CHAPTER IV

RESEARCH FINDING AND DISCUSSION

This chapter presents three topics related to research finding that are the description of data, hypothesis testing and discussion.

A. The Description of Data

In this study, the researcher presented the data of students' score in reading comprehension between students who taught by using question answer relationship and students who taught without any strategy. Here, the researcher wanted to know the effectiveness of question answer relationship strategy on students' reading comprehension of eleventh graders at SMA Al-Azhaar Tulungagung in academic year 2017/2018. The effectiveness can be seen from the significant different score of students reading comprehension before and after being taught by using Question Answer Relationship (QAR). Here, the researcher conducted pre-test, giving treatments by using Question Answer Relationship (QAR) and post-test. Before and after doing treatments, researcher done the pre-test and the post-test. Pre-test and post-test were done to obtain students' reading comprehension score.

The scores are divided into five criterions. They are excellent, good, average, poor, and very poor. The student will categorize into excellent score if they got 86-100 score which means that they are able to understand most of the text and able to do test very well. The student will categorize into good score if they got 76-85 score which means that they are able to understand the text but have a little doubt. In this category they are able to do test well. The student will

categorize into average score if they got 56-75 score which means that they are able to understand the text a little and able to do test pretty well. The student will categorize into poor score if they got 46-55 score which means that they have a little understanding in reading and just do the test. The last criteria is the student will categorize into very poor score if they got 0-45 score which means that they do not have understanding in reading and cannot do the test well. (See table 4.1)

Table 4.1 The Score's Criteria

No	Interval Class	Criteria
1.	86-100	Excellent
2.	76-85	Good
3.	56-75	Average
4.	46-55	Poor
5.	0-45	Very Poor

1. The data of experimental class

After conducting pre-test and post-test for experimental class, the researcher obtained the data. The data are as follows:

Table 4.2 Students' reading comprehension score before and after being taught using Question Answer Relationship Strategy

No.	Name	Pre-Test Score	Post-Test Score
1.	AAA	55	65
2.	ANA	50	65
3.	AM	45	75
4.	BA	70	85
5.	DF	50	65
6.	DP	35	45
7.	FAP	-	75
8.	FNS	60	65
9.	FFNS	50	35
10.	HA	70	85
11.	HMH	-	80
12.	HDA	75	70
13.	IH	65	80
14.	LF	65	90

15.	MH	75	85
16.	MAS	85	85
17.	MASBA	35	50
18.	MAA	85	90
19.	MBFZ	55	75
20.	MS	75	80
21.	NAM	55	65
22.	NMA	35	70
23.	RDW	75	90
24.	SAN	35	85
25.	TSMP	55	75

Based on the table 4.2, there were 25 students as sample of the research. From the 25 students, there were 23 students who did both with the pre-test and post-test because both students (FAP and HMH) were sick when the pre-test took place. So, there were only 23 students of experimental class as the sample in this study. The descriptive statistic of experimental class is as follows:

a. Pre-test of Experimental Class

The researcher used SPPS 16.0 version to know the descriptive statistic and the percentage of students' pre-test in experimental class. The percentage divided into five criterions: excellent, good, average, poor, and very poor (see table 4.1). The result of the calculation is as follows:

Table 4.3 Descriptive Statistic of Pre-test

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pre_test	23	35	85	58.91	15.808
Valid N (listwise)	23				

Based on the table 4.3 above, it showed that the minimum score of pre-test was 35, the maximum score was 85, and the mean was 58.91.

Table 4.4 The Percentage of Students' Reading Comprehension before Taught by Using Questions Answer Relationship criteria

	Valid				
	Good	Average	Poor	Very Poor	Total
Frequency	2	9	7	5	23
Percent	8.7	39.1	30.4	21.7	100.0
Valid Percent	8.7	39.1	30.4	21.7	100.0
Cumulative Percent	8.7	47.8	78.3	100.0	

Based on the table 4.4, the researcher got percentages of the students' pre-test score of experimental class. It showed that there were 2 students (8.7 %) got good score, 9 students (39.1 %) got average score, 7 students (30.4 %) got poor score, and 5 students (21.7 %) got very poor score.

b. Post-test of Experimental Class

The researcher used SPPS 16.0 version to know the descriptive statistic and the percentage of students' post-test in experimental class. The percentage divided into five criterions: excellent, good, average, poor, and very poor (see table 4.1). The result of the calculation is as follows:

Table 4.5 Descriptive Statistic of Post-test

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
score post-test	23	35	90	72.83	14.758
Valid N (listwise)	23				

Based on the table 4.5 above, it showed that the minimum score of post-test was 35, the maximum score was 90, and the mean was 72.83.

Table 4.6 The Percentage of Students' Reading Comprehension after Taught by Using Questions Answer Relationship criteria

	Valid					
	Excellent	Good	Average	Poor	Very Poor	Total
Frequency	3	7	10	1	2	23
Percent	13.0	30.4	43.5	4.3	8.7	100.0
Valid Percent	13.0	30.4	43.5	4.3	8.7	100.0
Cumulative Percent	13.0	43.5	87.0	91.3	100.0	

Based on the table 4.6, the researcher got percentages of the students' post-test score of experimental class. It showed that there are 3 students (13.0 %) got excellent score, 7 students (30.4 %) got good score, 10 students (43.5 %) got average score, 1 student (4.3 %) got poor score, and 2 students (8.7 %) got very poor score.

2. The data of control class

After conducting pre-test and post-test for control class, the researcher obtained the data. The data are as follows:

Table 4.7 Students' reading comprehension score before and after being taught without using Question Answer Relationship Strategy

No.	Name	Pre-Test Score	Post-Test Score
1.	ASJZ	25	50
2.	ABI	35	35
3.	AQUB	55	75
4.	AID	50	55
5.	AQNN	70	65

6.	DHA	55	60
7.	DMA	50	55
8.	AIR	80	75
9.	E	25	35
10.	FNS	50	60
11.	HFN	55	65
12.	LR	60	70
13.	LO	50	35
14.	MAAA	35	45
15.	MA	70	80
16.	MIAA	65	75
17.	MAW	60	75
18.	MKR	30	35
19.	MIF	50	70
20.	MRDS	75	75
21.	MRR	-	20
22.	MM	25	40
23.	NBP	55	70
24.	NPL	30	50
25.	RSM	55	65
26.	RM	-	80
27.	SR	50	75

Based on the table 4.7, there were 27 students as sample of the research. From the 27 students, there were 25 students who did both the pre-test and post-test because student MRR was sick and student RM was permit when the pre-test took place. So, there were only 25 students of control class as the sample in this study. The descriptive statistic of control class is as follows:

a. Pre-test of Control Class

The researcher used SPPS 16.0 version to know the descriptive statistic and the percentage of students' pre-test in control class. The percentage divided into five criterions: excellent, good, average, poor, and very poor (see table 4.1). The result of the calculation is as follows:

Table 4.8 Descriptive Statistic of Pre-test
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
score pre-test	25	25	80	50.40	15.806
Valid N (listwise)	25				

Based on the table 4.8 above, it showed that the minimum score of pre-test was 25, the maximum score was 80, and the mean was 50.40.

Table 4.9 The Percentage of Students' Pre-test in Control Class
criteria

	Valid				
	Good	Average	Poor	Very Poor	Total
Frequency	1	6	11	7	25
Percent	4.0	24.0	44.0	28.0	100.0
Valid Percent	4.0	24.0	44.0	28.0	100.0
Cumulative Percent	4.0	28.0	72.0	100.0	

Based on the table 4.4, the researcher got percentages of the students' pre-test score of experimental class. It showed that there were 1 student (4.0 %) got good score, 6 students (24.0 %) got average score, 11 students (44.0 %) got poor score, and 7 students (28.0 %) got very poor score.

b. Post-test of Control Class

The researcher used SPPS 16.0 version to know the descriptive statistic and the percentage of students' post-test in control class. The percentage divided into five criterions: excellent, good, average, poor, and very poor (see table 4.1). The result of the calculation is as follows:

Table 4.10 Descriptive Statistic of Post-test

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
score pre-test	25	35	80	59.60	15.133
Valid N (listwise)	25				

Based on the table 4.10 above, it showed that the minimum score of post-test was 35, the maximum score was 80, and the mean was 59.60.

Table 4.11 The Percentage of Students' Post-test in Control Class criteria

	Valid				
	Good	Average	Poor	Very Poor	Total
Frequency	2	14	4	5	25
Percent	8.0	56.0	16.0	20.0	100.0
Valid Percent	8.0	56.0	16.0	20.0	100.0
Cumulative Percent	8.0	64.0	80.0	100.0	

Based on the table 4.11, the researcher got percentages of the students' pre-test score of experimental class. It showed that there were 2 students (8.0 %) got good score, 14 students (56.0 %) got average score, 4 students (16.0 %) got poor score, and 5 students (20.0 %) got very poor score.

B. Hypothesis Testing

To know whether there is any significant difference on students' reading comprehension between students who were taught and who were not taught by using question answer relationship strategy, the researcher computed Independent Sample Test by using SPSS 16.0 Version. The outputs are as follows:

Table 4.12 The Output of Group Statistic
Group Statistics

	Class	N	Mean	Std. Deviation	Std. Error Mean
The Result of Reading Comprehension	Experimental Class	23	72.8261	14.75759	3.07717
	Control Class	25	59.6000	15.13275	3.02655

Table 4.13 The Output of Independent Sample Test
Independent Samples Test

			The Result of Reading Comprehension	
			Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F		.301	
	Sig.		.586	
t-test for Equality of Means	t		3.061	3.064
	df		46	45.834
	Sig. (2-tailed)		.004	.004
	Mean Difference		13.22609	13.22609
	Std. Error Difference		4.32074	4.31613
	95% Confidence Interval of the Difference	Lower	4.52888	4.53732
		Upper	21.92329	21.91485

Before compute the t-test, the researcher did the homogeneity testing using F test (Levene's Test) to know whether to use *Equal Variance Assumed* or use *Equal Variance Not Assumed*. If the variance is the same, then the t-test use equal variance assumed. If the variance is different, then the t-test use equal variance not assumed. The hypotheses in F test are as follows:

1. Ho: both variance are the same (experimental and control class).
2. Ha: both variance are different (experimental and control class).

Ho is accepted if P value > 0,05 and Ho is rejected if P value < 0,05. Based on the table 4.13 above, it shows that P value (sig) is 0,586. It means that 0,586 is bigger than 0,05 and Ho is accepted. It can be concluded that both variance (experimental and control class) are the same and that the researcher used Equal Variance Assumed in making decision of T-test.

The hypotheses testing of this study are mentioned as follows:

1. Alternative Hypothesis (Ha): There is significant difference on the students' reading comprehension between students who are taught by using Question Answer Relationship (QAR) Strategy and students who are not taught by using Question Answer Relationship (QAR) Strategy.
2. Null Hypothesis (Ho): There is no significant difference on the students' reading comprehension between students who are taught by using Question Answer Relationship (QAR) Strategy and students who are not taught by using Question Answer Relationship (QAR) Strategy.

The basic decision making in probability are Ho is accepted if P value > 0,05 and Ho is rejected if P value < 0,05.

Based on the table 4.13 above, the value of P value is 0,004. It means that P value is smaller than 0,05 (0,004 < 0,05). Since the P value is smaller than 0,05, it means that the alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected. In other words, it can be concluded that there is significant difference on students' score in reading comprehension between those who were taught by using question answer relationship and those who were not.

Based on the table 4.12 (Group Statistics) above, it shows that the mean of experimental class is 72.8 while the control class is 59.6. It means that the mean of students' score in experimental class is higher than the mean of students' score in control class. The t_{count} is positive has meaning that the mean of students' score in experimental class is higher than the mean of students' score in control class. The mean difference is 13.2 and the interval of the differences ranged from 4.5 to 21.9.

C. Discussion

From the result of the research finding above, it shows that there is significant difference on the students' score in reading comprehension between those who were taught by using question answer relationship with those who were not. The mean of the students who were taught by using question answer relationship (experimental class) are 58.91 in pre-test and 72.83 in post-test. The mean of the students who were not taught by using question answer relationship (control class) are 50.40 in pre-test and 61.60 in post-test, and the result of the mean difference is 13.2.

Based on the research conducted at SMA Al-Azhaar Tulungagung, it can be inferenced that teaching students by using question answer relationship strategy is better than students who are not. It means that question answer relationship strategy is effective to use in teaching reading comprehension. As stated by Strahler (2012:27) that Question Answer Relationship is a reading comprehension strategy that helps students understand the different types of relationships that exist among questions and answers, thus strengthening their understanding of

texts. The absence of comprehension is related to not knowing the relevant questions to ask, or not knowing how to find the relevant answers. In addition, the QAR strategy helps learners integrate information within a reading, relate textual information to their own prior knowledge, and monitor their understanding while reading. Essentially, by understanding the different types of relationships between questions and answers, students will have a better understanding of how to both generate and respond to questions. According to Stafford (2012:48) that when using this taxonomy as a question-answering strategy, students are able to determine where to find the information needed to answer a question.

Based on the result of this study above indicates that the Question Answer Relationship (QAR) Strategy treatment increase students' ability in reading comprehension. And also it proved that this strategy is also effective to use in Senior High School. It's stated by Raphael *et al.* (2005:213) that QAR instruction can be adjusted for use across grade levels and content areas because of the way the categories form a progression of difficulty.