The Comparison between Using SQ4R and Jigsaw Techniques Toward the Students' Reading Comprehension

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ABSTRACT

In this research, the researcher will examine how effective the SQ4R and Jigsaw techniques are in helping students understand what they read. This research aims to find out whether there is a significant difference in students' reading comprehension between those who are taught with SQ4R and the Jigsaw technique. This research was design by using experimental quantitative research. The sampling technique of this research used simple random sampling. The subject of this research was the eleventh Accounting 3 grade consist of 31 students and the eleventh Accounting 4 grade consist of 29 students. They were taught by using SQ4R technique for experimental class 1 which is the XI Accounting 3 and Jigsaw technique for experimental class 2 which is the XI Accounting 4. The data had been collected by using pre-test and post-test on both experimental classes. During the process, the researcher applied three meetings for each class for the treatment. In analysing the data, the mean score of the students' pre-test experimental class 1 (SQ4R technique) is 68,71 and the mean score of post-test is 87,58. The mean score of the students' pre-test experimental class 2 (Jigsaw technique) is 68,44 and the mean score of post-test is 80,34. The results of Mann Whitney U test indicated that $P_{value} < 0,005$ ($0,002 < 0,005$) which means that H0 is rejected and Ha is accepted. Thus, it can be concluded that there was a significant difference between students' reading comprehension in the first experimental class which was taught by using SQ4R technique and the second experimental class which was taught by using Jigsaw technique.

KEYWORDS: SQ4R Technique; Jigsaw Technique; Students' Reading Comprehension; Teaching Learning Activity

INTRODUCTION

Reading offers numerous benefits for language learners, including acquiring information, learning materials, and reading for pleasure. According to Suyarov (2022), learners may read to gain knowledge or critique a researcher's ideas and writing style. Harmer, as cited by Herljimsi et al. (2014), asserts that reading models good writing, grammar, vocabulary, and punctuation, providing real examples of sentence, paragraph, and passage structures. Reading skills are

foundational in education, enhancing language proficiency, vocabulary, grammar, and comprehension, which are essential for accessing knowledge, ideas, and solutions. Lianah and Sari (2020) emphasize that reading comprehension is crucial for students' academic engagement and success.

Effective reading comprehension relies on cognitive abilities, background knowledge, vocabulary, and understanding text complexity and types. According to Mikulecky and Jepris in Ismail, (2017), a statement through reading people can find out new ideas, facts, knowledge, experience, enjoyment, and even problem-solving. Therefore, the ability to read tests in any form will bring great benefits to the reader. However, English reading can be challenging for EFL students, as evidenced by Indonesia's low ranking in the PISA 2022 assessment and the 2022 English Proficiency Index by Education First, where Indonesia scored 469, ranking 79th out of 113 countries. Indonesian students struggle with reading and understanding English texts, often due to inadequate teaching techniques. Harmer in (Ardiansyah & Jaya, 2020) suggests that repeated reading enhances comprehension. Yet, Indonesian students face difficulties such as summarizing main points and slow reading due to reading aloud and using fingers to follow text, as noted by Smith (2012).

An interview with an English teacher and students at SMKN 2 Pacitan revealed students' low reading achievement and difficulties in interpreting words, finding key points, and understanding narrative texts. Interviews with students showed that the learning strategy used was still Conventional Learning Strategy with lecture technique. So that when researchers observed students' mastery of the material many of them did not understand well. Therefore, the selection of learning techniques to be used by teachers is one of the most important ways to improve the learning process. To overcome this, learning techniques are needed that encourage students to be active in learning English, especially in improving students' reading comprehension of narrative text. Effective teaching techniques are necessary to improve reading comprehension, and one such technique is the SQ4R technique, which involves Survey, Question, Read, Recite, Record, and Review steps.

According to Basar & Gurbuz (2017: 133), SQ4R can be used to develop students' cognitive by reading comprehension, full concentration, and practice to improve their skills in guessing and critical thinking by using six steps (Survey, Question, Read, Recite, Record, and Review). In the first step called survey, Coon and Mitterer (2013: 2) state that students will do skimming. Then students proceed to the next step which is question, students formulate questions to make them understand deeply before doing reading activities. After that, students read the whole text to find the answers to their questions. The next step continues with answering the questions where students can reread to check for answers that they missed. After answering the questions in their own words, students can summarize the text. After that, students can immediately proceed to the next step which is self-reflection and critical thinking. And the last step is review where students reread the questions and answers they have made.

Another effective method is the Jigsaw technique, which promotes collaborative learning. Coetzee (2008: 108) in Sihombing (2022), describes it as a team approach where each group member is responsible for a part of the task, contributing to the group's success. This research aims to compare these two techniques to determine which one is more helpful for students in their reading comprehension. Jigsaw technique is considered as teamwork learning which consists of

students working together to achieve a common learning goal and complete certain tasks and assignments together. Therefore, this research investigates the differences in learning results between the SQ4R and Jigsaw techniques. The researcher is motivated to investigate this because there is a lack of research directly comparing these two techniques in teaching reading. This research aims to compare these two techniques to determine which one is more helpful for students in their reading comprehension.

METHOD

The method used in this research is a quasi-experimental method, namely: it cannot control all aspects that can affect the implementation of the experiment. This research has two variables, namely the independent variable (X) learning technique using SQ4R technique (X_1) and learning technique using Jigsaw technique (X_2), while the dependent variable (Y) is the student's reading skill learning outcomes. The data in this study were obtained by giving a learning outcome test to obtain comparative data from the learning process. The tests conducted were pre-test and post-test for each experimental class. Before the treatment is given, both experimental classes will receive the pre-test. After both experimental classes have received treatment, the posttest is conducted. This test was conducted after the narrative text learning was completed. The target population in this study were all grade XI students in SMK Negeri 2 Pacitan. The target population was all students of class XI AK SMKN 2 Pacitan in the even semester of the 2023/2024 academic year. The selection of classes using random sampling is using class XI AK 3 and XI AK 4 with each class totalling 31 students and 29 students. The data obtained will be tested and analysed using statistical tests, through prerequisite tests, namely normality tests using the Kolmogorov-Smirnov test at a significant level of $\alpha = 0.05$ and homogeneity tests using Lavene's test at a significant level of $\alpha = 0.05$, then statistical tests using non-parametric statistical analysis, namely the Mann-Withney U test with a significant level of $\alpha = 0.05$.

RESULT AND DISCUSSION

1. Result

a. The Descriptive Statistics Test

The pre-test and post-test results for the experimental group are as follows. The pre-test is used to establish the average score of the experimental group prior to treatment, while the post-test is used to determine the average score after treatment. This comparison helps to assess the impact of the SQ4R technique and the Jigsaw technique on students' reading skills.

Table 1. The Descriptive Statistics Test Result

	N	Range	Min	Max	Mean	Std. Deviation
Pre-test Experimental Class 1	31	35	50	85	68,71	10,035

	31	25	70	95	87,58	7,173
Post-test Experimental Class 1	31	25	70	95	87,58	7,173
Pre-test Experimental Class 2	29	35	50	85	68,44	10,009
Post-test Experimental Class 2	29	35	60	95	80,34	7,760
Valid N (listwise)	29					

From the table above, it is shown that the mean of pre-test score of experimental class 1 with 31 students is 68,71, maximum score is 85, and minimum score is 50 and the mean score of post-test of experimental class 1 is 87,58, maximum score is 95, and minimum score is 70. So, based on the result, there is a significant different score both pre-test and post-test of experimental class 1. Meanwhile, in experimental class 2, the mean score of pre-test is 68,44, maximum score is 85, and minimum score is 50, and the mean score of post-test is 80,34, maximum score is 95, and minimum score is 60. There is also a significant different score both pre-test and post-test of experimental class 2.

b. The Validity Test Result

The test was valid because it has sufficient evidence that correlates with the ability to be tested. The test was calculated using the formula below:

$$r_{xy} = \frac{n\sum X_1 Y - (\sum X_1)(\sum Y)}{\sqrt{\{n\sum X_1{}^2 - (\sum X_1)^2\}\{n\sum Y^2 - (\sum Y)^2\}}} \tag{1}$$

$$r_{xy} = \frac{(31)(188025) - (2130)(2715)}{\sqrt{\{(31)(149150) - (2130)^2\}\{(31)(239275) - (2715)^2\}}}$$

$r_{xy} = 0,72$

Table 2. Interpretation of Validity

r_{xy}	Validity specification
0,80-1,00	Very High
0,60-0,80	High
0,40-0,60	Fair
0,20-0,40	Low
0,00-0,20	Very Low

According to the data, the researcher concludes that the mean of validity test is 0,72, which falls under the "high" category based on the criteria. Therefore, the test is considered **valid**.

c. The Reliability Test Result

In this research, the reliability of the test was calculated by formula below:

$$r_{xx} = \frac{2(r_{xy})}{1 + r_{xy}}$$ (2)

Where:

r_{xx} = the reliability of the test

r_{xy} = correlation coefficients between the two tests

$$r_{xx} = \frac{2(r_{xy})}{1 + r_{xy}}$$

$$r_{xx} = \frac{2 X 0,72}{1 + 0,72} = 0,83720$$

$r_{xx} = 0,84$

Table 3. Interpretation of Reliability

r_{xx}	Reliability specification
0,80-1,00	Very High
0,60-0,80	High
0,40-0,60	Fair
0,20-0,40	Low
0,00-0,20	Very Low

From the data calculated above, the researcher obtained a reliability test of 0,84. This indicates that the reliability is very high, confirming that the test used by the researcher is **reliable**.

d. The Normality and Homogeneity Test Results

After administering the test and obtaining the results, the students' pre-test and post-test scores will be analysed using normality and homogeneity tests.

Table 4. The Normality Test Result

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Class	Statis tic	df	Sig.	Statis tic	df	Sig.
Readin g Compr ehensi on Learni ng Outco	Pre-test Experiment Class 1 (SQ4R)	0,153	31	0,062	0,919	31	0,022
	Post-test Experiment Class 1 (SQ4R)	0,210	31	0,001	0,870	31	0,001
	Pre-test Experiment	0,158	29	0,061	0,916	29	0,024

mes	Class 2 (Jigsaw)						
	Post-test Experiment Class 2 (Jigsaw)	0,258	29	0,000	0,905	29	0,013
a. Lilliefors Significance Correction							

Based on the results of the normality test using Kolmogorov-Smirnov presented in the table above, the pre-test data for experimental class 1 has a Sig. value of 0.062, while the post-test has a Sig. value of 0.001. In addition, the pre-test for experimental class 2 has a Sig. value of 0.061, and the post-test has a Sig. value of 0.000. Because the Sig. value is less than 0.05, it can be concluded that the normality assumption is not accomplished.

e. Testing the Hypothesis

	Reading Comprehension Learning Outcomes
Mann-Whitney U	244,000
Wilcoxon W	679,000
Z	-3,117
Asymp. Sig. (2-tailed)	0,002
a. Grouping Variable: Kelas	

To compare the samples that are not similar, specifically the students' reading comprehension post-test results from Experiment class 1 and Experiment class 2, the Mann-Whitney U Test was used. The test results show an Asymp. Sig. value of 0.002, which is smaller than 0.05 (<0.05). Since the p-value is less than 0.05, the researcher rejects the null hypothesis and conclude that there is a statistically significant difference in the post-test scores between the SQ4R and Jigsaw groups. This indicates that the SQ4R technique is more effective than the Jigsaw technique in improving students' reading comprehension learning outcomes in class XI AK students of SMK Negeri 2 Pacitan.

2. Discussion

The findings of this study demonstrate that both the SQ4R and Jigsaw techniques are effective in enhancing students' reading comprehension, but the SQ4R technique appears to be more effective. The significant improvement in the post-test scores for the SQ4R group suggests that this technique better supports students in comprehending narrative texts.

The result of this study provides insightful comparisons between the SQ4R and Jigsaw techniques in enhancing students' reading comprehension. By analysing the pre-test and post-test scores, several key points can be drawn about the effectiveness of each technique.

a. Effectiveness of the SQ4R technique

The SQ4R (Survey, Question, Read, Recite, Record, Review) technique showed significant effectiveness in improving students' reading comprehension scores. The structured approach of this technique ensures that students engage with the text at multiple levels, facilitating deeper comprehension and retention. Here are the important aspects that contribute to the success of the SQ4R technique:

1. Engagement with the Text
   The SQ4R method encourages students to survey the text and ask questions before diving into the reading in detail. This preparatory stage helps students determine the purpose of reading and stimulates curiosity.
2. Active Reading
   During the reading stage, students actively seek answers to their questions, which improves focus and comprehension. This method ensures that students are not just passive recipients of information, but also active participants in the learning process.
3. Recitation and Note-taking
   Reciting and recording information helps to reinforce what has been read. These steps require students to articulate their understanding, which helps in memory retention and comprehension.
4. Review
   The final review stage consolidates learning. By revisiting the material, students reinforce their knowledge and fill in gaps in understanding.

b. Effectiveness of the Jigsaw Technique

Although the Jigsaw technique also showed positive results, it was less effective than the SQ4R technique in this study. The Jigsaw method's focus on collaborative learning and information sharing provides some benefits, but also has limitations:

1. Collaborative Learning
   The Jigsaw technique fosters a collaborative learning environment where students rely on each other to understand different parts of the text. This peer teaching method can increase engagement and motivation.
2. Diverse Perspectives
   Through collaboration, students gain exposure to diverse perspectives, which can enhance critical thinking and broaden their understanding of the text.
3. Reliance on Group Dynamics
   The effectiveness of the Jigsaw technique depends largely on the dynamics and abilities of the group members. If some students are less engaged or less able to explain their part, this can negatively impact the understanding of the group as a whole.
4. Focus on Segments
   As students focus on a particular segment of the text to teach their peers, there is a risk that they may not gain a comprehensive understanding of the entire text.

c. Comparative Analysis

The comparative analysis showed that although both techniques improved reading comprehension, the SQ4R technique gave higher results overall. The structured and individual-centred nature of SQ4R likely contributed to its higher effectiveness. By requiring students to engage deeply with the entire text on multiple levels, SQ4R ensures a more thorough understanding and retention of information.

In contrast, the Jigsaw technique's emphasis on teamwork and focus on specific sections, while beneficial for collaborative skills and motivation, may not always guarantee thorough understanding. Reliance on group dynamics and individual student performance within the group may lead to variability in results.

CONCLUSION

In conclusion, this research shows that the SQ4R technique is more effective than the Jigsaw technique in improving students' reading comprehension of narrative texts. The structured, multi-step approach of SQ4R encourages deep engagement and critical thinking, leading to significant improvements in comprehension. However, the Jigsaw technique remains valuable for its collaborative learning benefits and can be used effectively in different educational contexts. Educators are encouraged to apply the SQ4R technique to achieve better academic outcomes, while considering the strengths of the Jigsaw technique for collaborative learning and peer interaction.

ACKNOWLEDGMENT

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