**CHAPTER IV**

**RESULTS OF RESEARCH AND DISCUSSION**

**4.1 Results of the Research**

In this chapter the researcher would like to present the research findings and discuss how the researcher analyzed the data. The researcher was implemented at SD Swasta Bina Agung Deli Serdang in the academic year 2019/ 2020 consists of two classes, where in class V-A consists of 21 students, class V-B consists of 18 students, total of population are 39 students.

 The researcher analyzed the result of the test, which conducted in experimental group and control group to find out whether the use of series picture on the student’s to able in speaking improvement. Therefore it was aimed at describing the effect of problems based learning to the student’s ability in speaking improvement.

 In chapter IV the researcher would like to show the data that had been collect. By applying the test the researcher could get the data and then analyze the data statistically. First, the researcher presented the data being collected in the table show below. Based on the statistical analyze, it could be seen that the mean score of the experimental group experimental class and control class in Pre test and post test.

The following table is the score of experimental class and control class in pre test and post test.

**TABLE IV**

**THE SCORE OF EXPERIMENTAL GROUP IN PRE TEST AND**

**POST TEST USING PICTURE SERIES**

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **STUDENTS’ INITIAL NAME** | **PRE-TEST** | **POST-TEST** |
| 1 | ARS | 70 | 80 |
| 2 | APSS | 80 | 90 |
| 3 | AL | 80 | 90 |
| 4 | AMH | 60 | 95 |
| 5 | ATPK | 80 | 95 |
| 6 | CGH | 70 | 85 |
| 7 | DL | 80 | 90 |
| 8 | DT | 60 | 80 |
| 9 | EDSS | 70 | 90 |
| 10 | FS | 80 | 90 |
| 11 | FRS | 90 | 100 |
| 12 | FR | 85 | 95 |
| 13 | GNP | 75 | 90 |
| 14 | ISZ | 60 | 80 |
| 15 | JOS | 70 | 85 |
| 16 | KA | 85 | 90 |
| 17 | KIN | 80 | 95 |
| 18 | LMSN | 80 | 95 |
| 19 | MRCR | 80 | 100 |
| 20 | MS | 90 | 100 |
| 21 | MABS | 80 | 90 |
|  | Total Score | 1605 | 1905 |
| Mean | $\frac{∑}{N}= $ 76.42 | $\frac{∑}{N}= $ 90.71 |

 So, this is a total score of experiment group in pre-test and post-test using picture series :

1) In total score of experiment group in pre-test without picture series is 1605

2) In total score of experiment group in post-test using picture series is 1905

3) Mean of experiment group in pre-test without picture series is $\frac{∑}{N}= $ 76.42

4) Mean of experiment group in post-test using picture series is $ \frac{∑}{N}= $ 90.71

Based on the table above, it show that in experimental group, there were some students’ get bad score in pre test. As we know pre test would be administered at the beginning of the experiment to students’ speaking. This test was aim to know the students’ preliminary ability or input competence related to speaking.

So based on the result above, the researcher know if speaking improvement by using picture series can give effect for students, especially in students’ speaking. This method can give a chance for every student to show and to express everything that they know about their lesson. Because this method students as the center of learning.

From the table IV above, it can be seen that scores in both test were and from the students of the Experimental group. The students mean score between pre-test and post-test is 14.

**TABLE V**

**THE SCORE OF CONTROL GROUP IN PRE TEST AND**

**POST TEST WITHOUT PICTURE SERIES**

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **STUDENTS’ INITIAL NAME** | **PRE-TEST** | **POST-TEST** |
| 1. | MHA | 60 | 65 |
| 2. | NN | 80 | 90 |
| 3. | OBZ | 50 | 55 |
| 4. | PPM | 50 | 65 |
| 5. | RAP | 70 | 80 |
| 6. | RL | 75 | 80 |
| 7. | RBN | 80 | 90 |
| 8. | SS | 60 | 75 |
| 9. | SR | 65 | 80 |
| 10. | TH | 60 | 70 |
| 11. | TTL | 60 | 65 |

|  |  |  |  |
| --- | --- | --- | --- |
| 12. | TTS | 50 | 55 |
| 13. | YKBP | 50 | 55 |
| 14. | YL | 55 | 70 |
| 15. | YKN | 60 | 70 |
| 16. | YPM | 50 | 55 |
| 17. | ZLR | 50 | 65 |
| 18. | ZA | 60 | 70 |
|  | Total Score | 1085 | 1255 |
|  | Mean | $\frac{∑}{N}= $ 60.27 | $\frac{∑}{N}= $ 69.72 |

In this control group the researcher does not taught the students speaking improvement by using picture series or with another word the researcher taught them with conventionally way.

This is a total score of control group in pre-test and post-test without picture series:

1) In total score of control group in pre-test without picture series is 1085

2) In total score of control group in post-test using picture series is 1255

3)Mean of control group in pre-test without picture series is$ \frac{∑}{N}= $60.27

4)Mean of control group in post-test picture series using is$ \frac{∑}{N}= $69.72

Based on the result above, the researcher can know there are significant effects between experimental group and control group. The students get some effects if they study speaking using picture series. Describe about picture series it and to improve speaking skill with showing something by proof or evidence.

Table V above shows that score of the control group in pre-test and post-test are 60.27 and 69.72

**4.2 Data Analysis**

 Based on the table I and II above, the following table III is the analysis on the scores to find out deviation between pre-test and post-test in experimental group score.

**TABLE VI**

**THE DIFFERENCES SCORES BETWEEN PRE TEST AND**

**POST TEST OF THE EXPERIMENTAL CLASS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **NAME** | **PRE-TEST****(*T*1)** | **POST-TEST****(*T*2)** | **T2-T1** |
| 1. | ARS | 70 | 80 | 10 |
| 2. | APSS | 80 | 90 | 10 |
| 3. | AL | 80 | 90 | 10 |
| 4. | AMH | 60 | 95 | 35 |
| 5. | ATPK | 80 | 95 | 15 |
| 6. | CGH | 70 | 85 | 15 |
| 7. | DL | 80 | 90 | 10 |
| 8. | DT | 60 | 80 | 20 |
| 9. | EDSS | 70 | 90 | 20 |
| 10. | FS | 80 | 90 | 10 |
| 11. | FRS | 90 | 100 | 10 |
| 12. | FR | 85 | 95 | 10 |
| 13. | GNP | 75 | 90 | 15 |
| 14. | ISZ | 60 | 80 | 20 |
| 15. | JOS | 70 | 85 | 15 |
| 16. | KA | 85 | 90 | 5 |
| 17. | KIN | 80 | 95 | 15 |
| 18. | LMSN | 80 | 95 | 15 |
| 19. | MRCR | 80 | 100 | 20 |
| 20. | MS | 90 | 100 | 10 |
| 21. | MABS | 80 | 90 | 10 |
| ∑x | 300 |

 The researcher used the following formula :

**a. Mean**

The formula for calculating the mean is :

**M** =$\frac{\sum\_{}^{}X}{N}$

Where :

M = Mean

🞏X = The sum of scores

N = The number of the scores

Mean of the experimental class is :

M =$\frac{\sum\_{}^{}X}{N}$

M = $\frac{300}{21}$

**M =14**

T1 = The score of pre-test

T2 = The score of post-test

Based on the analysis above, it can be seen that the students score in post-test is higher than the students score in pre-test, its mean that there are improvement the students ability in speaking improvement with using picture series. Therefore, the mean of differences score between pre-test and post-test of experimental group is 14

**TABLE VII**

**THE DIFFERENCES SCORES BETWEEN PRE-TEST AND**

**POST-TEST OF THE CONTROL CLASS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **NAME** | **PRE-TEST****(*T*1)** | **POST-TEST****(*T*2)** | **T2-T1** |
| 1. | MHA | 60 | 65 | 5 |
| 2. | NN | 80 | 90 | 10 |
| 3. | OBZ | 50 | 55 | 5 |
| 4. | PPM | 50 | 65 | 15 |
| 5. | RAP | 70 | 80 | 10 |
| 6. | RL | 75 | 80 | 5 |
| 7. | RBN | 80 | 90 | 10 |
| 8. | SS | 60 | 75 | 15 |
| 9. | SR | 65 | 80 | 15 |
| 10. | TH | 60 | 70 | 10 |
| 11 | TTL | 60 | 65 | 5 |
| 12. | TTS | 50 | 55 | 5 |
| 13.. | YKBP | 50 | 55 | 5 |
| 14. | YL | 55 | 70 | 15 |
| 15. | YKN | 60 | 70 | 10 |
| 16. | YPM | 50 | 55 | 5 |
| 17. | ZLR | 50 | 65 | 15 |
| 18. | ZA | 60 | 70 | 10 |
| ∑x | 170 |

Mean of the control class is :

M = $\frac{\sum\_{}^{}X}{N}$

M = $\frac{170}{18}$

M = 9.5

T1 = The score of pre-test

T2 = The score of post-test

 Based on the analysis above, it can be seen that the students score in post-test is higher than the students scores in pre-test. Meanwhile, the mean of the differences score between pre-test and post-test of control group 9.5. Its mean that the differences of the students ability in experimental and control group is lowest than before.

**TABLE VIII**

**THE DEVIATION OF THE EXPERIMENTAL GROUP**

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **X** | **X1****(X-14)** | $$X\_{1}^{2}$$ |
| 1. | 10 | -4 | 16 |
| 2. | 10 | -4 | 16 |
| 3. | 10 | -4 | 16 |
| 4. | 35 | 21 | 441 |
| 5. | 15 | 1 | 1 |
| 6. | 15 | 1 | 1 |
| 7. | 10 | -4 | 16 |
| 8. | 20 | 6 | 36 |
| 9. | 20 | 6 | 36 |

|  |  |  |  |
| --- | --- | --- | --- |
| 10. | 10 | -4 | 16 |
| 11. | 10 | -4 | 16 |
| 12. | 10 | -4 | 16 |
| 13. | 15 | 1 | 1 |
| 14. | 20 | 6 | 36 |
| 15. | 15 | 1 | 1 |
| 16. | 5 | -9 | 81 |
| 17. | 15 | 1 | 1 |
| 18. | 15 | 1 | 1 |
| 19. | 20 | 6 | 36 |
| 20. | 10 | -4 | 16 |
| 21. | 10 | -4 | 16 |
| ∑x | 816 |

Where :

X1 = Deviation score of the experimental class

$X\_{1}^{2}$ = The square of the derivation score of the experimental

 Based on the analysis above, it can be seen that the standard of deviation of the students score of experimental group in the total is 816.

**TABLE IX**

**THE DEVIATION OF THE CONTROL GROUP**

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **X** | **X2****(X-9.5)** | $$X\_{2}^{2}$$ |
| 1. | 5 | -4.5 | 20.25 |
| 2. | 10 | 0.5 | 0.25 |
| 3. | 5 | -4.5 | 20.25 |
| 4. | 15 | 5.5 | 30.25 |
| 5. | 10 | 0.5 | 0.25 |
| 6. | 5 | -4.5 | 20.25 |
| 7. | 10 | 0.5 | 0.25 |
| 8. | 15 | 5.5 | 30.25 |
| 9. | 15 | 5.5 | 30.25 |
| 10. | 10 | 0.5 | 0.25 |
| 11. | 5 | -4.5 | 20.25 |
| 12. | 5 | -4.5 | 20.25 |
| 13. | 5 | -4.5 | 20.25 |
| 14. | 15 | 5.5 | 30.25 |
| 15. | 10 | 0.5 | 0.25 |
| 16. | 5 | -4.5 | 20.25 |
| 17. | 15 | 5.5 | 30.25 |
| 18. | 10 | 0.5 | 0.25 |
| Total | 294.5 |

Where :

X2 = Deviation score of the control class

$X\_{2}^{2}$ = The square of the derivation of the control

 Based on the analysis above, it can be seen that the standart deviation of the students score of control group in the total is 294.5

Based on the data above, the calculation is obtained as follows:

Mx = 14

Xy = 9.5

$X\_{1}^{2}$ = 816

$X\_{2}^{2}$ = 294.5

N1 = 21

N2 = 18

Df = Nx + Ny – 2

 = 21 + 18 – 2

 = 37

**b. T-test**

 the next calculation is applying t-test :

t = $\frac{M\_{X}-M\_{Y}}{\sqrt{\left(\frac{X\_{1}^{2}+X\_{2}^{2}}{N\_{1}+N\_{2}-2}\right)\left(\frac{1}{N\_{2}}+\frac{1}{N\_{1}}\right)}}$

t = $\frac{14-9.5}{\sqrt{\left(\frac{816+294.5}{21+18-2}\right).\left(\frac{1}{21}+\frac{1}{18}\right)}}$

t = $\frac{4.5}{\sqrt{\left(\frac{1.110.5}{37}\right)}.\left(\frac{2}{39}\right)}$

t = $\frac{4.5}{\sqrt{\left(30.01\right)}.(0.051)}$

t = $\frac{4.5}{\sqrt{1.530}}$

t = $\frac{4.5}{1.236}$

t = 4.0

 Based on the analysis above, it can be seen that score t-test is obtained 4.00, where deviation score of the experimental class > deviation score of the control class and result of t-test as follow test hypothesis using technique of analyzing the data.

**4.3 Testing Hypothesis**

 The hypothesis testing to know whether the hypothesis was rejected or accepted. The basic theory that researcher used as follow:

1. The hypothesis was accepted if the t-observed > t-table

2. The hypothesis was accepted if the t-observed < t-table

In this study, the result of computing the t-test shows that the t-observed was greatest than t-table or it can be showed as follow: t-observe is 4.00 and t-table is 2.00. it means that t-observed is the greatest that t-table (4.00 > 2.00) with df 37 at the level of significance a=0.04. Thus, the alternative hypothesis (Ha) is accepted. It can conclude that in the teaching and learning process by using picture series in speaking improvement is effective to use.

**4.4 Research Findings**

In this research is an experimental research. The writer found that the using picture consist picture series is effective to use in teaching and learning process in speaking improvement. It can be seen that the using picture media get the higher score than without picture media in the class. The greatest score by using picture is 100 and without using picture is 50 score. From the data analysis above.t-observed > t-table with df 37 at the level significance 0.040 so hypothesis is accepted well.

**4.5 Discussion**

The research identifies the significant effect of using picture series on students’ speaking improvement. The sample is taken from two classes of the five grade at SD Swasta Bina Agung Deli Serdang. The total sample is 39 students’. The research found that the application of picture series to the second year students’ of SD Swasta Bina Agung Deli Serdang could them to support their speaking learning. The research concluded that by using picture series on students’ speaking improvement had a significant effect. It can be seen from the data above. The students’ get the good score in speaking improvement by using picture series. Therefore, the finding of picture series is very benefit to increase students’ speaking improvement.

There are previous studies have been conducted by one researcher. Research was conducted by Maulita Hariyanti (2014) with title “The use Pictures to increase speaking skill” This research used CAR (Classroom Action Research) by using observation technique and interview test to collect data. The research was conducted at second grade SMP Istiqlal Deli tua and found the result the students’ could increase students’ achievement in speaking very well. It could be shown that students in grammar and vocabulary. And it could also increase students’ in speaking. The students were more active, more interested during the learning process, and respond the lesson well.

Based on the analyzed data, the researcher founded important points. The point related to the first research question. The question was “ is there any effect of picture on students’ speaking skill?”. Where the result of the first research showed that the students indicated improvement in their speaking skills, grammar and vocabulary. The achievement was gained through the use heroes pictures and the design of this research was classroom action research (CAR). And in this research where the result showed that the students indicated improvement in their speaking skills and vocabulary. The achievement was gained through the use picture series and design of this research was quantitative method. The design of this research was experimental with the result t-observe is 4.00 and t-table is 2.00. it means that t-observed is the greatest that t-table (4.00 > 2.00) with df 37 at the level of significance a=0.04.