



The Effectiveness of Gallery Walk and Numbered-Heads Together in Teaching Reading Comprehension

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Abstract

This study aimed to investigate the effectiveness of gallery walk and numbered-heads together for teaching reading comprehension to students with distinct personalities. The objectives of the study were, to investigate extrovert, and introvert students' scores of reading comprehension to analyze the effectiveness of gallery walk, to investigate extrovert and introvert students' score of reading to analyze the effectiveness of numbered-heads together, to explore the significant differences between extroverted students after learning to use gallery walk and numbered-heads together to teach reading comprehension, to explore the significant differences between introverted students after learning to use gallery walk and numbered-heads together to teach reading comprehension, to analyze how teaching, the personality of students and the reading style interact. This was an experimental study with a 2x2 factorial design. Observations, questionnaires, and tests were used to get the research data. Data from reading tests and questionnaires were analyzed quantitatively using a T-test and ANOVA. The results show that the mean score of the extroverts is 78.40 and introverts is 78.60 after taught using gallery walk technique. While the mean score of the extroverts is 82.70 and introverts is 81.10 after learning using numbered-heads together. These techniques were effective to teach reading. The students' score of reading comprehension after taught using numbered-heads together technique was higher than those taught by gallery walk. Besides, there was no significant interaction between the use of techniques, student personality, and student reading comprehension.

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INTRODUCTION

In reading class, most reading activities focus on reading comprehension. This is due to the fact that the student's text comprehension skills helped him develop his knowledge, even gain new information. In addition, the reading comprehension section is often used to assess students' English learning results. For example, in the national exam, the reading comprehension section accounts for a relatively large proportion. When taking the test, you will encounter many types of problems. If students do not read well, students may fail the exam. To do this, students must be expert readers who can understand a text effectively and efficiently.

In summary, the ability and skills to understand the information or content of the text are the fundamental objectives of reading practice in the teaching of literature. As Richard and Renandya (2002) said, reading comprehension is the primary aim of reading. However, comprehending text messages is difficult for students. Literature shows that the students' reading comprehension level is far from expectation. According to the Organization for Economic Cooperation and Development's 2012 Program for International Student Assessment (PISA), Indonesia ranked second in international education concerning students' reading ability.

Most Indonesian students have difficulty comprehending reading passages in English, discovering the main idea of a passage, identifying fulcrums, making inferences, and understanding vocabulary elements in context. For example, many students appear to be reading fluently, but a closer inspection reveals that they do not understand the text. Oktaviana (2017, p. 113) said, "Reading is a complex process, which involves not only the readers' ability to read the text but also their ability to comprehend it".

There are several reasons students have such difficulties. Armstrong (2003) noted that students can decipher a single word but have difficulty understanding the entire text. Some people have trouble with the basic grammatical structure of

sentences, while others have a hard time figuring out what to read or understand the author's intent.

Seeing this condition, English teachers must look on the bright side, realizing and taking advantage of the application of correct reading instruction skills. The teacher's responsibilities are to choose and use the methods or techniques and media to create a better and more effective teaching process (Muchith, 2008). When teachers can apply the methods or techniques effectively and appropriately, the teachers can develop students' reading skills and increase students' motivation, which will ultimately lead to an increase in learning objectives. Here, the English teacher must apply the most appropriate technique to improving students' skills in reading comprehension.

There are several reading techniques that teachers can use in the classroom. One of the recommended reading techniques here is a gallery walk. Gallery walk is a technique in the reading process that explores students' task. It was introduced as a strategy for monitoring comprehension, reviewing and synthesizing information, asking and answering question, and taking steps to improve students' understanding. Bowman (2005, p. 1) says that "gallery walk is one of the learner-centered activities that has been called by a lot of names and has many variations. The gallery walk connects learners to each other and learners to the training topic in several interesting, interactive ways". By implementing this versatile reading technique, English teachers can use it as an informational, opening (connecting), closing (celebrating), or assessment activity.

Gallery walk is flexible, and has many benefits. Bowman (2005, p. 3) states that the gallery walk connects the learned to training topic in several interesting, interactive ways. Gallery walk also has additional advantages of promoting cooperative, reading skill, and team building. The researchers used poster and text to implement gallery walk. According to O'neill & Jennings (2012, p. 3), using poster allows for question-and answer sessions, and the exchange of ideas and all the information. This is in line with Williams & Cullen (2016), and Gundogan et al. (2016); they stated that poster is essentially a method of visual communication, used to tell a story, and highlight the pertinent findings of a project. Communication of that message will be enhanced and strengthened through the

attention given to the following design components. Successful posters can generate discussion amongst the students. Therefore, it is important to have a simple plan of what to say when students stand in front of a poster.

Another technique that teachers can use to teach reading comprehension is numbered-heads together. Bayat (2004) cites Stone and Kagan (1994) defined it as a technique that allows students to be sequentially numbered in groups, each with a different number. The teacher asks the group members questions and allows them to discuss together. Students stand up when the teacher calls the number. The teacher chooses one of them to answer the question.

According to Maman and Rajab (2016), Nuruddin, Seken and Artini (2013), this technique is not only appropriate to teach language involving reading, listening, writing and speaking skill, it can be applied in some studies. Miaz (2015) and Yustitia (2017) also state that numbered-heads together can teach social studies and science studies. The result of their studies state that numbered-heads together technique gives better result on students' outcome in teaching and learning process. Additional advantage of this technique can be applied in every student's levels involving elementary level, junior high school and senior high school. This technique also leads students to get positive affective. As stated by Sutipnyo and Mosik (2018), Wijayanti, Roemintoyo, and Murwaningsih, (2017), and Putri, Budiyo, and Saputro, (2016), numbered-heads together can improve student's learning motivation, student's self-regulated learning and student's self-confidence.

It introduced all the techniques mentioned above in the cooperative teaching method. Macpherson (2000, p. 1) defines "cooperative learning is part of a group of teaching or learning techniques where students interact with each other to gain and practice the element of subject and to meet common learning goals". While, Jolliffe (2007, p. 3) says "cooperative learning requires students to work together in groups and support each other in order to improve their own and others' learning". This means that cooperative

learning allows students to think and solve problems together, and learn to appreciate the opinions of others. Hakim et al. (2013, p. 11), investigated that teaching method is significant to improving the reading skills of the students, but the moderating variables of introvert and extrovert personality style do not influence the improvement of the reading skills. Therefore, teachers should be motivated to apply a suitable learning model and used to do research to improve their teaching and learning process. Each student has a personal difference, typically. In English learning activities, teachers can effectively teach student by knowing students' personality. As mentioned by Bharati (2010), the government has been trying to improve Indonesian educational quality.

From the above explanation, it can be said that cooperative learning skills, including gallery walk and numbered-heads together, are very helpful for integrating and reviewing learning materials. They can be seen as focusing on active learning because they can encourage students to be actively take part in the teaching process and learn from each other and from the teacher. Therefore, English teachers are encouraged to use these interesting teaching techniques in their teaching and learning process.

There are seven objectives of this study; (1) to analyze introvert students' score of reading in order to explain the effectiveness of gallery walk technique. (2) to analyze introvert students' score of reading in order to explain the effectiveness of numbered-heads together technique. (3) to analyze extrovert students' score of reading in order to explain the effectiveness of gallery walk technique. (4) to analyze extrovert students' score of reading in order to explain the effectiveness of numbered-heads together technique. (5) to analyze the significant difference between the introvert students after taught by using gallery walk and numbered-heads together technique to teach reading. (6) to analyze the significant difference between the extrovert students after taught by using gallery walk and numbered-heads together technique to teach reading. (7) to analyze how the interaction is among teaching techniques (gallery walk and numbered-heads together), students' personalities, and students' reading comprehension.

Based on all the important issues stated above, the researchers would like to explore the effectiveness of techniques that can make students interested in

learning reading in senior high school. they are gallery walk and numbered-heads together techniques.

METHODS

This is quantitative research with a quasi-experimental study using a 2X2 factorial design. This study used a pre-test and a post-test with two experimental groups. The researchers gave different treatments to each group. Gallery walk is the first treatment method assigned to the first group. The second experimental group was taught by using the numbered-heads together technique. These two techniques were used to teach students with two distinct personalities. They are extroverts and introverts.

The researchers carried out the study at SMAN 1 Losari Cirebon. Experimental group one is X.2 and group two is X.3 and each class comprises 25 students.

There were three types of instruments used in this study for data collection. These are tests (pre-test and post-test), observation checklists, and questionnaires. The test results are used to determine students' reading comprehension performance before and after using two techniques (gallery walk and numbered-heads together). The questionnaire was used to rank the personality of the students. Two personality types were used as moderating variables in this study.

After obtaining data on the students' personalities from two classes, the researchers gave them the reading tests. The test comprises 30 items for reading comprehension. To see the effectiveness of the techniques, it performed a test with students of X.2 and X.3. After that, the data were analyzed and report writing began. The researchers used a closed questionnaire, an observation checklist, and a test. Qualitatively, the researchers analyzed the observational data, then analyzed the questionnaire and read the experimental data quantitatively using test and ANOVA. In order to find out detailed data such as mean, standard deviation, and standard error according to the specific purpose of analysis, this

study used the formula to analyze and collect data. It took the data from the students' pre-test and post-test scores. Therefore, these data were statistically analyzed through the Statistical Packages for Social Sciences (SPSS) computer program to form data tabulation.

RESULTS AND DISCUSSIONS

In this section, there will be a discussion of the research explaining the effectiveness of both techniques. Data were analyzed for statistical analysis using SPSS version 25.0. Data were taken from a questionnaire for student personality and scores before and after the test to know the effectiveness of the technique using pre-and post-test data.

Before the treatment, the students received an Eysenck Personality Inventory (EPI) questionnaire, which was devised by Eysenck (2004), to find out about students' personalities. It is then divided into introverted student personality and extroverted student personality. It was conducted to find out if the student's personality influenced their achievement and if there was an interaction between technique and personality.

After knowing the students' personalities, they were pre-tested to know their reading test scores. Then, treatments were performed for two experimental classes with different techniques. They then went through a test to get the final score after the treatment sessions.

Table 1. Paired Samples Statistics Gallery Walk of Introvert Students

| | Mean | N | Std. Deviation | Std. Error |
|----------------|---------|----|----------------|------------|
| Pair 1 Pretest | 70.7000 | 10 | 5.05635 | 1.59896 |
| Posttest | 78.3000 | 10 | 3.36815 | 1.06510 |

Table 1 shows the effectiveness of the gallery walk technique for introvert students. The result shows that there is a significant improvement to introvert students' post-test scores. A 7.60 point increases in the mean score. It showed that the pre-test was 70.70 and the post-test was 78.30. The gallery walk technique is effective and has a significant difference when it is used to teach reading comprehension to introvert students in experimental class one. It can be seen from students' pre-test and post-test scores. The mean score of the post-test is higher than the mean score of a pre-test. The

statistical analysis shows that the significance value is lower than the level of significance. It means that the gallery walk technique is effective and has a significant difference when it is used to teach reading comprehension to introverted students' personalities.

Table 2. Paired Samples Statistics Gallery Walk of Extrovert Students

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|----------|---------|----|----------------|-----------------|
| Pair 1 | Pretest | 71.4000 | 10 | 4.29987 | 1.35974 |
| | Posttest | 78.4000 | 10 | 3.94968 | 1.24900 |

Table 2 describes the effectiveness of the gallery walk technique for extrovert students. The result shows that there is a significant improvement to the extrovert students' post-test scores. The mean score increases by 7.00 points. It showed that the pre-test was 71.40 and the post-test was 78.40. The mean of the post-test score was higher than the mean of pre-test score. It proves that gallery walk is effective to teach reading comprehension to extrovert students. It is proven by the result of statistical analysis and the mean score. It shows that the significant value is lower than the significance level. The mean score of the post-test was higher than the mean score of a pre-test. Thus, it can be stated that gallery walk is effective and has a significant difference when it is used to teach reading comprehension to the extrovert students' personalities.

Table 3. Paired Samples Statistics Numbered Heads Together of Introvert Students

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|----------|---------|----|----------------|-----------------|
| Pair 1 | Pretest | 76.6000 | 10 | 2.63312 | .83267 |
| | Posttest | 82.0000 | 10 | 3.05505 | .96609 |

Table 3 shows the effectiveness of the numbered-heads together technique to teach reading comprehension to introverted students. The result shows that there is a significant improvement to the introvert students' post-test scores. The mean score increases by 5.40 points. It

showed that the pre-test was 76.60 and the post-test was 82.00. The mean post-test was higher than the mean pre-test. It means that numbered-head together is effective to teach reading comprehension to introverted students. T count measurement also supported it. T count is higher than the t table, so Ha is accepted. It can be seen from the score of pre-test and post-test. The mean score of the post-test was higher than the mean score of the pre-test. Therefore, the use of the numbered-head together technique is effective to teach reading comprehension to introverted students because it gives significant results toward students' reading achievement.

Table 4. Paired Samples Statistics Numbered Heads Together of Extrovert Students

| | | Mean | N | Std. Deviation | Std. Error Mean |
|--------|----------|---------|----|----------------|-----------------|
| Pair 1 | Pretest | 77.0000 | 10 | 3.82971 | 1.21106 |
| | Posttest | 82.7000 | 10 | 2.62679 | .83066 |

Table 4 shows that there is a significant improvement to the extrovert students' post-test scores. The mean score increases by 5.7 points. It showed that the pre-test was 77.00 and the post-test was 82.70. The mean of the post-test score was higher than the mean of the pre-test score. It means that numbered heads together technique is effective to teach reading comprehension to extrovert students. It is proven by the result of the statistical analysis and mean score. It shows that the significant value is lower than the significance level. The mean score of the post-test was higher than the mean score of the pre-test. Thus, it can be stated that the numbered-head together technique is effective and has a significant difference when it is used to teach reading comprehension to the extrovert students' personalities.

Table 5. Group Statistics of Gallery Walk and Numbered Heads Together Technique of Introvert Students

| Class | N | Mean | Std. Deviation | Std. Error Mean |
|------------------------------|----|---------|----------------|-----------------|
| Score Gallery Walk Introvert | 10 | 78.3000 | 3.36815 | 1.06510 |

| | | | | | | | | | | |
|-----------------------------------|----|---------|---------|---------|-----------------------------------|--------------|----|---------|---------|---------|
| Numbered Heads Together Introvert | 10 | 82.3000 | 3.30151 | 1.04403 | Score | Gallery Walk | 10 | 78.4000 | 3.94968 | 1.24900 |
| | | | | | Introvert | | | | | |
| | | | | | Numbered Heads Together Introvert | | | | | |

Table 5 shows that the mean score of students who were taught the gallery walk technique was 78.30 and those taught by the numbered-heads together technique was 82.30. The mean score of the post-test of experiment class two that is treated with the number head together technique is higher than the mean score of the post-test of experimental one that is treated with gallery walk technique. The improvement between the two classes was 4.0 points. It can be concluded that numbered heads together technique is more effective than the gallery walk technique for introverted students. Thus, there is a significant difference between using gallery walk and numbered heads together techniques to teach reading comprehension for introverted students.

Table 6. Group Statistics of Gallery Walk and Numbered Heads Together Technique of Extrovert Students

| Class | N | Mean | Std. Deviation | Std. Error |
|-------|---|------|----------------|------------|
|-------|---|------|----------------|------------|

The result on the significant difference between the extrovert students after being taught by using gallery walk and numbered-heads together, showed that gallery walk and numbered-heads together techniques gave improvement on the students' achievement in reading comprehension from pre-test to post-test for extrovert students. Table 6 shows that the mean score of students who had the gallery walk technique was 78.40 and the students who had the numbered-heads together technique was 82.70. It can be concluded that gallery walk and numbered-heads together techniques can effectively improve the reading comprehension of students. The improvement between the two classes was 4.30 points. It can be seen from the significance value which is lower than the significance level. And the mean score of post-test in experimental class two that is taught by using numbered-heads together technique is higher than the mean score of post-test of gallery walk technique. Therefore, the numbered-heads together technique is more effective than the gallery walk technique in teaching reading comprehension to extrovert students.

Table 7. 2X2 Factorial Design with ANOVA

| Source | Type III Squares | df | Mean Square | F | Sig. |
|------------------------|----------------------|----|-------------|-----------|------|
| Corrected Model | 128.600 ^a | 3 | 42.867 | 4.437 | .009 |
| Intercept | 257281.600 | 1 | 257281.600 | 26630.643 | .000 |
| Personality | 4.900 | 1 | 4.900 | .507 | .481 |
| Technique | 115.600 | 1 | 115.600 | 11.965 | .001 |
| Personality *Technique | *8.100 | 1 | 8.100 | .838 | .366 |
| Error | 347.800 | 36 | 9.661 | | |
| Total | 257758.000 | 40 | | | |
| Corrected Total | 476.400 | 39 | | | |

a. R Squared = .270 (Adjusted R Squared = .209)

ANOVA has several phases to do. They test the alternative hypothesis (H_a), level of significance (5%), F-count, F-table, and compare F-count with F-table. To compare the significant differences between F-count with F-table, 'the alternative hypothesis (H_a) is accepted if $F \text{ count} > F \text{ table}$ '.

Based on Table 7, the result related to the interaction between the use of technique, students' personality, and reading comprehension show that the F value of technique was 11.965 and the Sig. value of technique was 0.001. Since the Sig. value was less than 0.05, it showed that there was a significant effect difference on the students' academic performance achievement between the first experimental class treated by gallery walk technique and the experimental class treated by numbered-heads together technique.

The F value of personality was 0.507 and Sig. value was 0.481. Since the Sig. value was over 0.05, it means that there was no significant difference in students' test score between introvert and extrovert students' personality.

The value of Sig. of technique and personality was 0.838 and Sig value 0.366. It was over 0.05, so there was no interaction among technique, students' personality, and reading achievement. The statistical analysis showed that the significance value of the technique is lower than the significance level. And the significance value of personality is higher than the significance level. It means that there is no interaction among technique, students' personality, and reading achievement.

This study has proven that the gallery walk and numbered-heads together technique could help the students increasing students' achievement in reading for both introvert and extrovert personality. As it was explained in the previous studies of Soleiman (2013), and Fernandez and Rodgers (2010) that gallery walk can be very positive. Naibaho (2019), also confirmed that numbered-heads together was effective for increasing students' activity and students learning achievement in learning English. Most students considered these techniques were useful for improving the learning process. Mayanti, Syarif and Refnaldi (2018) suggested the English teachers

should be more creative in choosing to teach strategy and technique. By having many appropriate strategies and techniques, teacher easier to help students in achieving their goals in the learning process.

Meanwhile, this study compares two techniques for two different students' personality. They are gallery walk and numbered-heads together techniques. Those techniques were effectively implemented in teaching reading comprehension for extrovert and introvert students, even though numbered-heads together are more effective for improving the learning process than gallery walk.

CONCLUSIONS

Reading is an activity of getting information and knowledge about everything. It is helpful for language acquisition. Teaching reading comprehension is necessary for students to help them understand the text. This study investigates whether gallery walk and numbered-heads together techniques effectively teach reading comprehension to the introvert and extrovert students. Some conclusions can be drawn. First, the students' personality, which is introvert and extrovert, influence reading comprehension by using gallery walks and numbered ends together. Second, both extrovert and introvert students improved their reading comprehension after being taught by gallery walk and numbered-heads together techniques.

There was no significant difference in students' reading comprehension achievement. Third, the numbered-heads together technique is more slightly effective than the gallery walk technique. Those techniques are effective for extroverted and introverted students learning reading comprehension. The last, there is no interaction among students' personality, teaching techniques, and reading comprehension.

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