		
	very halting		
D	painful pauses make speech hard to flow, say less than		
	required		
Е	speech totally disjointed, long pause interrupt flow of thought		
	and meaning		

3. Vocabulary

A	very conversant with vocabulary required by given context(s),
	excellent control and resourcefulness
В	vocabulary mistakes generally do not affect meaning (wrong
	gender, wrong preposition, etc), attempts at
	resourcefulness

С	adequate, although more serious mistakes give unintended		
	meaning (wrong preposition, incorrect word choice,		
	mangled word, etc)		
D	meaning frequently obscured by minimal/inadequate of		
	vocabulary		
Е	meaning totally obscured, inadequate vocabulary		

4. Pronunciation

4. Pronunciation					
A	correct pronunciation and intonation, very few mistakes,				
	almost native-like				
В	some mispronunciation, meaning still clear				
C	pronounced foreign accent requiring extra-symphataetic-				
10-	listening comprehensible				
D	meaning frequently obscured by poor pronunciation,				
141	minimally comprehensible				
Е	no effort at all and sound often incomprehensible				

Weighting of Grades

$$A = 4.5 - 5.0 \rightarrow Accuracy \underline{x6} =$$

$$B = 4,0-4,4 \rightarrow Fluency x3 =$$

$$C = 3.5 - 3.9 \Rightarrow Pronunciation x4 =$$

$$D = 3.0 - 3.4 \rightarrow Vocabulary \underline{\hspace{1cm}} x7 =$$

E = below 3,0

For this kind of appraisal it is determined that the highest grade is 100 and the lowest is 0. The grading formula mentioned above is sufficient for the collecting of data needed in the completion of this research.

3.3.2 Questionnaire

Questionnaires are an inexpensive way to gather data from a potentially large number of respondents. Often they are the only feasible way to reach a number of large enough reviewers and the result being analyzed statistically. There are two types of questionnaire construction, a closed ended or open ended question. In open questions respondent use their own words to answer the questions, whereas in closed questions prewritten response categories are provided (Dawson, 2009: 89). There are some advantages and disadvantages which then as the consideration for the researcher to choose the most appropriate design for this research's questionnaire.

Table 3.3

The advantages of questionnaire

	Advantages	Disadvantages
Closed questions	Closed questions are quick to complete and straightforward to code, and how articulate the respondents are does not affect the data.	respondents to add any comments and explanations to the
Open-ended questions	Open-ended questions	The responses of open-
	could invite honest,	ended questions are
	personal comments from	difficult to code and to

However, some experts proposed to use the combination of the two approaches such as (Stone, 1993; Leung, 2001), but on researcher's opinion, it will be appropriate to use the close-ended question. Related to this research, Likert scale was used to measure the teacher's perception toward young learners' speaking skill achievement after treated by performance based assessment method and it based on three factors such as (1) the sensory of nature stimulus, (2) personal feelings, attitudes, drives and goals (3) previous related sensory experience (Sperling: 1987 in Fransisca: 2000). The first factor was related to teacher's response towards students behavior in using spoken language, the second factor was focused on teacher's feeling whether or not those students have used the spoken language in the classroom (concerning the opinion on 'happy', not 'happy') listening and seeing students performing the language, attitudes (concerning her opinion on 'motivated' or 'not motivated') listening and seeing the students performing the language, drives (concerning the teacher's opinion on 'excited' and 'not excited') listening and seeing the students performing the language, goals (focusing on teacher's opinion on 'facilitated' or not 'facilitated'). The last factor was associated with the teacher's opinion on the previous young learners' use of English Language. In order to make the questionnaire more complete and reliable, researcher will circulated the questionnaire to some of friends do research on Magister degree with different subject with researcher.

3.3.2.1 Questionnaire's scoring criteria

In order to understand how the scoring criteria of the questionnaire being applied, here is the presentation of questionnaire's scoring criteria which will be used in analyzing the teacher's perception in this research;

Questionnaire's Scoring Criteria

A. Sensory of the stimuli

Hearing →

1. word : 25%
2. phrase : 25%
3. sentence : 25%
4. text : 25%
------100%

Sight→

word : 25%
 phrase : 25%
 sentence : 25%
 text : 25 %

B. Teacher's personal feelings, attitudes, drives and goals

Feelings→

word : 25%
 phrase : 25%
 sentence : 25%
 text : 25%

Attitudes→

word : 25%
 phrase : 25%

3. sentence : 25% 4. text : 25%

-----100%

Drives→

word : 25%
 phrase : 25%
 sentence : 25%

4. text : 25%

-----100%

Goals→

word : 25%
 phrase : 25%
 sentence : 25%
 text : 25%

Previous related sensory experience

-----100%

Decisions:

91% - 100% : Very good

81% - 90% : Good

71% - 80% : Sufficient

61% - 70% : Poor

50% - 60% : Very poor

3.4 Procedures

This study will firstly analyze the literature and site of the research object, for example the syllabus and the lesson plan used in the teaching and learning process. The purpose of reviewing the lesson plan is, it will shape the understanding of how far do the students have learn by using the current assessment model especially for speaking subject. This will also shapes the understanding of what type of assessment

will best require to students and researcher could find the best solution relevant to the research. The use of textbook will be very important to learning process in the classroom, but it won't if the textbook material is not relevant to current regulation set by the government as it mentioned on the syllabus and the content standard, so the researcher will also reviewing the textbook. The last two materials will be reviewed are the test and questionnaire.

As mentioned before that this experimental research will be divided into two groups, the control and experimental group. Both groups will be served the pretest and the same speaking material subject. The experimental group will be assessed using the performance based assessment. After the treatment both two groups will be tested in posttest and later questionnaire will be delivered to the teacher in order to discover teacher's response of whether or not the performance based assessment will affect students speaking skill achievement.

3.5. Research Instruments

The instruments used to get the data were test (pretest and posttest) and questionnaire. The questionnaire is used only to get the information from the teacher. It is important to test the instrument before being delivered to the subject of research.

3.5.1 Validity

It is important to note that the good data and instrument will provide a good research evaluation. A good data is valid if it is appropriate with the real condition

(Arikunto: 2010). The most simplistic definition of validity is that it is the degree to which a test measured what it is supposed to measured (Gay, 1983: 110) or in general we could understand the meaning of validity by asking *does the instrument measure* what it is supposed to measure? (Kerlinger, 2000: 189) in Arikunto (2010).

There are two important concepts in interpreting the validity, those are accuracy and relevancy. The concept of accuracy dealing with how accurate the instrument is to identify the measuring aspects or in other words how accurate the instrument is in describing the real condition. While the concept of relevance dealing with how the instrument is able to use as it intended to measure.

The validity of this research will be the content validity of the test. Before the test is delivered to the students of control and experimental group, first it has been recheck whether or not the test is suitable for students at that stage. Researcher takes the experimental group as sample base which its test and criterion should be compatible with the curriculum stated. This test first will be delivered to student in other higher classes, under the assumption that those higher classes have taken up with this material and English subject.

The test itself has been taken from the textbook and rematch with the curriculum and syllabus stated of the institute. In order to avoid biases, the component of the test is also recheck by the teacher using lesson plan which has been

made by the teacher. Based on the given statement, form of the test is attached in attachment page.

There are two important points to note on content validity: the validity of the grain, and the validity of the sampling. The validity of items related to the question how far the instrument items reflect the entire contents of the aspects or domains to be measured. The validity of sampling related to the question how far the instrument items are become a representative sample of the whole or a material aspect or domain being measured.

In order to make sure that the item of the test is valid or not, this research will apply an item analysis. Item analysis is aiming at identifying the good and bad items of the test. By applying this method, it will gives us information on how bad is the item test so as a testee or teacher we could fix it. The item test analysis will use Pearson Product Moment formula. To obtain the data, researcher will use Microsoft Excel as the tool to compute the item analysis using Pearson Product Moment formula in t Microsoft Excel. The formula will be

$$r_{xy} = \frac{N(\sum XY) - (\sum X)(\sum Y)}{\sqrt{[N} \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}$$

 r_{xy} = correlation coefficient

 $\sum X = \text{item score}$

 $\sum Y = \text{total of the item score}$

N = Subject

The value of r will be confirmed to the Pearson product moment table correlation coefficient with level of significance $\alpha = 0.05$ and the df = N-2

3.5.1.1 The Validity of Pretest Item

The interpretation of the coefficient correlation is shown on the table below

Table 3.4

The interpretation of the coefficient correlation

	No of Item	df= n-2	r value	r table value	Decision
	1	60	0.200	0.24	1: d
L	1	68	0, 399	0,24	valid
\	2	68	0,522	0,24	valid
	3	68	0,182	0,24	not valid
	4	68	0,336	0,24	valid
	5	68	0,305	0,24	valid
	6	68	0,381	0,24	valid
	7	68	0,263	0,24	valid
	8	68	0,378	0,24	valid
	9	68	0,317	0,24	valid
	10	68	0,413	0,24	valid
	11	68	0,481	0,24	valid
	12	68	0,340	0,24	valid

Based on the table shown above item number 3 is not valid because r value is 0,182 < 0,25 of r table. Item number 1,2, 4,5,6,7,8,9,10,11, and 12 are valid. So the invalid item will be ignored.

3.5.1.2 The Validity of Progress-test 1 Item

Table 3.5

The interpretation of the coefficient correlation

No of Item	df= n-2	r value	r table value	Decision
1	68	0,290	0,24	valid
2	68	0,149	0,24	not valid
3	68	0,294	0,24	valid
4	68	0,400	0,24	valid
5	68	0,262	0,24	valid
6	68	0,305	0,24	valid
7	68	0,340	0,24	valid
8	68	0,488	0,24	valid
9	68	0,545	0,24	valid
10	68	0,065	0,24	not valid
11	68	0,205	0,24	valid
12	68	0,357	0,24	valid

Based on the table shown above item number 2 and 10 is not valid because r value is 0,149 and 0,065 < 0,25 of r table. Item number 1,3,4,5,6,7,8,9,11, and 12 are valid. So the invalid item will be ignored.

3.5.1.3 The Validity of Progress test 2 Item

Table 3.6

The interpretation of the coefficient correlation

No of Item	df= n-2	r value	r table value	Decision
1	68	0,310	0,24	valid
2	68	0,417	0,24	valid
3	68	0,236	0,24	valid
4	68	0,066	0,24	not valid
5	68	0,465	0,24	valid
6	68	0,401	0,24	valid
7	68	0,189	0,24	not valid
8	68	0,304	0,24	valid
9	68	0,281	0,24	valid
10	68	0,318	0,24	valid
11	68	0,294	0,24	valid
12	68	0,454	0,24	valid
13	68	0,147	0,24	not valid
14	68	0,417	0,24	valid
15	68	0,356	0,24	valid

Based on the table shown above item number 4,7 and 13 is not valid because r value is lower than the r table. Item number 1,2,3,5,6,8,9,11, 12, 14and 15 are valid. So the invalid item will be ignored.

3.5.1.4 The Validity of Posttest Item

Table 3.7

The interpretation of the coefficient correlation

No of Item	df= n-2	r value	r table value	Decision
1	68	0,211	0,24	not valid
2	68	0,369	0,24	valid
3	68	0,241	0,24	valid
4	68	0,451	0,24	valid
5	68	0,277	0,24	valid
6	68	0,130	0,24	not valid
7	68	0,385	0,24	not valid
8	68	0,514	0,24	valid
9	68	0,426	0,24	valid
10	68	0,237	0,24	valid

11	68	0,175	0,24	not valid
12	68	0,213	0,24	valid
13	68	0,414	0,24	valid
14	68	0,250	0,24	valid
15	68	0,120	0,24	not valid

3.5.2 Reliability

Reliability of the data is an assumption behind all statistical procedures to inform the readers or researchers about how reliable the data are (Hatch and Lazaraton, 1991:529). The reliability of test in this research will include the difficulty index and distracter analysis.

3.5.2.1 The Difficulty Index of Pretest

It is important to note that the good test item isn't depending on how easy and difficult the test is. So teachers should able in arranging those test items appropriately. The difficulty index is marked between the number 0,00 ----- 1,0. Items with the difficulty index 0,00 show that the items is too difficult and items with the difficulty index of 1,0 means that the items is too easy.

Here is the illustration

The formula will be used is

$$P=\frac{B}{IS}$$

P = index of difficulty

B = students who answer the right items

JS = amount of students

The classification of P according to Arikunto (2010)

- a) 0.0 0.30 = difficult
- b) 0.30 0.70 = medium
- c) 0.70 1.00 = easy

Based on the table (attachment pg....), researcher could define some illustrations below;

Table 3.8
The difficulty index

No of Item	Right Answer	The difficulty	Decision
		index	
1	49	70,00	Medium
2	60	85,71	Very easy
3	52	74,29	Easy
4	38	54,29	Medium
5	55	78,57	Easy
6	55	78,57	Easy
7	47	67,14	Medium
8	41	58,57	Medium
9	66	94,29	Very easy
10	58	82,86	Easy
11	46	65,71	Medium
12	44	62,86	Medium

3.5.2.2 The Difficulty Index of Progress test 1

The formula used in analyzing the difficulty index of progress-test is the same as pretest. The difficulty index of progress test will be illustrates as follow.

Table 3.9
The difficulty index

No of Item	Right Answer	The difficulty	Decision
		index	
1	48	0.685714	Middle
2	62	0.885714	Easy
3	52	0.742857	Easy
4	29	0.414286	Middle
5	56	0.8	Easy
6	49	0.7	Middle
7	50	0.714286	Easy
8	33	0.471429	Middle
9	59	0.842857	Easy
10	59	0.842857	Easy
11	54	0.771429	Easy
12	39	0.557143	Middle

3.5.2.3 The Difficulty index of Progress test 2

Table 3.10
The difficulty index

No of Item	No of Item Right Answer		Decision
		index	

1	51	0.728571	Easy
2	51	0.728571	Easy
3	50	0.714286	Easy
4	42	0.6	Middle
5	52	0.742857	Easy
6	50	0.714286	Easy
7	46	0.657143	Middle
8	38	0.542857	Middle
9	58	0.828571	Easy
10	46	0.657143	Middle
11	52	0.742857	Easy
12	42	0.6	Middle
13	46	0.657143	Middle
14	51	0.728571	Easy
15	52	0.742857	Easy

3.5.2.4 The Difficulty index of Posttest

The formula used in analyzing the difficulty index of posttest is the same as pretest and progress-test. The difficulty index of progress test will be illustrates as follow.

Table 3.11
The difficulty index

No of Item	Right answer	Value of P	Categorization
1	43	0.614286	Middle
2	58	0.828571	Easy
3	55	0.785714	Easy
4	35	0.5	Middle
5	55	0.785714	Easy
6	58	0.828571	Easy
7	45	0.642857	Middle
8	27	0.385714	Middle
9	66	0.942857	Easy
10	56	0.8	Easy
11	57	0.814286	Easy
12	45	0.642857	Middle

13	40	0.571429	Middle
14	44	0.628571	Middle
15	54	0.771429	Easy

3.5.2.5 Discrimination index of Pretest

Generally, students who did well on the exam should select the correct answer to any given item on the exam. The **Discrimination Index** distinguishes for each item between the performance of students who did well on the exam and students who did poorly. For each item, researcher subtracts the number of students in the lower group who answered correctly from the number of students in the upper group who answered correctly. The result will be divided by the number of students in one group. The Discrimination Index is listed in decimal format and ranges between -1 and 1. The classification of discrimination index is based on Arikunto (2010:213)

0.0 - 0.20: poor

0.20 - 0.40: satisfactory

0,40-0,70: good

0,70 - 1,00: excellent

Based on the table on attachment (appendix...) the illustration will be as follows:

Table 3.12

Discrimination index

No of Item Upper Lower Di	ference Index of	Decision
---------------------------	------------------	----------

				Discrimination	
1	16	9	7	36,84	Satisfactory
2	19	11	8	42,11	Good
3	18	12	6	31,58	Satisfactory
4	13	7	6	31,58	Satisfactory
5	19	13	6	31,58	Satisfactory
6	17	10	7	36,84	Satisfactory
7	16	10	6	31,58	Satisfactory
8	16	8	8	42,11	Good
9	19	15	4	21,05	Satisfactory
10	18	12	6	31,58	Satisfactory
11	17	6	11	57,89	Good
12	16	7	9	47,37	Good

3.5.2.6 Discrimination index of Progress test 1

Table 3.13

Discrimination index

No of Item	Upper	Lower	Difference	Index of Discrimination	Decision
1	24	24	0	0	Poor
2	32	30	2	0.057143	Poor
3	34	18	16	0.457143	Good
4	18	11	7	0.2	Poor
5	30	26	4	0.114286	Poor
6	30	19	11	0.314286	Good
7	27	23	4	0.114286	Good
8	24	9	15	0.428571	Good
9	35	24	11	0.314286	Good
10	31	28	3	0.085714	Excellent
11	29	25	4	0.114285	Poor
12	26	13	13	0.371428	Satisfactory

3.5.2.7 Discrimination index of Progress test 2

Table 3.14

Discrimination index

No of Item	Upper	Lower	Difference	Index of	Decision
				Discrimination	
1	28	23	5	0.142857	Poor
2	27	24	3	0.085715	Poor
3	27	23	4	0.114286	Poor
4	22	20	2	0.057142	Poor
5	32	20	12	0.342857	Satisfactory
6	28	22	6	0.171429	Poor
7	26	20	6	0.171428	Poor
8	25	13	12	0.342857	Satisfactory
9	20	38	-18	-0.51429	Poor
10	31	15	16	0.457143	Good
11	27	25	2	0.057143	Poor
12	28	14	14	0.4	Poor
13	26	20	6	0.171428	Poor
14	30	21	9	0.257143	Satisfactory
15	30	22	8	0.228572	Satisfactory

3.5.2.8 Discrimination index of Posttest

Table 3.15

Discrimination index

No of Item	Upper	Lower	Difference	Index of	Decision
				Discrimination	
1	23	20	3	0.085714	Poor
2	34	24	10	0.285715	Satisfactory
3	30	25	5	0.142857	Poor
4	22	13	9	0.257142	Satisfactory
5	30	25	5	0.142857	Poor
6	31	27	4	0.114285	Poor
7	28	17	11	0.314286	Satisfactory
8	22	5	17	0.485714	Good
9	35	31	4	0.114286	Poor
10	32	24	8	0.228572	Satisfactory
11	30	27	3	0.085714	Poor
12	27	18	9	0.257143	Satisfactory
13	25	15	10	0.285715	Satisfactory
14	23	21	2	0.057143	Poor
15	29	25	4	0.114285	Poor

83

