

CHAPTER IV

RESULT OF FINDINGS AND DISCUSSION

In this chapter the researcher presents the result of the research in the field. The researcher present consists of description of data, hypothesis testing, and discussion.

A. Presentation of Data

Data presentation aims to present data after it has been collected, namely by obtaining researcher when conducting research. The data to be presented must be in the form of real data and data based on research instruments that have been used. And the researcher in this research used tests (pre-test and post-test) and documentation to collect data.

1. The Result of Data Test

The data of this research are values taken from the students' pre-test and post-test score what they do is reading comprehension especially in narrative text. This research was conducted by researcher at Senior High School 1 Galis starting August 25th, 2022, requested permission to conduct research conducted in the tenth grade at Senior High School 1 Galis and this research was accepted on the same day. Then the researcher continued his research which actually started on September 22nd, 2022 until October 6, 2022.

In this research, the researcher used Experimental design exactly Pre-experimental design which is to test where the students who are thought

by Classwide Peer Tutoring strategy as variable X (dependent variable) have better achievement in their reading comprehension as variable Y (independent variable) than those who are not and to measure significant is difference before and after using Classwide Peer Tutoring strategy towards students' reading comprehension of the tenth grade at Senior High School 1 Galis. The researcher also need students test scores as data to measure students' reading comprehension as well as documentation related to this research.

For the test in this research, the researcher used a multiple choice test, which consists of 20 questions pre-test and 20 questions post-test. Question from the test between the pre-test and post-test that will be given is a different question, but still based on the same topics that have been taught. Tests based on topics that have been taught is narrative text that is about folklore. Then for the test assessment, the researcher gave 5 points for 1 question for the correct answer. But for the wrong answer the researcher give 0 points. So students will get 100 marks if they answer 20 questions correctly.

2. The Result of Pre-Test

The researcher conducted a pre-test to students to find out students' scores in their reading comprehension of multiple choice narrative text in front of the researcher. The researcher gave a pre-test for students of class X IPA 1 at 08.25 a.m on September 22nd, 2022. Class X IPA 1 consists of 26 students who do a pre-test as a sample in this research. The researcher

used initial name to maintain sample privacy. And the result of the pre-test are present in the following table:

Table 1: The Result of Pre-test Score

X IPA 1

No	Name	Score
1.	A J	75
2.	A B D E	25
3.	B P A K	25
4.	B R	50
5.	E N F	40
6.	F S	80
7.	F F Y	40
8.	H D P A	55
9.	H F	90
10.	I A	75
11.	I T	85
12.	I S	45
13.	K S H	50
14.	K K	95
15.	L N	45
16.	M D S	95
17.	M F	60
18.	M M	75
19.	M R K	70
20.	M R R	65
21.	P C A H	95
22.	R T I	65
23.	R A F	80
24.	T F	75
25.	W S N F	80

26,.	Y A A	80
SUM		1715

In the table above (Table 1) are the pre-test values of X IPA 1 was before taught using Classwide Peer Tutoring strategy in students' reading comprehension correctly in narrative text. The total score obtained is 1715 and the mean is 65,96. Three students score 95, one students score 90, only one student score 85, four students score 80, four students score 75, one student score 70, two students score 65, one student score 60, one student score 55, two students score 50, two students score 45, two student score 40, and two students score 25. So the students who get scores above the minimum completeness criteria are 14 students and the remaining 12 students get scores below the minimum completeness criteria.

3. The Presentation of Treatment

In this research, the researcher gave 2 treatments to the tenth grade students of Senior High School 1 Galis. Before being given treatment, the researcher obtained the pre-test score of 26 students as the sample. The researcher gave treatment to the students using technique namely Classwide Peer Tutoring Strategy.

- a. In the first treatment in this research, the researcher started the research on Thursday on September 29, 2022 starting at 08.25 in class X IPA 1. The duration of time used is 80 minutes (2 JP). The process of giving this treatment was carried out in several steps by researcher to students. The steps for giving treatment are as follows:

- 1) The researcher enters the class and greets the students.
- 2) Researcher and students pray before the research begins.
- 3) The researcher greets and asks students how they are.
- 4) Then, the researcher checks the students attendance.
- 5) The next activity is the researcher applies the Classwide Peer Tutoring strategy by dividing students into 4 groups, 1 group consisting of 6-7 people.
- 6) The researcher asks students to gather in their groups, then gives instructions to open the students textbook on page 157-160.
- 7) After that, the researcher asked each group to pay attention to narrative text on page 157-159.
- 8) In each group, researcher have divided students who will become tutor and tutee. Tutor are students who have more abilities that the tutee and will deliver the material to the tutee as a listener.
- 9) The researcher asked the tutor to deliver material about the narrative text about folklore, namely Issumboshi.
- 10) The tutor explain the text from Issumboshi, while the tutee listens and notes important information or something that is not understood in the text.
- 11) After the tutor delivered the material to the tutee, the next activity the researcher gave some questions about content of the text.
- 12) The researcher asks each group to come forward and answer the questions that have been given by the researcher. This activity is to determine the students' reading comprehension ability.

13) Then, the researcher discusses together the questions that have been answered by beach group and provides assessment and evaluation to students.

14) This final activity, the researcher said thank you, prayed and said closing greetings.

- b. In the second treatment was different from the first treatment. In the second treatment starting on Thursday, October 6 2022. That starting at 08.25 in class X IPA 1. The duration of time used is 80 minutes (2 JP). The process of giving this treatment was carried out in several steps by researcher to students.

The steps for giving treatment are as follows:

- 1) The researcher enters the class and greet the students.
- 2) The researcher and students pray before the lesson begins.
- 3) The researcher greets and ask students how they are.
- 4) Then, the researcher checks the students attendance.
- 5) The researcher asks students to join their groups
- 6) After that, the researcher distributed a narrative text sheet about the folklore of Lake Toba to all students.
- 7) The researcher asked the tutor to convey material about the Lake Toba folklore to the tutee, while the tutee listened and noted important things from the tutor explanation.
- 8) The researcher supervises each group.

- 9) Then after the tutor finished delivering the material about the Lake Toba folklore, the tutor invited him to ask something he didn't understand.
- 10) If the tutor has explained all the material, the panelist will give a game in the form of a quiz.
- 11) The quiz is done if the researcher has read the question, then the student can raise his hand and whoever is faster then he will be the one to answer the question.
- 12) If the question is answered correctly, then the group gets 1 star, but if the answer is wrong, it will be thrown to another group. The quiz makes students enthusiastic to be able to answer the questions given by the researcher.
- 13) After the game is over, the researcher evaluates and assesses the students about their reading comprehension in narrative text about folklore using the Classwide Peer Tutoring Strategy.
- 14) At the end of the activity, the researcher said thank you, read the prayer, and said closing greetings.

4. The result of post-test

After the researcher gave treatment to the students of class X IPA 1 as much as 2 times treatment, then the researcher gave a post-test to find out how far the use of Classwide Peer Tutoring strategy was effective and made students' reading comprehension better on the narrative text that has been done. Post-test is given on the same day as the second treatment on Thursday the date October 6, 2022, for class X IPA 1 after being given the second

treatment. For the post-test questions, it is not much different from the pre-test, namely students must answer 20 questions in multiple choice form. Here is a table of data obtained from the post-test after the second treatment was given by the researcher:

Table 2: The Result of Post-test Score

X IPA 1

No	Name	Score
1.	A J	85
2.	A B D E	30
3.	B P A K	90
4.	B R	35
5.	E N F	60
6.	F S	100
7.	F F Y	35
8.	H D P A	65
9.	H F	65
10.	I A	75
11.	I T	60
12.	I S	70
13.	K S H	55
14.	K K	100
15.	L N	60
16.	M D S	75
17.	M F	75
18.	M M	70
19.	M R K	80
20.	M R R	75
21.	P C A H	90
22.	R T I	35

23.	R A F	50
24.	T F	70
25.	W S N F	70
26.	Y A A	90
SUM		1765

In the table above (table 2) the post-test scores of students' after being taught using Classwide Peer Tutoring strategies in class X IPA 1 on reading comprehension. The total post-test scores 1765 and the mean is 67,88. Those who got perfect scores or 100 were two students, three students scored 90, only one student score 85, one student scored 80, fourth students scored 75, fourth students score 70, three students score 65, three students score 60, one student score 55, three students score 35, and only one student got 30. So the students who get scores above the minimum completeness criteria are 15 students and the remaining 11 students get scores below the minimum completeness criteria.

5. Documentation

Documentation is looking for data about something or variable that includes note, transcript, books, newspaper, magazine, epigraphy, notes of the meeting, agenda, and others.¹ In this research documentation used by researcher when collecting data and making it easier for the researcher to collect data related to the material that will be targeted by later research. Some of documentation are:

- a. List of students' names for class X IPA 1 at Senior High School 1 Galis

¹ Nuryadi Dkk, *Dasar-Dasar Statistik Penelitian*, (Yogyakarta: Sibuku Media, 2017), 274.

- b. Lesson plan
- c. An overview of the research process when conducting research in class X IPA 1 at Senior High School 1 Galis
- d. Question sheet from pre-test and post-test
- e. Total students scores on pre-test and post-test
- f. Topic material taught (narrative text)

6. Validity and Reliability

a. Validity

Validity indicates the extent to which the measuring instrument is measure what you want. An instrument is considered valid if it can reveal data from the variable studied appropriately.² From several types of validity, so the researcher decided to use content validity in this research, because the researcher want to know the exten of the material that will be tested and taught by researcher in schools. Where knowledge and skills will also be assessed.

So in this research, the content of the material taught and applied to the questions given by the researcher to students was the same or matched. This can be said to be valid, because the material being taught and tested is both about narrative text on reading comprehension for students of class X IPA 1 at Senior High School 1 Galis. The following is a table of validity test result by using the SPSS application:

² Edisi Revisi, *Pedoman Karya Tulis Ilmiah* (Pamekasan: IAIN Madura, 2020), 24-25.

Soal_9	Pearson Correlation Sig. (1-tailed) N	,007 ,487 26	,007 ,487 26	,055 ,309 26	.482** ,006 26	,144 ,242 26	.388* ,025 26	.414 ,018 26	,007 ,487 26	1 26	,134 ,257 26	-.029 ,444 26	,055 ,395 26	,159 ,219 26	,159 ,219 26	,055 ,377 26	,287 ,142 26	,218 ,020 26	-.405* ,041 26	-.219 ,141 26	,023 ,456 26	.345* ,042 26
Soal_10	Pearson Correlation Sig. (1-tailed) N	,300 ,068 26	.456** ,010 26	-.098 ,318 26	.226 ,133 26	-.060 ,385 26	-.071 ,364 26	.134 ,257 26	.144 ,241 26	.134 ,257 26	1 26	,051 ,401 26	,061 ,384 26	.553** ,002 26	,051 ,401 26	,220 ,141 26	.462** ,009 26	-.040 ,423 26	.051 ,401 26	-.093 ,326 26	.482** ,006 26	.475** ,007 26
Soal_11	Pearson Correlation Sig. (1-tailed) N	-.065 ,376 26	-.234 ,125 26	.158 ,220 26	.219 ,142 26	.309 ,062 26	.283 ,081 26	-.029 ,444 26	.272 ,089 26	-.029 ,444 26	,051 ,401 26	1 26	.329 ,050 26	,097 ,318 26	-.083 ,443 26	.501** ,005 26	,040 ,222 26	.159 ,119 26	.097 ,118 26	.281 ,082 26	-.029 ,444 26	.376* ,029 26
Soal_12	Pearson Correlation Sig. (1-tailed) N	-.037 ,429 26	-.037 ,429 26	.188 ,180 26	.061 ,384 26	-.185 ,083 26	.256 ,103 26	.123 ,274 26	.283 ,081 26	.055 ,395 26	,061 ,450 26	.329 ,050 26	1 26	.158 ,220 26	.158 ,220 26	.350* ,040 26	,089 ,332 26	.055 ,395 26	.329 ,050 26	-.038 ,427 26	.055 ,395 26	.363* ,034 26
Soal_13	Pearson Correlation Sig. (1-tailed) N	.104 ,307 26	.272 ,089 26	.158 ,220 26	.051 ,401 26	-.114 ,090 26	-.051 ,401 26	.159 ,219 26	.104 ,071 26	.159 ,219 26	.553** ,002 26	,097 ,318 26	.158 ,220 26	1 26	,097 ,318 26	.329 ,045 26	.216 ,141 26	.347* ,041 26	.097 ,118 26	.020 ,061 26	.159 ,219 26	.459** ,009 26
Soal_14	Pearson Correlation Sig. (1-tailed) N	.272 ,089 26	.272 ,089 26	-.013 ,475 26	.219 ,142 26	.098 ,118 26	.116 ,287 26	.159 ,119 26	.104 ,071 26	.159 ,219 26	,051 ,401 26	-.083 ,443 26	.158 ,220 26	1 26	.158 ,220 26	.216 ,141 26	.347* ,041 26	.278 ,085 26	.281 ,082 26	.219 ,159 26	.159 ,219 26	.459** ,009 26
Soal_15	Pearson Correlation Sig. (1-tailed) N	-.197 ,167 26	-.197 ,167 26	.188 ,180 26	.378* ,028 26	.216 ,145 26	-.061 ,384 26	.233 ,126 26	-.037 ,429 26	.055 ,395 26	.220 ,141 26	.501** ,005 26	.350* ,040 26	.329 ,045 26	.158 ,220 26	1 26	.422* ,016 26	.411* ,018 26	.329 ,050 26	.209 ,152 26	.055 ,395 26	.520** ,003 26
Soal_16	Pearson Correlation Sig. (1-tailed) N	.031 ,439 26	.031 ,439 26	-.077 ,355 26	.462** ,009 26	.055 ,394 26	.137 ,252 26	.105 ,305 26	.031 ,439 26	.287 ,077 26	.462** ,009 26	,040 ,422 26	,089 ,332 26	.216 ,145 26	.216 ,145 26	.422* ,016 26	1 26	-.077 ,354 26	.391* ,024 26	-.010 ,481 26	.470** ,008 26	.468** ,008 26
Soal_17	Pearson Correlation Sig. (1-tailed)	.182 ,186	.007 ,487	.233 ,126	.134 ,257	.364 ,018	.214 ,147	.482 ,018	.182 ,186	.218 ,42	-.040 ,23	.159 ,119	.055 ,395	.347* ,041	.347* ,041	.411* ,018	-.077 ,354	1 26	-.029 ,444	.095** ,001	-.173 ,199	.496** ,005

	Sig. (1-tailed) N	,3 07 26	,4 44 26		,4 75 26	,2 19 26	,3 18 26	,4 22 26	,4 22 26	,1 93 26	,0 15 26	,3 43 26	,4 22 26	,1 31 26	,0 50 26	,0 24 26	,1 45 26	,2 19 26	,0 85 26	,2 20 26	,4 01 26	,011 26
Soal_4	Pearson Correlati on Sig. (1- tailed) N	,1 23 26	,5 90 26	- 0 13 26	1 33 26	,2 33 26	,1 58 26	- 0 77 26	,0 89 26	,1 01 26	- 2 45 26	,5 01 26	,0 89 26	,1 30 26	,3 50 26	,2 56 26	- 0 77 26	,0 55 26	,3 56 26	,1 88 26	,0 61 26	,387* 26
		,2 75 26	,0 01 26	,4 75 26		,1 26 26	,2 20 26	,3 55 26	,3 32 26	,3 12 26	,1 13 26	,0 05 26	,3 32 26	,2 64 26	,0 40 26	,1 04 26	,3 55 26	,3 95 26	,0 37 26	,1 80 26	,3 84 26	,025 26
Soal_5	Pearson Correlati on Sig. (1- tailed) N	,3 58 26	,0 23 26	,1 59 26	,2 33 26	1 47 26	,3 47 26	- 0 77 26	,1 05 26	- 2 59 26	- 1 27 26	,1 59 26	- 0 77 26	,0 79 26	,2 33 26	,2 87 26	,1 05 26	,0 23 26	- 0 29 26	,2 33 26	,1 34 26	,363* 26
		,0 36 26	,4 56 26	,2 19 26	,1 26 26		,0 41 26	,3 54 26	,3 05 26	,1 01 26	,2 69 26	,2 19 26	,3 54 26	,3 50 26	,1 26 26	,0 77 26	,3 05 26	,4 56 26	,4 44 26	,1 26 26	,2 57 26	,034 26
Soal_6	Pearson Correlati on Sig. (1- tailed) N	,1 04 26	,3 47 26	,0 97 26	,1 58 26	,3 47 26	1 35 26	- 1 35 26	- 1 35 26	,1 78 26	,0 30 26	,2 78 26	,0 40 26	,2 28 26	,1 58 26	,0 40 26	,0 40 26	,3 47 26	,0 97 26	,1 58 26	,2 19 26	,426* 26
		,3 07 26	,0 41 26	,3 18 26	,2 20 26	,0 41 26		,2 56 26	,2 56 26	,1 93 26	,4 41 26	,0 85 26	,4 22 26	,1 31 26	,2 20 26	,4 22 26	,4 22 26	,0 41 26	,3 18 26	,2 20 26	,1 42 26	,015 26
Soal_7	Pearson Correlati on Sig. (1- tailed) N	,0 31 26	- 0 77 26	,0 40 26	- 0 77 26	- 0 77 26	- 1 35 26	1 20 26	,3 20 26	,1 38 26	,1 77 26	- 1 35 26	,3 20 26	,3 69 26	,2 56 26	- 0 20 26	,4 90 26	,1 05 26	,3 91 26	,0 89 26	,1 37 26	,405* 26
		,4 39 26	,3 54 26	,4 22 26	,3 55 26	,3 54 26	,2 56 26		,0 55 26	,2 51 26	,1 93 26	,2 56 26	,0 55 26	,0 32 26	,1 04 26	,4 62 26	,0 06 26	,3 05 26	,0 24 26	,3 32 26	,2 52 26	,020 26
Soal_8	Pearson Correlati on Sig. (1- tailed) N	,1 95 26	,1 05 26	,0 40 26	,0 89 26	,1 05 26	- 1 35 26	,3 20 26	1 38 26	,1 77 26	,1 77 26	,3 91 26	- 0 20 26	,1 77 26	,0 89 26	,4 90 26	,1 50 26	- 0 77 26	,0 40 26	,2 56 26	,2 99 26	,468** 26
		,1 70 26	,3 05 26	,4 22 26	,3 32 26	,3 05 26	,2 56 26	,0 55 26		,2 51 26	,1 93 26	,0 24 26	,4 62 26	,1 93 26	,3 32 26	,0 06 26	,2 32 26	,3 54 26	,4 22 26	,1 04 26	,0 69 26	,008 26
Soal_9	Pearson Correlati on Sig. (1- tailed) N	,0 66 26	,2 22 26	,1 78 26	,1 01 26	- 2 59 26	,1 78 26	,1 38 26	,1 38 26	1 72 26	,2 72 26	,4 09 26	,3 62 26	,0 19 26	,1 01 26	- 0 86 26	,3 62 26	,2 22 26	,1 78 26	- 1 18 26	,2 47 26	,426* 26
		,3 74 26	,1 38 26	,1 93 26	,3 12 26	,1 01 26	,1 93 26	,2 51 26	,2 51 26	,0 89 26	,0 19 26	,0 35 26	,4 62 26	,4 62 26	,3 12 26	,3 38 26	,0 35 26	,1 38 26	,1 93 26	,2 83 26	,1 12 26	,015 26
Soal_10	Pearson Correlati on Sig. (1- tailed) N	,2 70 26	,0 79 26	,4 26 26	- 2 45 26	- 1 27 26	,0 30 26	,1 77 26	,1 77 26	,2 72 26	1 72 26	- 1 67 26	- 0 15 26	,1 33 26	,2 45 26	- 0 15 26	,5 61 26	,0 79 26	,2 28 26	,5 05 26	,2 25 26	,392* 26
		,0 91 26	,3 50 26	,0 15 26	,1 13 26	,2 69 26	,4 41 26	,1 93 26	,1 93 26	,0 89 26		,2 07 26	,4 71 26	,2 58 26	,1 13 26	,4 71 26	,0 01 26	,3 50 26	,1 31 26	,0 04 26	,1 34 26	,024 26
Soal_11	Pearson Correlati on Sig. (1- tailed) N	- 0 65 26	,3 47 26	- 0 83 26	,5 01 26	,1 59 26	,2 78 26	- 1 35 26	,3 91 26	,4 09 26	- 1 67 26	1 26	,2 16 26	,0 30 26	,1 58 26	,2 16 26	,0 40 26	,1 59 26	- 0 83 26	,1 58 26	,0 51 26	,426* 26
		,3 76 26	,0 41 26	,3 43 26	,0 05 26	,2 19 26	,0 85 26	,2 56 26	,0 24 26	,0 19 26	,2 07 26		,1 45 26	,4 41 26	,2 20 26	,1 45 26	,4 22 26	,2 19 26	,3 43 26	,2 20 26	,4 01 26	,015 26
Soal_12	Pearson Correlati on	,0 31 26	,1 05 26	,0 40 26	,0 89 26	- 0 77 26	,0 40 26	,3 20 26	- 0 20 26	,3 62 26	- 0 15 26	,2 16 26	1 26	- 0 15 26	,4 22 26	,1 50 26	,1 50 26	,1 05 26	,3 91 26	- 0 77 26	,1 37 26	,405* 26

	Sig. (1-tailed) N	,4 39 26	,3 05 26	,4 22 26	,3 32 26	,3 54 26	,4 22 26	,0 55 26	,4 62 26	,0 35 26	,4 71 26	,1 45 26		,4 71 26	,0 16 26	,2 32 26	,2 32 26	,3 05 26	,0 24 26	,3 55 26	,2 52 26	,020 26
Soal_13	Pearson Correlation Sig. (1-tailed) N	,0 85 26	- ,1 27 26	,2 28 26	,1 30 26	,0 79 26	,2 28 26	,3 69 26	,1 77 26	,0 19 26	,1 33 26	,0 30 26	- ,0 15 26	,1 30 26	,1 30 26	,3 69 26	,1 77 26	,4 91 26	,2 28 26	,1 30 26	,0 42 26	,463** 26
Soal_14	Pearson Correlation Sig. (1-tailed) N	- ,0 37 26	,0 55 26	,3 29 26	,3 50 26	,2 33 26	,1 58 26	,2 56 26	,0 89 26	,1 01 26	- ,2 45 26	,1 58 26	,4 22 26	,1 30 26	1 26	,2 56 26	- ,0 77 26	,0 55 26	,1 58 26	- ,1 38 26	,0 61 26	,408* 26
Soal_15	Pearson Correlation Sig. (1-tailed) N	,0 31 26	,1 05 26	,3 91 26	,2 56 26	,2 87 26	,0 40 26	- ,0 20 26	,4 90 26	- ,0 86 26	- ,0 15 26	,2 16 26	,1 50 26	,3 69 26	,2 56 26	1 26	,1 90 26	,1 05 26	,2 16 26	,0 89 26	,1 37 26	,468** 26
Soal_16	Pearson Correlation Sig. (1-tailed) N	,1 95 26	,1 05 26	,2 16 26	- ,0 77 26	,1 05 26	,0 40 26	,4 90 26	,1 50 26	,3 62 26	,5 61 26	,0 40 26	,1 50 26	,1 77 26	- ,0 77 26	- ,1 90 26	1 26	,1 05 26	,2 16 26	,4 22 26	- ,0 25 26	,468** 26
Soal_17	Pearson Correlation Sig. (1-tailed) N	,0 07 26	,0 23 26	,1 59 26	,0 55 26	,0 23 26	,3 47 26	,1 05 26	- ,0 77 26	,2 22 26	,0 79 26	,1 59 26	,1 05 26	,4 91 26	,0 55 26	,1 05 26	,1 05 26	1 26	,3 47 26	,0 55 26	,3 08 26	,430* 26
Soal_18	Pearson Correlation Sig. (1-tailed) N	- ,0 65 26	- ,2 17 26	,2 78 26	,3 56 26	- ,0 29 26	,0 97 26	,3 91 26	,0 40 26	,1 78 26	,2 28 26	- ,0 83 26	,3 91 26	,2 28 26	,1 58 26	,2 16 26	,2 16 26	,3 47 26	1 26	,1 58 26	,0 51 26	,383* 26
Soal_19	Pearson Correlation Sig. (1-tailed) N	- ,0 37 26	,4 11 26	,1 58 26	,1 88 26	,2 33 26	,1 58 26	,0 89 26	,2 56 26	- ,1 18 26	,5 05 26	,1 58 26	- ,0 77 26	,1 30 26	- ,1 38 26	,0 89 26	,4 22 26	,0 55 26	,1 58 26	1 26	- ,0 98 26	,428* 26
Soal_20	Pearson Correlation Sig. (1-tailed) N	,6 13 26	- ,0 40 26	,0 51 26	,0 61 26	,1 34 26	,2 19 26	,1 37 26	,2 99 26	,2 47 26	,2 25 26	,0 51 26	,1 37 26	,0 42 26	,0 61 26	,1 37 26	- ,0 25 26	,3 08 26	,0 51 26	- ,0 98 26	1 26	,441* 26
		,0 39 26	,3 69 26	,1 31 26	,2 64 26	,3 50 26	,1 31 26	,0 32 26	,1 93 26	,4 62 26	,2 58 26	,4 41 26	,4 71 26		,2 64 26	,0 32 26	,1 93 26	,0 05 26	,1 31 26	,2 64 26	,4 19 26	,009 26
		,4 37 26	,3 95 26	,0 50 26	,0 40 26	,1 26 26	,2 20 26	,1 04 26	,3 32 26	,3 12 26	,1 13 26	,2 20 26	,0 16 26	,2 64 26		,1 04 26	,3 55 26	,3 95 26	,2 20 26	,2 51 26	,3 84 26	,019 26
		,0 31 26	,3 05 26	,0 24 26	,1 04 26	,0 77 26	,4 22 26	,4 62 26	,0 06 26	,3 38 26	,4 71 26	,1 45 26	,2 32 26	,0 32 26	,1 04 26		,1 77 26	,3 05 26	,1 45 26	,3 32 26	,2 52 26	,008 26
		,1 95 26	,3 05 26	,1 45 26	,3 55 26	,3 05 26	,4 22 26	,0 06 26	,2 32 26	,0 35 26	,0 01 26	,4 22 26	,2 32 26	,1 93 26	,3 55 26	,1 77 26		,3 05 26	,1 45 26	,0 16 26	,4 52 26	,008 26
		,0 07 26	,4 56 26	,2 19 26	,3 95 26	,4 56 26	,0 41 26	,3 05 26	,3 54 26	,1 38 26	,3 50 26	,2 19 26	,3 05 26	,0 05 26	,3 95 26	,3 05 26	,3 05 26		,0 41 26	,3 95 26	,0 63 26	,014 26
		,0 65 26	,1 44 26	,0 85 26	,0 37 26	,4 44 26	,3 18 26	,0 24 26	,4 22 26	,1 93 26	,1 31 26	,3 43 26	,0 24 26	,1 31 26	,2 20 26	,1 45 26	,1 45 26	,0 41 26		,2 20 26	,4 01 26	,027 26
		,0 37 26	,0 18 26	,2 20 26	,1 80 26	,1 26 26	,2 20 26	,3 32 26	,1 04 26	,2 83 26	,0 04 26	,2 20 26	,3 55 26	,2 64 26	,2 51 26	,3 32 26	,0 16 26	,3 95 26	,2 20 26		,3 18 26	,015 26
		,6 13 26	,4 23 26	,4 01 26	,3 84 26	,2 57 26	,1 42 26	,2 52 26	,0 69 26	,1 12 26	,1 34 26	,4 01 26	,2 52 26	,4 19 26	,3 84 26	,2 52 26	,4 52 26	,0 63 26	,4 01 26	,3 18 26		,012 26

Total	Pearson Correlation	.352*	.340*	.448*	.387*	.363*	.426*	.405*	.468**	.426*	.392*	.426*	.405*	.463**	.408*	.468**	.468**	.430*	.383*	.428*	.441*	1
	Sig. (1-tailed)	.039	.045	.011	.025	.034	.015	.020	.008	.015	.024	.015	.020	.009	.019	.008	.008	.014	.027	.015	.012	
	N	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26

** . Correlation is significant at the 0.01 level (1-tailed).

* . Correlation is significant at the 0.05 level (1-tailed).

b. Reliability of the pre-test

a) The analysis reliability of pre-test with manual

In this research, the researcher used K-R 21 for the reliability of the instruments because of it was accordance with the number of questions that would be given, namely 40 questions and including even. K-R 21 is used for items on the instrument are scored as true of false as categorical scores, responses are not affected by speed, and items measure common factors.

This formula of Kuder Richardson that would be uses in this research, a follow.³

$$r_{11} = \left(\frac{k}{k-1} \right) \left(1 - \frac{M(k-M)}{kv_t} \right)$$

Note:

r_{11} = Instrument reliability

K = Number of the items on the test

M/Mt = Means score

V_t = Total variances

³ Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, 232.

Then in this research, the researcher took the result of the calculation of r_{11} compared with r_{table} product moment of 5% significance. If it is known that r_{11} is greater than r_{table} , so it's reliable. Then, there are several steps in analyzing the data obtained from the study (pre-test and post-test) are as follows:

1) Firstly, create a table containing the number of students as a sample.

Then, enter a student's grade for each item from questions 1-20. After that the total score of each students (X/X_t). Then, enter the sum of the scores of each students squared (X_t^2).

Table 5: Each Item of Pre-test Score

No	Score Of Each Item																				Xt	Xt ²
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
1	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0	1	1	1	1	1	15	225
2	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0	0	0	1	5	25
3	0	0	0	0	0	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	5	25
4	1	1	1	0	0	0	0	1	0	0	0	1	1	1	0	0	1	1	1	0	10	100
5	1	0	0	0	1	1	1	0	1	0	0	0	0	1	0	0	1	0	1	0	8	64
6	1	1	1	1	1	0	1	0	1	1	1	0	1	0	1	1	1	1	1	1	16	256
7	1	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	1	1	1	8	64
8	1	1	0	1	1	0	1	1	0	1	0	0	0	0	0	1	0	1	1	1	11	121
9	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	18	324
10	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	0	1	0	1	1	15	225
11	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	17	289

12	0	0	1	0	1	0	0	0	0	0	1	1	0	0	1	1	0	1	1	1	9	81
13	0	1	1	1	1	0	1	0	1	0	0	0	0	1	0	0	1	0	1	1	10	100
14	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	19	361
15	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	1	1	0	9	81
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	18	324
17	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	12	144
18	1	1	0	0	1	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	15	225
19	0	0	0	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	14	196
20	0	0	1	1	1	1	1	1	1	0	1	1	1	0	1	0	1	0	1	0	13	169
21	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19	361
22	0	1	1	1	0	0	1	0	1	1	0	1	1	1	1	1	0	1	0	1	13	169
23	1	0	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0	16	256
24	0	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	0	1	0	15	225
25	1	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	16	256
26	0	0	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	16	256
Σ																					342	4922

2) Secondly, find the mean of the total score by calculating using the

following formula:

$$M = \frac{\Sigma X}{N}$$

N

$$= \frac{342}{26}$$

26

$$= 13,153$$

- 3) Thirdly, find the total variance by calculating from the pre-test score using the following formula.

$$\begin{aligned}
 V_t &= \frac{\sum X_t^2 - (\sum X_t)^2}{n} \\
 &= \frac{4922 - \frac{(342)^2}{26}}{26} \\
 &= \frac{4922 - \frac{116,964}{26}}{26} \\
 &= \frac{4922 - 4498,61}{26} \\
 &= \frac{423,39}{26} \\
 &= 16,284
 \end{aligned}$$

- 4) Then, calculate using the following formula K-R 21:

$$\begin{aligned}
 R_{11} &= \left(\frac{k}{k-1} \right) \left(1 - \frac{M(k-M)}{k v_t} \right) \\
 &= \left(\frac{20}{20-1} \right) \left(1 - \frac{13,153 (20-13,153)}{20 \cdot (16,284)} \right) \\
 &= \left(\frac{20}{19} \right) \left(1 - \frac{13,153 (6,847)}{20 \cdot (16,284)} \right) \\
 &= 1,052 \left(1 - \frac{90,058}{325,68} \right)
 \end{aligned}$$

$$= 1,052 (1 - 0,276)$$

$$= 1,052 (0,724)$$

$$= 0,774$$

The following is a table of product moment correlation coefficient “r”

Df (Degree of freedom)	Critical value “r” or significant level
25	0,396

Based on the product moment correlation coefficient table “r” above, we can see if $r_{11} = 0,774$ which means that the pre-test value is higher than the r_{table} value. This means that the pre-test is reliable.

a) The analysis of reliability of pre-test with SPSS

Reliability Statistics

Cronbach's Alpha	N of Items
,774	20

Table 6: Each Item of Pre-test Score

X	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Xt	Xt ²
1	1	1	1	0	1	1	1	1	1	0	0	0	1	1	0	1	1	1	1	1	15	225
2	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0	0	0	1	5	25
3	0	0	0	0	0	1	0	1	1	0	1	1	0	0	0	0	0	0	0	0	5	25
4	1	1	1	0	0	0	0	1	0	0	0	1	1	1	0	0	1	1	1	0	10	100
5	1	0	0	0	1	1	1	0	1	0	0	0	0	1	0	0	1	0	1	0	8	64
6	1	1	1	1	1	0	1	0	1	1	1	0	1	0	1	1	1	1	1	1	16	256
7	1	1	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	1	1	1	8	64
8	1	1	0	1	1	0	1	1	0	1	0	0	0	0	0	1	0	1	1	1	11	121
9	1	1	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	18	324
10	1	1	1	0	1	1	1	1	1	1	1	1	1	0	0	0	1	0	1	1	15	225
11	1	1	1	0	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	17	289
12	0	0	1	0	1	0	0	0	0	0	1	1	0	0	1	1	0	1	1	1	9	81
13	0	1	1	1	1	0	1	0	1	0	0	0	0	1	0	0	1	0	1	1	10	100
14	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	19	361
15	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	1	1	0	9	81
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	18	324
17	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	12	144
18	1	1	0	0	1	0	1	0	1	1	0	1	1	1	1	1	1	1	1	1	15	225
19	0	0	0	1	1	0	1	0	1	0	1	1	1	1	1	1	1	1	1	1	14	196
20	0	0	1	1	1	1	1	1	1	0	1	1	1	0	1	0	1	0	1	0	13	169
21	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	19	361
22	0	1	1	1	0	0	1	0	1	1	0	1	1	1	1	1	0	1	0	1	13	169
23	1	0	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	0	16	256
24	0	1	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	0	1	0	15	225
25	1	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0	1	1	16	256
26	0	0	1	1	1	1	1	1	1	0	1	1	0	1	1	1	1	1	1	1	16	256
$\sum X$	15	15	16	14	21	12	19	15	19	14	18	16	18	18	16	17	19	18	23	19	342	4922
$\sum X^2$	15	15	16	14	21	12	19	15	19	14	18	16	18	18	16	17	19	18	23	19		

N	26																			
Varians	0,24	0,24	0,24	0,25	0,16	0,25	0,20	0,24	0,20	0,25	0,21	0,24	0,21	0,21	0,24	0,23	0,20	0,21	0,10	0,20
\sum Varians	4,31																			
Vt	16,28402367																			
n Soal	20																			
r11	0,774																			

c. Reliability of post-test

a) The analysis reliability of post-test with manual

1) Firstly, create a table containing the number of students as a sample.

Then, enter a student's grade for each item from questions 1-20.

After that the total score of each students (X/X_t). Then, enter the sum of the scores of each students squared (Xt^2).

Table 7: Each Item of Post-test

NO	Score of Each Item																				Xt	Xt ²
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	289
2	1	0	1	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	6	36
3	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	18	324
4	0	1	0	1	0	1	0	0	1	0	1	1	0	1	0	0	0	0	0	0	7	49
5	0	1	1	0	0	1	1	0	1	1	0	1	1	0	0	1	1	1	1	0	12	144
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	400
7	0	0	0	0	1	1	1	0	0	0	0	0	1	1	0	0	1	1	0	0	7	49
8	0	1	1	1	0	0	1	1	1	1	1	0	1	1	0	1	1	0	1	0	13	169

9	1	0	1	0	1	0	1	1	0	1	0	1	1	1	1	1	0	1	1	0	13	169
10	0	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	0	0	15	225
11	1	0	1	0	0	1	0	1	1	1	1	0	1	0	1	0	1	1	0	1	12	144
12	1	1	0	1	1	1	1	1	1	1	1	0	1	0	0	1	0	0	1	1	14	196
13	0	1	1	0	0	0	1	1	1	1	0	1	0	1	1	0	0	1	0	1	11	121
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	400
15	1	1	1	1	1	1	0	0	0	1	0	0	1	0	1	0	1	0	1	1	12	144
16	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	15	225
17	1	0	1	1	1	0	1	1	1	0	1	1	1	1	1	0	1	1	0	1	15	225
18	0	1	0	1	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	14	196
19	1	1	1	1	1	1	0	0	1	1	1	1	0	1	0	1	1	1	1	1	16	256
20	0	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	1	1	1	0	15	225
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	18	324
22	0	1	0	1	1	0	0	1	0	0	1	0	0	0	1	0	0	0	1	0	7	49
23	1	0	0	0	0	0	1	0	1	1	0	1	1	0	0	1	1	1	0	1	10	100
24	0	1	1	0	1	1	0	1	1	1	1	0	1	0	1	1	1	1	1	0	14	196
25	1	1	0	1	1	1	0	1	1	0	1	1	1	1	1	0	1	0	0	1	14	196
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	18	324
Σ																					353	5175

2) Secondly, find the mean of the total score by calculating using the

following formula:

$$= \frac{\Sigma X}{N}$$

$$= \frac{353}{26}$$

$$= 13,576$$

- 3) Thirdly, find the total variance by calculating from the post-test score using the following formula:

$$V_t = \frac{\sum X_t^2 - \frac{(\sum X_t)^2}{n}}{n}$$

$$= \frac{5175 - \frac{(353)^2}{26}}{26}$$

$$= \frac{5175 - 124609}{26}$$

$$= \frac{5175 - 4792,65}{26}$$

$$= \frac{382,35}{26}$$

$$= 14,705$$

- 4) Fourthly, Then calculate using the following formula K-R 21:

$$R_{11} = \left(\frac{k}{k-1} \right) \left(1 - \frac{M(k-M)}{k v_t} \right)$$

$$= \left(\frac{20}{20-1} \right) \left(1 - \frac{13,576 (20-13,576)}{20 \cdot 14,705} \right)$$

$$= \left(\frac{20}{19} \right) \left(1 - \frac{13,576 (6,424)}{20 \cdot 14,705} \right)$$

$$= 1,052 \left(1 - \frac{87,212}{294,6} \right)$$

$$= 1,052 (1-0,296)$$

$$= 1.052 (0,74)$$

$$= 0,748$$

The following is a table of product moment correlation coefficient “r”

Df (Degree of Freedom)	Critical Value "r" or Significant Level
25	5%
	0,396

Based on the product moment correlation coefficient table “r”

above, we can see if $r_{11} = 0,748$ which means that the post-test value is higher than the r_{table} value. This means that the post-test is reliable.

b) The analysis reliability of post-test with SPSS

Reliability Statistics

Cronbach's Alpha	N of Items
,748	20

Table 8: Each Item of Post-test

No	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Xt	Xt ²
1	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	289
2	1	0	1	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	6	36
3	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	18	324
4	0	1	0	1	0	1	0	0	1	0	1	1	0	1	0	0	0	0	0	0	7	49
5	0	1	1	0	0	1	1	0	1	1	0	1	1	0	0	1	1	1	1	0	12	144
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	400
7	0	0	0	0	1	1	1	0	0	0	0	0	1	1	0	0	1	1	0	0	7	49
8	0	1	1	1	0	0	1	1	1	1	1	0	1	1	0	1	1	0	1	0	13	169

9	1	0	1	0	1	0	1	1	0	1	0	1	1	1	1	1	0	1	1	0	13	169
10	0	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	0	0	15	225
11	1	0	1	0	0	1	0	1	1	1	1	0	1	0	1	0	1	1	0	1	12	144
12	1	1	0	1	1	1	1	1	1	1	1	0	1	0	0	1	0	0	1	1	14	196
13	0	1	1	0	0	0	1	1	1	1	0	1	0	1	1	0	0	1	0	1	11	121
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	400
15	1	1	1	1	1	1	0	0	0	1	0	0	1	0	1	0	1	0	1	1	12	144
16	1	1	0	0	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	15	225
17	1	0	1	1	1	0	1	1	1	0	1	1	1	1	1	0	1	1	0	1	15	225
18	0	1	0	1	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	0	14	196
19	1	1	1	1	1	1	0	0	1	1	1	1	0	1	0	1	1	1	1	1	16	256
20	0	1	1	1	1	1	0	0	1	1	1	1	1	1	1	0	1	1	1	0	15	225
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	18	324
22	0	1	0	1	1	0	0	1	0	0	1	0	0	0	1	0	0	0	1	0	7	49
23	1	0	0	0	0	0	1	0	1	1	0	1	1	0	0	1	1	1	0	1	10	100
24	0	1	1	0	1	1	0	1	1	1	1	0	1	0	1	1	1	1	1	0	14	196
25	1	1	0	1	1	1	0	1	1	0	1	1	1	1	1	0	1	0	0	1	14	196
26	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	18	324
$\sum x$	15	19	18	16	19	18	17	17	22	20	18	17	20	16	17	17	19	18	16	14	353	5175
$\sum x^2$	15	19	18	16	19	18	17	17	22	20	18	17	20	16	17	17	19	18	16	14		
N	26																					
Varians	0,24	0,20	0,21	0,24	0,20	0,21	0,23	0,23	0,13	0,18	0,21	0,23	0,18	0,24	0,23	0,23	0,20	0,21	0,24	0,25		
$\sum \text{Varians}$	4,26																					
Vt	14,7056213																					
n Soal	20																					
r11	0,748																					

d. Normality Test

The normality test was conducted to determine whether the sample used in this research was normally or not normally distributed

and to determine the formula to be used in data analysis. If the test is normally distributed, it uses the t-test formula, while if it not normally distributed, it uses the Wilcoxon test formula. It can be seen if the significance value (Sig) $> 0,05$ then the distribution is normal, if the significance value (Sig) $< 0,05$ then the distribution is not normal. To test the normality of the data in this research, the researcher used SPSS as follows:

Tabel 9: Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	,173	26	,044	,940	26	,134
Posttest	,120	26	.200*	,949	26	,223

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

So based on the table above, the normality test is normally distributed, because $L_{hitung} > L_{table}$. And the formula used in the data analysis is the formula using t-test.

7. Data analysis

In quantitative data analysis data, we must first test the normality test to find out what formula we will use. If the normality test is normally distributed, then use the t-test formula. If the distribution is not normal then the use Wilcoxon test formula.

After the researcher finished applying by giving treatment to class X IPA 1 students and getting a score of their pre-test and post-test, then the next researcher will analyze the data of this study by using the t-test formula because normality test is normally distributed. And following are the steps to calculate t-test formula score:

- a. Firstly, the researcher made a table containing the pre-test and post-test scores obtained by students and then determined the difference (D) of the two, namely by reducing pre-test and post-test scores obtained by students. Ad will be explained in the table below:

Table 10: Differences in Students Score of Pre-test and Post-test

NO	PRE-TEST	POST-TEST	D
1	15	17	2
2	5	6	1
3	5	18	13
4	10	7	3
5	8	12	4
6	16	20	4
7	8	7	1
8	11	13	2
9	18	13	5
10	15	15	0
11	17	12	5
12	9	14	5
13	10	11	1
14	19	20	1
15	9	12	3
16	18	15	3
17	12	15	3

18	15	14	1
19	14	16	2
20	13	15	2
21	19	18	1
22	13	7	6
23	16	10	6
24	15	14	1
25	16	14	2
26	16	18	2
Σ	342	353	79

So, based on the table above, the result of the students' pre-test are 342 and the result of the students' post-test is 353. So it can be concluded that the post-test score is higher than pre-test scores.

- b. Secondly, find Md (Mean Difference) of pre-test and post-test by calculating using the following formula:

$$\begin{aligned}
 M &= \frac{\sum D}{N} \\
 &= \frac{79}{26} \\
 &= 3,038
 \end{aligned}$$

- c. Thirdly, find the deviation of each subject (Xd) using the formula $X_d = D - M_d$. Below is a table of the results of calculating in finding the value of Xd.

Table 11: Score of Deviation of Each Subject (Xd)

NO	D	Xd
1	2	-1,038

2	1	-2,038
3	13	9,962
4	3	-0,038
5	4	0,962
6	4	0,962
7	1	-2,038
8	2	-1,038
9	5	1,962
10	0	-3,038
11	5	1,962
12	5	1,962
13	1	-2,038
14	1	-2,038
15	3	-0,038
16	3	-0,038
17	3	-0,038
18	1	-2,038
19	2	-1,038
20	2	-1,038
21	1	-2,038
22	6	2,962
23	6	2,962
24	1	-2,038
25	2	-1,038
26	2	-1,038
$\sum Md=3,038$		$\sum Xd=0,012$

- d. Fourthly, the next step is to calculate the sum of the squared scores that have been obtained from X_d and then add up the score to get the $\sum X_d^2$ (the sum of quadrate deviation) value.

Table 12: Score of the sum of quadrate deviation

NO	Xd	Xd²
1	-1,038	1,077
2	-2,038	4,153
3	9,962	99,241
4	-0,038	0,001
5	0,962	0,925
6	0,962	0,925
7	-2,038	4,153
8	-1,038	1,077
9	1,962	3,849
10	-3,038	9,229
11	1,962	3,849
12	1,962	3,849
13	-2,038	4,153
14	-2,038	4,153
15	-0,038	0,001
16	-0,038	0,001
17	-0,038	0,001
18	-2,038	4,153
19	-1,038	1,077
20	-1,038	1,077
21	-2,038	4,153
22	2,962	8,773
23	2,962	8,773
24	-2,038	4,153
25	-1,038	1,077
26	-1,038	1,077
$\sum Xd = 0,012$		$\sum Xd^2 = 174,95$

- e. Fifthly, then enter and calculate all the score results that have been obtained to be dependent on the t-test formula:

Table 13: Table of Coefficient t-test

NO	PRE-TEST	POST-TEST	D	Xd	Xd²
1	15	17	2	-1,038	1,077
2	5	6	1	-2,038	4,153
3	5	18	13	9,962	99,241
4	10	7	3	-0,038	0,001
5	8	12	4	0,962	0,925
6	16	20	4	0,962	0,925
7	8	7	1	-2,038	4,153
8	11	13	2	-1,038	1,077
9	18	13	5	1,962	3,849
10	15	15	0	-3,038	9,229
11	17	12	5	1,962	3,849
12	9	14	5	1,962	3,849
13	10	11	1	-2,038	4,153
14	19	20	1	-2,038	4,153
15	9	12	3	-0,038	0,001
16	18	15	3	-0,038	0,001
17	12	15	3	-0,038	0,001
18	15	14	1	-2,038	4,153
19	14	16	2	-1,038	1,077
20	13	15	2	-1,038	1,077
21	19	18	1	-2,038	4,153
22	13	7	6	2,962	8,773
23	16	10	6	2,962	8,773
24	15	14	1	-2,038	4,153
25	16	14	2	-1,038	1,077

26	16	18	2	-1,038	1,077
Σ	342	353	79	0,012	174,95

$$\begin{aligned}
 t &= \frac{Md}{\sqrt{\frac{\Sigma x^2 d}{N(N-1)}}} \\
 &= \frac{3,038}{\sqrt{\frac{174,95}{26(26-1)}}} \\
 &= \frac{3,038}{\sqrt{\frac{174,95}{26(25)}}} \\
 &= \frac{3,038}{\sqrt{\frac{174,95}{650}}} \\
 &= \frac{3,038}{\sqrt{0,269}} \\
 &= \frac{3,038}{0,518} \\
 &= 5,864
 \end{aligned}$$

So, after adding up all based on the above calculations on the t-test dependent on the results students' reading comprehension on the pre-test and post-test, it shows that the t-value is 5,864. And regarding the interpretation of this value further will explained in the next discussion.

B. Hypothesis Testing

In this research, this hypothesis testing aims to determine whether H_a (Alternative Hypothesis) rejected or accepted. So in this research where the researcher using a significance level of 5%. That is, if the t value is higher than

the t table value or has the same value, it means that Ha (Alternative Hypothesis) is accepted and Ho (Null Hypothesis) is rejected. However, if the value obtained by t arithmetic is lower than the value of t table, it means that Ho (Null Hypothesis) is accepted and Ha (Alternative Hypothesis) is rejected. In the calculation of the previous explanation, we can already know value of t_0 .

Then, the researcher determines its df (degrees of freedom). After that, the formula for df is $df = N - 1$, with N as the number of respondents or subjects, and the sample taken by the researcher in terms of this study consisted of 26 students. So, for df (degrees of freedom) of this research is $df = 26 - 1 = 25$. The next step, after knowing the df of this study, then look at the value of t on 5% significance level. We can see this in the table below as follows:

Critical Value of t-test

df (degree of freedom)	Critical Value of t-Test on Significance Level
	5%
25	2,06

After we know the value of t_0 which is 5,864, then we then compare it with the value contained in the t_t (t table). And the value of the t_t (t table) that has been contained above is 2,06. So in this research, the researcher concludes that if the Ha (Alternative Hypothesis) is accepted because $t_0 > t_t$ (t table) or $(5,864 > 2,06)$ while the Ho (Null Hypothesis) is rejected.

Then with statement above, it can be said that the Ha (Alternative Hypothesis) is certain accept that Classwide Peer Tutoring Strategy can be effective towards reading comprehension in students. Then, students are taught using a Classwide Peer Tutoring Strategy can better their reading

comprehension in the tenth grade at Senior High School 1 Galis. And the significance level is 5% $t_0 > t_t$ (t table) namely (5,864 > 2,06) so that the researcher can conclude that the H_a (Alternative Hypothesis) is accepted and the H_o (Null Hypothesis) is rejected.

C. Discussion

In discussing the problem of study in the first chapter, the researcher has carried out a research process from tests namely (pre-test and post-test) and documentation. And presenting research result based on findings in this research area. And a review of related theories and data analysis to clarify a finding.

In this research, the researcher will use a quantitative approach because the data to be studied in this research are in the form of numerical data and statistical procedures. Because the researcher wants to measure the effectiveness of one variable that is manipulated by another variable, the researcher will use a pre-experimental design, namely one group pre-test and post-test design.

This research has two problem of study, namely: *1. Do the students who are thought by Classwide Peer Tutoring strategy have better achievement in their reading comprehension than those who are not? 2. How significance is the difference before and after using Classwide Peer Tutoring strategy towards students' reading comprehension of the tenth grade at Senior High School 1 Galis?* And the next step is to find out the results obtained in the research, namely the researcher formulates the research problem from the research that will be carried out discussed below as follows:

1. The students who are thought by Classwide Peer Tutoring strategy have better achievement in their reading comprehension than those who are not.

In this research, the researcher discussed whether students who were taught using Classwide Peer Tutoring strategy would be better at their reading comprehension. And on discovery this research uses tests namely (pre-test and post-test) and documentation. And before the researcher applied a Classwide Peer Tutoring strategy to the students of class X IPA 1, so the researcher gave a pre-test to the students first. Then, after the researcher applied or gave treatment to the students for two treatments, then the researcher give post-test to students. After that, the researcher saw the difference in students scores obtained from the pre-test scores (before the researcher applied the Classwide Peer Tutoring strategy) and the post-test (after the researcher applied the Classwide Peer Tutoring strategy).

Next, before the researcher applied the first treatment, the researcher gave a pre-test first to the students on Thursday, September 22, 2022 at 08.25 WIB. Then at the first meeting on Thursday, September 29, 2022 at 08.25 WIB, the researcher taught in class X IPA 1 by giving treatment using Classwide Peer Tutoring strategy on narrative text. And for the second meeting on Thursday, October 6, 2022 at 08.25 WIB, the treatment is different from the first treatment, because the researcher gave quizzes to students to answer questions about narrative texts in folk legends, for students who can answer the quiz correctly, they will get one star from the researcher. After the researcher gave the final treatment to the students, the researcher gave a post-test.

Classwide Peer Tutoring is a strategy to assist teachers in the learning process in the classroom, where students are formed into several groups, some of which are tutors and tutees in delivering learning materials. This strategy can make students more active in class and interact with each other. With this strategy, it can help students in reading comprehension to be better. According to Greenwood in DuPaul et al, the implementation of Classwide Peer Tutoring is as follows:¹

a. Grouping

- 1) All students in the class are divided into two groups.
- 2) Installed as a tutor and tutee sits next to each other.
- 3) The tutor is equipped with a text containing academic material in accordance with the content to be taught.

b. Explanation

- 1) The tutor teaches part of the text to the tutee within a certain time.
- 2) Tutee respond that has verbally to the part being taught.
- 3) The tutor calculates points based on the correct answer given by the tutee.

c. Substitution

- 1) Both can switch roles when the set time is up.
- 2) In the tutoring session, the teacher records the points earned by each students.

¹ Dupaul, GJ dkk, "Peer Tutoring For Children With Attention Deficit Hyperactivity Disorder", *Jurnal Of Applied Behavior Analysis*, Vol. 31, No. 4, 579-592.

d. Achievements

- 1) The teacher adds up all the points obtained by each group.
- 2) The team with the most points will announced as the winner and given an award from another group.

e. Evaluation

- 1) The teacher provides an evaluation of the material that has been taught.²

In the statement above, because the researcher is in the process of applying a Classwide Peer Tutoring strategy to students who have followed this implementation, so that the process of implementing this strategy can run well and this research is **accepted** and in accordance with the theory contained in Chapter II. Then, it can be said that the Classwide Peer Tutoring strategy can make students' reading comprehension better than before.

Then, in this study the researcher took a sample of 26 students who would be investigated using the test as an instrument. In this research, the researcher used the t-test to analyze the data. In obtaining the data, the researcher also used two data for testing, namely by using pre-test and post-test. And the value of t that has been obtained by the researcher is by using the t-test formula is 5,864. So, that the value obtained is 5,864, which is a proven value of the effectiveness of the treatment that has been given by researcher to students as a the research sample on their reading comprehension. It means that the value obtained is 5,864 is value of the degree of effectiveness of the treatment in applying a Classwide Peer

² Ibid, 579-592.

Tutoring strategy towards students' reading comprehension in the tenth grade at Senior High School 1 Galis

The main purpose of this research is that researcher want to know the results of treatment that will be given by researcher to the students. And to find out the t value that has been obtained, which is 5,864 will be higher or lower. Therefore, the researcher will compare the calculated t value that has been obtained with the t_t (t table) value.

The researcher will calculate the number of df (degrees of freedom) using formula $df = N - 1$, then we can calculate it with $df = 26 - 1 = 25$, so the df of the study is 25. So based on the existing table, t_t (t table) from df that is 25 with a significance level f 5% which is 2,06. Based on the data analysis that has been described previously, which shows that the data obtained is **higher** than the t_t (t table) value, with the results obtained $5,864 > 2,06$.

In the problem of study of this research, it can be said that the students who are taught by Classwide Peer Tutoring strategy have better achievement in their reading comprehension of the tenth grade at Senior High School 1 Galis. Because based on the data that has been described previously, that the score obtained from the post-test is higher than the pre-test score of the tenth grade at Senior High School 1 Galis. So that the H_a (Alternative Hypothesis) is accepted while the H_o (Null Hypothesis) is rejected.

So based on the above statement in this research, using Classwide Peer Tutoring strategies can make students better at reading comprehension.

In addition, Classwide Peer Tutoring has several advantages for students, including the following:

- a. Students are motivated to become peer tutors.
- b. Can make easier for teachers, because teachers are assisted by students who have ability or the most accomplished in the class.
- c. Students can practice like being a teacher.
- d. Students are not afraid to ask questions if they do not understand the lesson, because guided by his own friend.
- e. The learning process will be more familiar, because it is done by the students themselves.³

So from the research that has been done, using Classwide Peer Tutoring can make students more active in the class, students will not be afraid to ask each other if something is not understood about the learning material, and the learning process will make them less awkward or more familiar with each other because they study with their own friends.

2. The difference students' reading comprehension before and after using Classwide Peer Tutoring strategy towards of the tenth grade at Senior High School 1 Galis

In this research, the results of the pre-test that had been carried out by students before applying the Classwide Peer Tutoring strategy got the lowest score of 25, the highest score of 95 with an average of 65,96. Based on these data, it can be concluded that the motivation and learning outcomes of students before applying the Classwide Peer Tutoring strategy to the reading

³ Istarani, *Kumpulan 39 Metode Pembelajaran*, 150

comprehension of the tenth grade at Senior High School 1 Galis are still in the poor or low category.

After applying the Classwide Peer tutoring strategy to students' reading comprehension, the researcher conducted a post-test. The results of the post-test that have been carried out have shown an increase in students activity in learning. It is shown that the highest score obtained by students is 100 while the lowest score is 30, the average obtained is 67,88. Based on the value of t_t (t table) with a significant level of 5%, which is 2,06 while the t value obtained is 6,178. If $5,864 > 2,06$, it can be concluded that H_a (Alternative Hypothesis) is accepted and H_o (Null Hypothesis) is rejected.