READING COMPREHENSION ACHIEVEMENTS OF EXTROVERT AND INTROVERT STUDENTS TAUGHT THROUGH JIGSAW AND SQ4R AT SMA MUHAMMADIYAH 1 PRINGSEWU

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Abstract

Penelitian ini bertujuan i) untuk mengetahui perbedaan pencapaian pemahaman membaca antara sebelum dan sesudah diajar menggungakan teknik Jigsaw dan SQ4R, ii) untuk mengetahui perbedaan pencapaian dalam pemahaman membaca antara siswa yang ekstrovert dan siswa yang introvert yang telah diajar menggunakan Jigsaw dan yang diajar menggunakan SQ4R, dan iii) untuk mengetahui interaksi antara kedua teknik dan kepribadia siswa. Subjek penelitian ini adalah siswa kelas satu SMA Muhammadiyah 1 Pringsewu. hasil penelitian menunjukkan bahwa i) tidak ada perbedaan yang signifikan secara statistic dalam pemahaman membaca siswa yang diajar dengan menggunakan teknik Jigsaw dan yang diajar menggunakan SQ4R, ii) ada perbedaan yang signifikan secara statistic dalam pemahaman membaca siswa ekstrovert dan introvert yang telah diajar menggunakan Jigsaw dan SQ4R, dan iii) ada interaksi yang signifikan secara statistic antara kedua teknik dan kepribadian siswa. Ini menunjukkan bahwa Jigsaw dan SQ4R efektif untuk meningkatkan pencapaian dalam pemahaman membaca siswa dan siswa extrovert dan introvert sukses dalam meningkatkan pemahaman membaca setelah diajar melalui Jigsaw dan SQ4R.

This study is aimed i) to find out whether there is a statistically significant difference of students' reading comprehension achievement after being taught through Jigsaw and those taught through SQ4R, ii) to find out whether there is a statistically significant difference of students' reading comprehension achievements between extrovert and introvert students after being taught through Jigsaw and SQ4R, and iii) to find out a statistically interaction between those techniques and personality traits. The subjects of this research are the first grade students of SMA Muhammadiyah 1 Pringsewu. The result shows that i) there is no a statistically significant difference in reading comprehension achievements of students after being taught through Jigsaw and SQ4R, ii) there is statistically significant difference in students' reading comprehension achievement between extrovert and introvert students after being taught through Jigsaw and SQ4R, and iii) there is statistically significant interaction between two techniques and personality traits. It can be said that Jigsaw and SQ4R are effective to increase the students' reading comprehension achievements and both extrovert and introvert are successful in increasing their reading comprehension achievements after learning with Jigsaw and SQ4R.

Keywords: *Jigsaw, SQ4R (Survey, Question, Read, Recite, Reflect, Review), personality traits, reading comprehension*

INTRODUCTION

Language communicates meaning and allows the sharing of information, ideas, and perspectives. When written messages are able to understand, texts can be wonderfully inspiring, enjoyable, and transforming experience. Reading can offer alternative perspectives on the world and students' imagination to create new ways of thinking. However, students who struggle with reading problems often read "word by word". They do not understand how to "chunk" words and phrases into meaningful group (Tanskerley, 2003). Consequently, the students cannot sharpen their critical thinking and grasp the ideas of the text they read.

Moreover, teacher as the key factor in the learning process should motivate the students to attend actively in reading class. For this reason, the teacher may offer guidance in helping them to engage in the thinking process (Brown, 2001). However, the guidance that works for one learner might not be worked for others. Since every student is unique, it is called as individual differences that influence the students in various instructional contexts. Successful readers have been seen as not only good at reading skills but also personality adjusted. The personality of an individual affects student's performance, image, progress and happiness in life and career (Bhatti, 2011).

Personality can be divided into introvert and extrovert. Of course, every student is extroverted or introverted in some degree, but not in the same degree. Extroverts performed better than introverts in oral language test, while to introverts, they are generally pursues reading far more aggressively than the extrovert (Davies, 2004). On the other hand, extroverts performed better than introverts in the background noise condition in reading comprehension test by using noise from garage music (Furnham and Strbac (2002), and from the complex music distraction (Furnham and Allass (1999). It can be said that extrovert type has the ability to socialize better than the introvert type due to the ability to build a communication.

In relation to both extrovert and introvert personality, the teacher's role is very important in creating the situation where the students with different personality, in this case, introvert and extrovert, can be engaged in the reading process since Safdarian (2014) in his study says that there is the relationship between extroversion/introversion and reading comprehension strategies. Therefore, the collaborative jigsaw classroom can be one of many to be used in the learning and teaching reading since jigsaw aims to help students work cooperatively, to figure out the ordering of paragraphs in the reading passage (Day, 1993). Jigsaw in reading is conducted by giving tasks where parts of a reading passage are given to small groups. Jigsaw activity involves breaking the class into groups and assigning each group to read a selected piece of text or focus on a particular aspect of lesson content for the purpose of becoming "expert" in it (Powell and Powell, 2011). They share their

ideas, knowledge, and strategies while learning process in the expert groups (Yuhananik, 2018). Jigsaw requires students to master a section of text, to teach what they have learned to others (Jonson, 2005) and highly boost their learning motivation because students can share and negotiate the build of the way of thinking (Nurbianta and Dahlia (2018).

In contrast to the Jigsaw technique which makes students work cooperatively, another promising alternative instruction can make the students more focus to comprehend the text they read individually, that is SQ4R (Survey, Question, Read, Record, Recite, Review) technique. This technique has clear stages in learning process related to the six steps in each letter it has (Khusniyah and Lustyanti, 2017). It can equip learners with systematic approach to the types of reading (Wardyani, 2018). The students can manage their ability to understand the reading text. This technique has a good effect on students' reading comprehension (Bazar and Gurbuz, 2017) and very well to be used in learning teaching process (Simbolon and Marbun (2017).

Considering to those related studies, the two different techniques are really appropriate to promote the students' reading comprehension. However, there is no study who had compared the two techniques deeper in accordance of extrovert and introvert personality. Jigsaw gives the opportunities for the students to work cooperatively while SQ4R provides them to work individually. Furthermore, the paradigm of extrovert students is that they will fit with cooperative learning, while introvert students will like to deal with competitive learning which not involves many people in accomplishing the task. Yet, the activities in Jigsaw may give more benefit for introvert students than those facilitated in SQ4R, and vice versa. Therefore, this study is employed to look into whether there is significant difference between introvert and extrovert in reading comprehension achievement after being taught through two different techniques, they are Jigsaw and SQ4R.

METHOD

This research used quantitative approach. The design of this research was 2x2 factorial design since this research had two variables and each variable had two categories. The independent variables were the techniques i.e. Jigsaw and SQ4R and personality had two categories i.e introvert and extrovert personalities. The population of this research was the first grade students of SMA Muhammadiyah 1 Pringsewu. The research took two classes in the school as the sample. They were X IPA 2 and X IPA 3. For the data collection instrument, personality traits questionnaire and reading comprehension test were administered. The students' scores were analyzed by using t-test of SPSS 16 program. The gained data were analyzed by independent group t-test and Two Way ANOVA.

RESULT AND DISCUSSION

In order to find the comparison of the students' outcome and understanding between the first experimental class and the second experimental class, the researcher used normalized gain test by using SPSS 16. This measure is commonly described as the amount students learned divided by the amount they could have learned. The normalized gain result of students' reading comprehension achievements were presented in the following table:

Table 1. The Gain Result of Reading Comprehension Achievements in Both First Experimental and Second Experimental Class

	Jigsaw		Gain	SQ4R		Gain
	Pretest	Posttest		Pretest	Posttest	
Mean	48.33	85.71	37.38	42.38	79.05	36.67

From the table above, it can be seen that the scores of students' pretest to posttest in both classes were improved. The mean of students' pretest scores in the first experimental class (Jigsaw) was 48.33 and, in the posttest, increased to 85.71 with gain scores 37.38 which means there is a statistical significant improvement of students' scores before and after the treatment using Jigsaw technique. Besides, it also can be seen that the mean of students' pretest in the second experimental class (SQ4R) was 42.38 and, in the posttest, increased to 79.05 with gain scores 36.67 which means that there is statistically significant improvement of students; reading comprehension scores before and after the treatment using SQ4R technique.

Moreover, the hypothesis testing was done to find out whether the first hypothesis proposed in this research were accepted or not. In testing the hypothesis, Independent Sample Test computed through SPSS Statistic 16 was used to analyze the difference of certain treatment effect given to a sample (first experimental class) compared with another class (second experimental class). In this research, the first experimental class of this research was taught through Jigsaw, while the second experimental class taught through SQ4R.

Table 2. The Gain Result of Reading Comprehension in Both First Experimental and Second Experimental Class

Class	Total
First Experimental (Jigsaw)	37.38
Second Experimental (SQ4R)	36.67
Differences	0.71

From the table above, it could be seen that the total gain between the pretest and posttest in the first experimental class (Jigsaw) got 37.38. Besides, the gain result of the second experimental class (SQ4R) got 36.67. It also could be seen that the mean difference between two classes was 0.71.

In calculating the data generally, independent group t-test on SPSS version 16 was used to analyze the difference of reading comprehension achievements between the students taught through Jigsaw and those taught through SQ4R. It is used to test the comparative hypothesis and to examine whether there is significant difference between the means of two groups which are independent.

Table 3. The Result of Independent Sample t-test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
Reading Comprehension Achievements	Equal variances assumed	4.107	.049	.309	40	.759	.71429	2.31333		-3.96112	5.38969
	Equal variances not assumed			.309	33.548	.759	.71429	2.31333		-3.98796	5.41796

Table 3. above indicated that the students' reading comprehension achievements had no statistically significant difference on those taught through Jigsaw and those taught through SQ4R. It was revealed from sig 2-tailed was higher than 0.05 (0.759>0.05) and t-value is lower than t-table (0.309<1.684. As a result, the null hypothesis (H$_0$) was accepted.

Having analyzed the result of the students' reading comprehension pretest and posttest in both first experimental and second experimental class, the researcher found that there is different increase of students' reading comprehension achievement between the students who were taught through Jigsaw and SQ4R technique. Furthermore, Jigsaw used in reading comprehension could give the increase more effective to students' reading comprehension achievement than SQ4R. This showed that meaningful input and collaborative works affected the students' ability when comprehend the text. It is also in line with the Clark and Mayer (2016) who say that collaborative learning assignments can be more effective than individual learning.

Moreover, Jigsaw technique provides some steps that could be followed easily by the students. The students could learn and get some information related to the topic from their home-group and their expert group. They also taught to mapping the aspect of reading comprehension that there in the text they had, so they could have a better understanding of the text.

While, along the treatment in second experimental class, the researcher noticed that the students' reading comprehension ability after being taught through SQ4R was also increased. This was proven by the students' data taken by researcher. During the treatment, the teacher always reminded them to care with every single steps there in the SQ4R technique, since in the pretest, many students did not aware with the way of how to comprehend the text. In addition, the teacher monitored the students' activity and gave feedback before and after the treatment. Then, the students were also reminded to be careful with the aspects in reading comprehension while they were doing the posttest. Therefore, the result of students' posttest showed that it was increased. Furthermore, toward SQ4R technique, the students were given the chance to explore the knowledge through survey and make some questions of the text through skimming before they read the whole text. It was in line with Coon and Mitterer (2015) who state

that questions is to establish a basic for more understanding text or material before students read a whole of the text. In this step, the students make questions with the expectation that they will find the answers in the following steps. In additon, when students practice reading step, they seemed be able to identify the main idea, supporting details, symbols, etc. of the text. Moreover, when the students read, they can memorize schemantic structures and linguistic use of the text. These semantics structures and linguistic features really benefitted students understanding of the story that tried to delivered by the author. As the result, the students could show their knowledge about a topic and stated ideas clearly in order to make the reader understand.

In addition, within the non-threatening and supportive environment of the individual activity, the students also questioned what they received and sought to do their work. Besides, having individual work encouraged the students to develop conceptual understanding of topic and develop ability to filter information. Then, the learners can enhance both their cognitive process as well as their productive skill through interaction.

The teaching and learning process ran very smoothly in the classroom. All aspects of reading comprehension improved because the students comprehend the text carefully and they were more focused since they work individually. Since, during the treatment, they had been trained to be a good reader who cared about every single thing which

was included in the text. Furthermore, cognitive process passed by students trained them to more active engaged in the process of learning. It also helped them to comprehend the text effectively. Also, students' improvement might be caused by the process of feedback given. As the result, these activities help the students to increase the quality of their critical thinking. The final works of students during the treatment showed a difference from the pretest.

Table 4. Estimates and Pairwase Comparisons

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Reading Comprehension Achievements	Equal variances assumed	.981	.328	2.200	40	.034	4.81818	2.18999	.39205	9.24431
	Equal variances not assumed			2.170	34.972	.037	4.81818	2.22074	.30972	9.32664

The table above showed that the significant values (2-tailed) were 0.034 and 0.37 lower than the significance level 0.05. It indicates that null hypothesis (Ho) was rejected. It means that there is statistically significant difference of reading comprehension achievements between extrovert and introvert students after being taught through Jigsaw and SQ4R.

This finding is congruent with the previous studies of Zafar (2017) stated that reading skill did not

correlate strongly with either of the personality traits of extrovert and introvert. Reading comprehension scores among them showed very little variation. Thus, this research conducted for English as a Foreign Language (EFL) resulted the same finding with Zafar's.

Moreover, related to the increase of both extrovert and introvert students' scores in reading comprehension of narrative text, the mean of extrovert students' reading comprehension achievement was higher than introvert. In the reading comprehension process of those techniques, extrovert students in second experimental class were focus in comprehending the text individually. While, extrovert students in first experimental class were trained to deal with reading process which let them to work in groups. These cases could make the students became more comfortable in sharpening their cognitive process while comprehending the text. This finding is congruent with Pourqardash and Soori (2017) that state extrovert students were better on recalling of learned knowledge. Therefore, extrovert students performed better in reading comprehension than introvert students.

However, it does not mean that extrovert students did not study at all while they were getting the treatment of those techniques, as it had been stated before, introvert students' reading comprehension achievement also increased. Besides having a task to be done cooperatively during the procedures, there was also a phase that gave a better chance to have the individual activity. Therefore, it helps them to solve the difficulty in getting ideas of the text. Introvert students liked the activity which not involved many people, such as listening, reading, and writing. They can enjoy the situation and focus on their activity. Hence, reading comprehension stages were also passed by the introvert well because they dig much information from work individually. As the result, they could increase their reading comprehension achievement as extrovert students do.

Based on the explanation above, both extrovert and introvert students are put together in the context that they are potential to learn with their own characteristics. The extroverts get necessity to have the spoken communication that the techniques are effective to increase their reading comprehension. so, it makes them comfort to the activities given. On the other hand, the paradigm that the introverts prefer to deal with the cognitive process. So, it makes them focus and concentrate to the topic given. Therefore, it increases their reading comprehension too since working individually let them to focus to the ideas and comprehend the text.

Another possible explanation for this findings is that reading involves cognitive processes while personality traits are part of affective factors. Since the two elements are different from one another, it is only logical that extrovert and introvert may have little differences in the increase of their reading comprehension

achievement. Thus, through Jigsaw and SQ4R technique, both personalities are successful in reading comprehension proven by their increase in reading comprehension.

Table 6. Tests of Between-Subjects Effects

Dependent Variable:reading compre

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	812.416[a]	3	270.805	8.966	.000
Intercept	269240.252	1	269240.252	8.914E3	.000
Technique	466.667	1	466.667	15.451	.000
Personalities	1.797	1	1.797	.060	.809
technique * personalities	377.538	1	377.538	12.500	.001
Error	1147.703	38	30.203		
Total	286175.000	42			
Corrected Total	1960.119	41			

a. R Squared = .414 (Adjusted R Squared = .368)

The table shows that the Sig-value of reading comprehension technique and personality traits is 0.001. It is lower (<) than α=0.05. It means that Ho is rejected. Meanwhile from the critical value approach the data shows that F statistic is 12.500. It is higher than Fα = 3.34. It means that Ho is rejected. The interpretation is that there is significant interaction between reading comprehension techniques and personality traits in their reading comprehension ability. The interaction between teaching techniques and personality traits can be presented in the following figure.

The data plots in the chart above suggest the effect of the two factors has the interaction.

The result of the third hypotheses indicates that there was an interaction between teaching techniques (Jigsaw and SQ4R techniques) and personality traits to the result of students' reading comprehension achievement. The result shows that Ho is rejected. The interpretation is that there is significant interaction between reading comprehension techniques and personality traits in their reading comprehension ability. The significant result of the interaction between the techniques and students' personality traits might be caused by positive outcomes of the findings. Since there are two kinds of techniques with different activities, it is known that extroverted fit in learning cooperatively, while introverted prefer to work individually. It means that the personality is inclined to one type of reading techniques. It is similar with the previous study by Obralic and Mulalic (2017) who found that there is a significant relationship between the personality traits and language learning strategies among the IUS students. Moreover, the techniques facilitated the activities that fit both personalities. Thus, extroverted and introverted are appropriate to both reading techniques.

Therefore, having discussed the three research questions above, it is ascertained that Jigsaw and SQ4R are two of advocated ways to increase students' reading comprehension achievement, especially in narrative text. The learners can enhance both their

cognitive process as well as their productive skill through interaction. While, some considerations still need, this is influential to how both personalities experience maximally in the learning process. Besides knowing students' personality, the teacher also can investigate the other factor that can affect the way of students in understanding the material.

In short, Jigsaw and SQ4R can be a good stimulus of teaching. The result showed a positive impact of students' reading comprehension progress in both personalities. Yet, Jigsaw technique gives more advantages in increasing the extrovert students' reading comprehension achievement and SQ4R technique gives more advantages in increasing the introvert students' reading comprehension achievement. In addition, the problems occurred during the research could be fixed and they were able to comprehend the text well enough.

CONCLUSION

Based on the findings of the data analysis, some conclusions could be drawn that there was an interaction between techniques and personality in students' reading comprehension at the tenth graders of SMA Muhammadiyah 1 Pringseuw. It means that the influence of both techniques could be picked out. Since extrovert students were suitable with both techniques (Jigsaw and SQ4R technique), introvert students could not be considered that they were not good at both techniques. Given that introvert

students' reading comprehension increased through both techniques, they were also suitable with both techniques. It points out that it could be concluded that extroverted is appropriate in Jigsaw technique and vice versa. Actually, if there were an interaction, in fact, it would weaken the argument in favor of one of the techniques. Moreover, although it proved an interaction, the introverted and extroverted students' reading comprehension increased through both techniques.

In this case, the interpretation would be that H_0 of no difference between the two techniques could be rejected. The techniques differed significantly with the students performing better in reading comprehension techniques. The H_0 of no difference for the personality could be also rejected. Extroverted did better than introverted regardless of Jigsaw technique and introverted performed better regardless of SQ4R technique. Therefore, the Jigsaw is more useful for extroverted and SQ4R is more useful for introverted.

Besides, there was no difference reading comprehension achievement between the extroverted and introverted students in reading comprehension. However, it does not mean that introverted and extroverted students had negative effect in both techniques. Moreover, both extroverted and introverted students' reading comprehension were increased. Although they were taught through different technique, they still got the same average results in reading comprehension achievement. Therefore, it can be inferred that two types of

personalities had positive effect in the reading comprehension achievement.

Based on the result and discussion, it can be inferred that there is an interaction among reading comprehension technique and personality traits. It is proved that Jigsaw is better than SQ4R in increasing students' reading comprehension achievement. Meanwhile, both extroverted and introverted could follow the teaching and learning process well. This can be reason why there is no different achievement between introvert and extrovert students in their reading comprehension achievement.

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