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Implementing Question-Answer Relationship Strategy on Students' Reading Comprehension

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Abstract

This study aims to evaluate students' reading comprehension, both taught and untaught, as well as the significant impact of the QAR strategy on students' comprehension. This study is categorized as quasi-experimental, involving two classes: the experimental class and the control class. For this study, the sample was collected through an easy sample approach. Eighth grade students at SMP Negeri 23 Pekanbaru were involved in this study in the academic year 2023-2024. The researchers analyzed the data using SPSS version
24. They used eta squared calculation and independent sample T-test. The results showed that there was a significant difference between students who were taught with the QAR strategy and students who were not, with the experimental class gaining 75.7% and the control class gaining 62.1%. Based on the eta square results, the researcher found that it was 0.054, which indicates a small influence. H_0 is rejected, and H_a is accepted.

Keywords: Reading Comprehension; Question-Answer Relationship

INTRODUCTION

Reading is one of the most crucial language skills that students should master since it is vital to the process of acquiring a language, along with speaking, listening, and writing. Students who read can improve their comprehension since they will be able to retain fresh information from the book. Reading is one of the language abilities in English that offers students a lot of input. Reading is an essential way for students to take information from books because it lets them apply their skills, knowledge, and methods to figure out what the text means.[1] Understanding is therefore the goal of reading; it goes beyond just seeing and speaking a book.

In order to engage in reading activities, readers must comprehend the material. Reading comprehension is the process of making sense of a text. Enhancing readers' comprehension is the aim of all reading teaching. Reading and understanding are connected concepts. Students attempt to understand the stuff they are reading. The more they read, the more information they will have. To understand the subject, students must enhance their reading comprehension skills.[2]

Reading is the process of gaining information and understanding through the medium of printed text, such as books or academic journals. Reading is an ongoing process wherein readers construct meaning by integrating textual material with their own background

[1] Januarty, R.-, & Azizah Nima, H. N. Energizing studentsâ€tm *reading comprehension through multimodal texts.* International Journal of Language Education, 2(2) (2018), 14–22

[2] Melsandi, M.. *Improving reading comprehension of the grade eight students at SMP Negeri 1 Balano Lambunu through comprehension monitoring stategy*. E-Journal of ELTS (English Language Teaching Society), 6(3), (2018) 1-12

knowledge. After reading this material, the students should have a firm grasp of the material.[3]

Reading instruction is important for students, especially in junior high school. This syllabus standard pertains to the SMP curriculum and is based on curriculum development. A subcategory of core competence, the 2013 curriculum defines basic competence as mastery of

every topic in every class. The three components of basic competency are attitude, knowledge, and skill. There are skill sets for speaking, writing, listening, and reading. The SMP/MTs level uses factual, procedural, narrative, recount, and descriptive text types.

The 2013 curriculum states that in order for students to apply the Core Competencies—which are broken out into four interconnected categories: knowledge, attitudes, religion, and knowledge application—they must be actively involved in their studies. This might show that students are expected to be more than just academically successful according to the 2013 curriculum. Along with these qualities, they should be very gregarious, have strong morals, and be conscious of the challenges in their own community. This curriculum aims to support students in meeting the learning objectives, one of which is reading comprehension. It accomplishes this by providing an explanation of social function, evaluating generic structure, dissecting linguistic features, and gathering textual data.

SMP Negeri 23 Pekanbaru, located on Jalan Garuda Sakti, KM.3 Tampan Sub-district, Pekanbaru, Riau, is one of the schools that implement the 2013 Curriculum or K13. In this school, English is taught twice a week for 40 minutes each meeting. The passing score for English for students in grades 7 to 9 is 85 points. SMP Negeri 23 is a public school in Pekanbaru.

It was found via preliminary study that involved watching and interviewing English educators at SMP Negeri 23 Pekanbaru that the teachers used a range of strategies and techniques for teaching, especially when it came to teaching English. But reading comprehension at this institution is still low, especially when it comes to narrative fiction. Students continue to have difficulty understanding what they read. This early research identified a number of challenges because students feel that reading comprehension is a difficult skill. Among these challenges are the following: 1. Certain students find it difficult to recognize accurate information in texts; 2. Others find it difficult to ascertain the primary concept of the work; 3. Some students find it difficult to uncover references in texts; and 5) Some students find it difficult to draw conclusions from texts.

The statement above suggests that there are still some issues with pupils' understanding of what they have read. Teachers must find ways to increase their pupils' reading comprehension and employ easier-to-learn tactics in order to overcome the challenges. The instructor can apply one of these reading comprehension techniques in this case. This approach is known as Question Answer Relationship, or QAR. The Question-Answer Relationship (QAR) is one of the reading comprehension strategies. In order to provide students a firsthand understanding of the relationship between questions and replies through question types, Raphael developed the QAR approach in 1986. QAR strategies to help students think about what they have learned from books or from their own prior knowledge.[4]

The study is headed "Implementing A Question-Answer Relationship Strategy on Students' Reading Comprehension" and it explains that the researchers are trying to use the

[3] Nunan, David.. Practical English Language Teaching PELT Text. Maidenhead, England: McGraw Hill Higher Education. 2003

[4] Anggun, D.. *The effect of question answer relationship strategy on students' reading comprehension of narrative text at VIII grade of SMP Muhammadiyah 4 Giri*. International Journal of Education and Literacy Studies, 1(1), (2017) 1–6

Question-Answer Relationship (QAR) strategy in reading comprehension. As for the research questions, they are as follows:

1. How is the QAR Strategy used to teach reading comprehension to students?
2. How is the QAR Strategy not used when teaching students about reading comprehension?
3. Does the QAR technique have a discernible impact on students reading comprehension?

A small group of researchers focused on figuring out how to use this strategy. Few studies have been conducted to find out if the Question Answer Relationship (QAR) method may improve students' understanding of what they read. Therefore, the purpose of this study

is to administer treatment using the QAR Strategy. The objectives of this research are to investigate the effects of using the QAR approach on students' reading comprehension as well as how reading comprehension is taught to students when the strategy is not used.

METHOD

The experimental class and the control class were the two classes or groups under investigation in this quantitative, quasi-experimental study. Experimental designs are quantitative research approaches that examine whether a certain activity or collection of materials has an influence on participant outcomes. They are also known as intervention studies or group comparison studies. A quasi-experimental method assigns participants to groups at random instead of using an intervention.[5]

The quasi-experimental design of this study had two classes or groups: the experimental and the control. While the control class did not get instruction utilizing the QAR Strategy, the experimental class did receive instruction using it. Pre- and post-tests were administered to both groups.

The overall population of this research was 296 students, as indicated in the table below:

Table 1. Population of the Research

No	Class	Total of Students
1	8 A	37
2	8 B	37
3	8 C	38
4	8 D	36
5	8 E	38
6	8 F	36
7	8 G	36
8	8 H	38
Total		**296**

The researchers did not utilize all of the students at this university as a sample because of its large 0body. Just two classes—one serving as the experimental class and the

[5]Creswell, J. W. *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed). Lincoln: Pearson.(2012)

other as the control class—were needed for this study's sample. A sample is a subset of research participants selected from the target population and then extrapolated to the target population.[6] A sample is a subset of the item that has to be taken out of the bigger research object.

For this investigation, classes 8 A and 8 B were selected using convenience sampling. 8 B was the experimental group while 8 A was the control group. Convenience sampling, as

defined by Creswell is a quantitative sampling technique in which study participants are selected based on their willingness and ability to participate.

The sample of the research is shown as follows:

Table 2. Sample of the Research

No	Class	Total of Students
1.	8 A (Control class)	37
2.	8 B (Experimental class)	37
Total		**74**

Instruments

An instrument was a test that the researchers used. A test is a tool for evaluating someone's performance, knowledge, or aptitude in a particular area.[7]Multiple-choice questions were employed in the pretest and posttest sections of the exam in this study to collect data on reading comprehension.

Exam scores range from 0 for incorrect answers to 5 for right responses on a total of 25 items. Both sample groups received pre- and post-tests from the test administrators. The data were ascertained by percentages based on the subsequent standards:[8]

Table 3. Criteria for Interpreting Score

No.	Interval Score (%)	Categories
1.	0-20	Very Less
2.	21-40	Less
3.	41-60	Enough
4.	61-80	Good
5.	81-100	Very Good

Data Analysis

The following formula was employed by the researchers to analyze the data:

1. Scoring the Students' Answer

   Following the students' completion of the exam, the researchers use the reading comprehension test results to determine the total score. For both the pre- and

[6] Ibid

[7]Brown, H. D. *Language assessment: Principle and classroom practices*. New York: Longman.2004

[8]Apsari, Y, D., and Ismono.. Development of SETS Oriented Student Activity Sheet on Substance Material of Food Additives. Journal of Chemical Education. 2014. Vol. 3 (2): 1-6.

post-tests, students' accurate responses are scored using Sudjiono's (2008) algorithm.

$$\text{Score} = \frac{\textit{Students' correct answer}}{\textit{Total number of item in test}^{9}} \text{ X100}$$

The results for the Experimental group and the Control group were then shown in two score tables.

2. Effect Size

Effect size statistics display the degree of variation across groups as opposed to determining whether the difference was the result of chance. Although there are various impact size measures, Cohen's d and eta squared are the most often used. Eta squared is a statistical measure that quantifies the extent to which the independent variable (group) accounts for the variance in the dependent variable. The scale runs from 0 to 1. It is possible to manually calculate eta squared ($n2$) using the data in the output. The following is the formula for eta squared:

$$n2 = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

$n2$: Eta Squared
$t2$: The calculated t from t-test
N1 : Variable 1's object number (Experimental class)
N2 : Variable 2's object number (Control class)[10]

RESULTS AND DISCUSSION

The researchers discovered the distribution of the frequency of the students' post-test scores in the experiment class in the post-test, and it is displayed in the table below:

Table 4. The Frequency of Students' Post-test of Experiment Class

Experiment					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	68	1	2.7	2.7	2.7
	76	3	8.1	8.1	10.8
	80	5	13.5	13.5	24.3
	84	5	13.5	13.5	37.8
	88	6	16.2	16.2	54.1
	92	6	16.2	16.2	70.3
	96	7	18.9	18.9	89.2
	100	4	10.8	10.8	100.0
	Total	37	100.0	100.0	

[9]Sudijono, A. Pengantar statistik pendidikan. Jakarta: Raja Grafindo Persada.2008

[10] Pallant, J. SPSS Survival Manual: *A step by step guide to data analysis using IBM SPSS (6th ed)*. New York: McGraw-Hill Education. 2016

The table 4 showed the students who get 68 is 1 0(2.7%), the students who get 76 are 3 0(8.1%), the students who get 80 are 5 students (13.5%), the students who get 84 are 5 students (13.5%), the students who get 88 are 6 students (16.2%), the students who get 92 are 6 students (16.2%), the students who get 96 are 7 students (18.9%), and the students who get 100 are 4 0(10.8%).

Table 5. Classification of Students' Post-Test Scores in the Experimental Class

Score	Criteria	Frequency	Percentage
0% - 20%	Very Less	0	0%
21% - 40%	Less	0	0%
41% - 60%	Enough	0	0%
61% - 80%	Good	9	24.3%
81% - 100%	Very Good	28	75.7%

From the table above, it can be seen that there is no students' score which are categorized as "enough, less, and very less". There are 9 students who are categorized "good". There are 28 students who are categorized "very good". The table show, that highest percentage is 75.7%. Thus, the majority of experimental class students' post-test are "Very Good".

Table 6 displays the distribution of the frequency of the students' post-test results in the experiment class that the researcher discovered:

Table 6. The frequency of Students' Control Class Post-Test Results

Control					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	64	2	5.4	5.4	5.4
	68	2	5.4	5.4	10.8
	76	5	13.5	13.5	24.3
	80	5	13.5	13.5	37.8
	84	6	16.2	16.2	54.1
	88	5	13.5	13.5	67.6
	92	7	18.9	18.9	86.5
	96	4	10.8	10.8	97.3
	100	1	2.7	2.7	100.0
	Total	37	100.0	100.0	

This table showed that there are 37 students in the control class. It described the students who get 64: 2 students (5.4%), the students who get 68 are 2 students (5.4%), the students who get 76 are 5 students (13.5%), the students who get 80 are 5 students (13.5%), the students who get 84 are 6 students (16.4%), the students who get 88 are 5 students (13.5%), the students who get 92 are 7 students (18.9%), the students who get 96 are 4 students (10.8%), and the students who get 100 are 1 0(2.7%). The classification of students' post-test score can be seen below.

Table 7. Score Classification of Control Class Students' Post-test

Score	Criteria	Frequency	Percentage
0% - 20%	Very Less	0	0%
21% - 40%	Less	0	0%
41% - 60%	Enough	0	0%
61% - 80%	Good	14	37.8%
81% - 100%	Very Good	23	62.1%

The table shows that no students' scores are classified as "enough, less, very less". There are fifteen students that are classified as "good". There are 23 students that are rated as "very good". The table reveals that the highest proportion is 62.1%. Thus, the majority of experimental class students scored "Very Good" on their post-test.

The post-test scores of the experiment and control classes are different, as seen in the following table:

Table 8. Students' Post Test Score of Experimental Class and Control Class

No	Students	Experiment Post-test	Students	Control Post-test
1	01	96	01	76
2	02	100	02	92
3	03	88	03	92
4	04	96	04	96
5	05	84	05	92
6	06	84	06	88
7	07	84	07	80
8	08	80	08	84
9	09	92	09	84
10	010	96	010	64
11	011	76	011	80
12	012	76	012	88
13	013	80	013	84
14	014	84	014	76
15	015	92	015	80
16	016	92	016	80
17	017	80	017	80
18	018	68	018	84
19	019	88	019	76
20	020	100	020	64
21	021	76	021	88
22	022	92	022	84
23	023	96	023	88
24	024	88	024	68
25	025	100	025	92
26	026	96	026	68
27	027	92	027	76
28	028	92	028	92
29	029	96	029	76

30	030	100	030	88
31	031	80	031	100
32	032	80	032	92
33	033	88	033	96
34	034	88	034	96
35	035	88	035	96
36	036	84	036	84
37	037	96	037	92
Total		**3268**	**Total**	**3120**
Mean		**88.3**	**Mean**	**84.3**

The Control Class has a total of 3120, whereas the Experimental Class has 3268. It illustrated how two classes differed from one another. The goal of the study was to demonstrate how students' reading comprehension differed in classrooms that used the QAR Strategy and those that didn't. The post-test results from the experiment and control groups were examined by the researchers in order to evaluate it. SPSS 24 was utilized to obtain the data.

The table below displays the experiment and control classes' post-test mean, median, and standard deviation findings.

Table 9. Data Analysis of Experimental Class and Control Class

Descriptive Statistics										
	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
Experiment	37	32	68	100	3268	88.32	8.076	65.225	-.416	.388
Control	37	36	64	100	3116	84.22	9.235	85.285	-.528	.388
Valid N (listwise)	37									

The table showed the standard deviation of experimental class is 8.076, the mean post-test score is 88.32, the maximum score is 100, the minimum score is 68 and the range of experiment class is 32. Then, for control class standard deviation is 9.235. The mean of control class post-test score is 84.22, the maximum score is 100, the minimum score is 68 and the range of experiment class is 36.

The averages of the pre- and post-test results were then evaluated using the independent sample t-test method to see whether or not teaching pupils the QAR Strategy had a significant effect on their reading comprehension. These are the normality test findings and the t-test tables.

Table 10. Normality Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Experiment	Statistic	Df	Sig.	Statistic	Df	Sig.
Control	.135	37	.087	.947	37	.079
a. Lilliefors Significance Correction	.132	37	.105	.947	37	.080

Table 10 shows that the experimental class has a data value of 0.079, whereas the control class has a value of 0.080. It indicates that the test is more than 0.05, and hence the data is normal.

Table 11. Test of Homogeneity of Variances

Score Post-test			
Levene Statistic	df1	df2	Sig.
.417	1	72	.521

Based on the table 11, the significant of homogeneity test is 0.521, it means that the tests is more than 0.05 so the data are homogen. The researchers can use independent sample t-test to analyze the data.

Table 12. Data Analysis of Independent Sample Test

		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Score Post-test	Equal variances assumed	.417	.521	2.037	72	.045	4.108	2.017	.088	8.129
	Equal variances not assumed			2.037	70.743	.045	4.108	2.017	.086	8.130

Table 12 displays df = 72 and *b*0 = 2.037. The significant two-tailed value is 0.045 at less than 0.05. According to Pallant (2016), if the value in the Sig. (2-tailed) column is equal to or less than.05 (e.g.,.03,.01,.001), The two groups' mean scores on the dependent variable differ significantly from one another.

Consequently, the alternative hypothesis (Ha) is accepted and the null hypothesis (H0) is rejected. The eight grades at SMP Negeri 23 Pekanbaru were found to have significantly different reading comprehension skills when taught with and without the QAR Strategy.

Pallant (2016) asserts that effect size statistics display the degree of variation across groups as opposed to determining whether the difference was the result of chance. Although there are various impact size measures, Cohen's d and eta squared are the most often used. Eta squared, which ranges from 0 to 1, indicates how much of the variance in the dependent

variable is explained by the independent (group) variable. It is possible to manually calculate eta squared ($n2$) using the data in the output. The following is the eta squared formula:

$$n2 = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

$n2$: Eta Squared
$t2$: The calculated t from t-test
N1 : Variable 1's object number (Experimental class)
N2 : Variable 2's object number (Control class)

Therefore:

$t2$: 2.037
N1 : Experimental group = 37
N2 : Control group = 37

$$etasqua = \frac{2.0372}{2.3722\ (37+37-2)} = \frac{4.149}{4.149+(72)} = \frac{4.149}{76.149} = 0.054$$

Based on the eta square result, the researchers determined that it was 0.054. Cohen (1988, pp. 284-7) provided the following principles for evaluating this value:

0.01 = small effect
0.06 = moderate effect
0.14 = large effect
Based on the eta square, the scale of effect size for this research was in small effect.

DISCUSSION

Based on the above mentioned findings, the researchers discovered that while teaching students with the QAR Strategy, post-test results demonstrated a significant improvement in students' reading comprehension. Additionally, the post-test results show that students' reading comprehension is at a high level even when they do not use the QAR Strategy. The probability sig. (2-tailed) was therefore 0.045 less than 0.05 based on the results of the Independent sample t test, arguing in favor of accepting the alternative hypothesis (Ha) and rejecting the null hypothesis (H0). It has been demonstrated that the QAR Strategy significantly affects students. understanding of reading.

CONCLUSION

The research's depiction of the result, using the data analysis, was as follows: Firstly, SMP Negeri 23 Pekanbaru students, who were taught with the Question-Answer Relationship Strategy, showed an increase in reading comprehension skills by 75.7% compared to the post-test results; Secondly, At SMP Negeri 23 Pekanbaru, students demonstrated excellent reading comprehension (62.1% post-test score) without applying the relationship strategy of questions and answers; and lastly, the results of the independent sample t-test show that the null hypothesis (H0) is rejected and the alternative hypothesis (Ha) is accepted (eta square = 0.054 and sig.2 tailed = 0.045 < 0.05). It has been demonstrated that the QAR Strategy

significantly affects students. understanding of reading.

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