Implementing Jigsaw Strategy to Enhance Students' Reading Comprehension

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Abstract

The objectives of this research are to describe how the use of jigsaw strategy can increase the students' reading comprehension and to identify the students' attitude toward the use of jigsaw strategy in reading class. The subject of the research was the eleventh-grade students of Islamic High School in Boyolali. The research was classroom action research. The researcher found two improvements: First, the students' reading comprehension skills improved after the implementation of the jigsaw strategy. It is proved by the result of the students' mean score of the test that is 43 in pre-test and 55 in post-test 1 and 65 in post-test 2. It means that there is an enhancement of the students' reading comprehension achievement after the action. Second, students' attitudes toward the use of jigsaw strategy can be enjoyable and actively involved in the learning process. They can process the information, construct the understanding, apply knowledge, and solve problems better and also they can share their knowledge and help each other in the learning process. They also discipline and respect others during the learning process. It means that their aspects of attitude, such as cognitive, affective, and behavior are improved.

Keywords: Jigsaw strategy, Reading Comprehension, students' attitude

INTRODUCTION

Mastering English is now a must for people living in this modern era. English has become an important aspect in education, industry, tourism, etc. Reading is one of the important skills to master English. Pang et al (2003) stated that learning to read is a major educational priority. The ability to read opens new worlds and possibilities for both children and adults. It allows us to acquire new knowledge, to enjoy literature, and to do activities that are part of modern life, such as reading a newspaper, listening to jobs, instructions, maps, etc. The students should have good reading comprehension to grasp a deep understanding of subject matter in every lesson. The researcher found some problems related to the teaching and learning process of reading. It is indicated through

the following indicators: (1) Students got difficulties finding the main idea of the text, it is because of their lacks of vocabularies that they have; (2) Students got difficulties in identifying the explicit information of the text; (3) Students got difficulties in identifying the implicit information of the text (4) Students got difficulties to grasp the meaning of words; and (5) Students got difficulties to determine references. Generally, the problems might be caused by external factors, such as the material that was too difficult and the method that the teacher used in learning English process was not interesting. And the internal factors can be caused by the students' interest, behavior and intelligence.

Effective teaching depends on awareness, attitudes, skills, and learning outcomes. The effectiveness of teaching and learning processes can be promoted in a learning environment by effective techniques. The proper technique or strategy to overcome the problems should be a strategy that makes both the teacher and students have effective learning of reading. The jigsaw strategy is a part of cooperative learning methods proposed by Aronson (1971) that has been employed by hundreds of schools across the nations and has been heralded success (Johnson & Johnson, 1992). According to Brown (2001, p. 185) Jigsaw strategy is a particular form of information gap in which specific information is provided to each member of the group and the goal is to gather all the information to accomplish those objectives. The arrangement of the jigsaw encourages respectful interdependence and also offers a simple method for ensuring individual accountability.

LITERATURE REVIEW
Reading

Reading is what happens when someone sees a text then gives text a meaning (Aebersold and Field, 1997). Reading is the thought process involving the act of identifying and reading graphic symbol terms (Burns, 1954). Besides, a person should be able to use information to determine the objectives of the writer, draw conclusions from a text, understand figurative language, and analyze the ideas presented and then apply them to the actual situation. Further definition about reading is given by Pang et. al (2003) who stated that reading is a dynamic activity involving both vision and thought. Learning consists of two mechanisms linked to it: word recognition and comprehension. Word recognition refers to the process of perceiving how words written equate to the language spoken by one. Comprehension is the process of making sense of words, phrases and related text.

Durkin (1993) claimed that the nature of reading and the active process of constructing meaning from the text is comprehension. Van den Broek & Espin (2012) claimed that understanding reading is a complex interaction between automatic and strategic cognitive processes that helps the reader to construct a text representation. Basic reading skills, decoding, vocabulary, structure of text, inference and motivation are parts of language comprehension. Grabe (2005) suggested six general component reading skills and knowledge: (a) automatic recognition skills, (b) vocabulary and conceptual knowledge, (c) formal structural discourse awareness, (d) context knowledge of content, (e) synthesis and assessment skills / strategies, and (f) metacognitive analysis of knowledge and skills. In addition, Klingner (2007, p. 2) claimed that reading

understanding is the process of creating meaning by integrating a number of complex processes, including word reading, word and world knowledge, and fluency. Different readings may have their own ways and strategies in their favor and purpose in reading comprehension. Many ways of reading have been suggested by linguists, mainly used in Francoise Grallet (1998, p. 40): skimming, scanning, extensive reading and intensive reading. Wallace (1992) claimed that the wider task of expanding our general knowledge of the world serves as a means of finding information on a strictly utilitarian basis-reading for survival. The ability of reading comprehension can be applied in other subjects. For wider views, the act of reading comprehension plays a crucial role in our society.

Jigsaw Strategy

Aronson invented the Jigsaw strategy in 1971. It is one of the cooperative learning strategy techniques in the teaching process of learning. Jigsaw is a cooperative learning that depends on the group members themselves for the success of the learning goals. That group member is important. They have the important role to play together in achieving the goals. The jigsaw approach promotes attention, involvement, and empathy by giving each group member an essential part in the learning activity to be involved. As a team, the community will work together to achieve a shared goal. Brown (2001, p. 185) describes jigsaw as a particular form of information gap in which specific information is provided to each group member and the goal is to pool all information in order to achieve certain goals. Jigsaw is also described as a small-group cooperative learning technique that involves the teacher in placing students in situations where they have to rely on each other.

The researcher used stages of jigsaw strategy promoted by Marhamah and Mulyadi (2013) in teaching reading comprehension as follows: (1) Define the group project or main subject that the class is going to focus on. (2) Divide the class randomly into groups of 4-5 students each, usually depending on the size of the class and assign a number (1 to 4-5) to each group of students. The name of this group is the home group. (3) Assign a subject to each student or number to become an expert. (4) The subjects should be facts relevant to a general theme of content. (5) Rearrange the students according to their assigned numbers and topics into expert groups. (6) Provide the experts with the necessary materials and resources to learn about their subjects. (7) Experts should be given the chance to acquire knowledge by reading, studying and discussing. (8) Reassemble the original group. (9) Experts then show the rest of the group what they've learned. (10) Take turns until the new materials are discussed by all experts.

Students' Attitude

Psychology and education researchers find multiple interpretations of attitude that apply to different meanings from different contexts and viewpoints (Alhmali, 2007). According to Fazio & Roskos-Ewoldsen (1994); Tesser & Martin (1996) Positive or negative responses to any part of the social world are attitudes. Fasold (1984) proclaimed the attitude to be either mentalistic or behavioral. In other words, attitude is regarded as a variable between a stimulus and a response that affects the behavior of people.

According to Eagly and Chaiken (1993) attitude is a psychological tendency reflected through the appraisal of a particular entity with some degree of like and dislike.

Wenden (1991) offers a broad definition of the concept of attitude. The word "attitude" has been divided into three interrelated categories with three components, i.e., Cognitive, affective and behavioral. The cognitive aspect includes the attitude object's beliefs, thoughts, or perspectives. In this aspect, learning processes include a hierarchy of skills involving information processing, understanding building, knowledge application, problem solving, and research conducting. The affective aspect refers to the feelings and emotions of the person towards an object, whether they like it or not. It includes honesty, caring, responsibility and others. Besides, effective indicators also need to bring up social skills such as: asking questions, contributing ideas or arguing, being good listeners, communicating and so on. The aspect of behavior includes the propensity to follow specific behaviors of learning. It deals with the way one behaves and reacts in particular situations.

METHODOLOGY

This research was conducted at Islamic High School in Boyolali in the academic year of 2018/2019. The subject of the study is the second grade science program in Islamic High School in Boyolali. The classroom consists of 24 students, 6 males and 18 females.

This research was carried out using classroom action research. There are some definitions of action research. Mills (2000, p. 6) defines action research as a systematic investigation conducted by the researcher, principal, school counselor, or other teaching environment stakeholders to obtain information on how they teach and how well they learn. Ebbut (1985) describes action research as a systematic study of an effort to enhance instructional activity by groups of participants and by their own ways of performing the action and by means of their own reflective effects. Kemmis and McTaggart (1988, p. 7-9) in Burns, stated that AR (Action Research) involves four phases in a cycle of research; planning, action, observation and reflection.

The researcher used quantitative and qualitative methods for data collection. Quantitative methods included a pre-test and post-test. Meanwhile, the qualitative method included observation, interview and questionnaire. The quantitative data were obtained by calculating the mean score of the tests. The qualitative data was analyzed using the steps of assembling the data, comparing the data, building interpretations, and reporting the outcomes (Burns 1999).

FINDINGS AND DISCUSSION

The result of pre-observation activity, the researcher found some phenomena that frequently happen during the English class, i.e. The students were passive and did not quickly understand the material, they got difficult in conveying the conclusion of the material, most of the students got difficult in doing the task and most students did not finish their task. The students did not participate actively in the learning process but they kept their honesty, caring, and responsibility with each other. Seen from students'

behavioral aspects, they did not use the learning effectively and they were a little bit noisy in following the lesson. And the students' achievement in pre-test was 43.

The research was aimed to describe how jigsaw strategy could improve the students' reading comprehension and to identify the students' attitude in reading class. First was how jigsaw can improve the students' reading comprehension. It described in the table 1 and 2 below which showed the students' mean score in reading comprehension:

Table 1: The Students' score of Reading Comprehension

Table 1: the students' score of reading comprehension

Explanation	Pre-test	Post-test 1	Post-test 2
The highest score	64	72	88
The lowest score	24	40	16
The mean score	43	55	65

The first finding related to the research question number 1. The finding is the improvement of the students' reading comprehension skill. The students' mean score proves it increased from 43 to 55 and 65. Based on the result, the researcher concludes that most of the students could comprehend the text. They could answer the questions dealing with identifying the main idea, explicit information, implicit information, the meaning of words, and reference. Those were because the students could share their knowledge with others in the jigsaw group. In this activity, they also could learn more than one time. The result of the students' reading comprehension achievement shows that the implementation of the jigsaw strategy can enhance the students' reading comprehension. It can be shown by analyzing the result of the tests. The students' did three tests; the pre-test, the post-test 1 and the post-test 2. The students' mean score in pre-test is 43 and the students' mean score in post-test 1 is 55 then increased to 65 in post-test 2. It means that there is an improvement in the students' reading comprehension. It was suitable with Stevens and Slavin (in Orlich 1998, p. 275) stating that Jigsaw was shown to improve students' achievement at all levels of reading, writing, computing and applying mathematics, comprehension and critical thinking.

Table 2: Students' Mean Score of the Indicators of Reading Comprehension

	Indicator	Pre-test	Post-test 1	Post-test 2
1	Identifying main idea	14.2	11.2	10.0
2	Identifying explicit information	6.2	7.3	11.7
3	Identifying implicit information	7.0	7.7	11.0
4	Identifying meaning of words	9.0	14.3	14.5
5	Identifying reference	6.7	14.5	17.5

The improvement of the students' reading comprehension could be seen from the table above, the researcher concludes that the highest improvement of the indicators of reading comprehension was identifying the references. It shows that the mean score in pre-test was 6.7 and then increased to 14.5 and increased again reaches the score 17.5 The lowest improvement of the indicators of reading comprehension was identifying main idea of the text, from the table above, the indicator of identifying main idea decreased significantly from 14.2 in pre-test then dropped to 11.2 and dropped again to 10.0. This is very regrettable because the achievement of the indicator of identifying the main idea decreased. Meanwhile, the pre-test reached the highest value compared with the other indicators.

The second finding is the students' attitude toward the use of jigsaw strategy. Before action research, some problems occurred in the learning process. Most of the students were passive. After the action research was implemented to the students, they started to be active and enthusiastic during the lesson.

The researcher concludes that the aspects of students' attitude significantly improved and had a positive result. The result stated that the indicators of the cognitive aspect of students increase in each cycle. The first indicator is processing the information. In pre-observation, the students did not quickly understand the material. Then in cycle 1, they slowly started to understand the material and quickly understood the new material in cycle 2. The second is constructing information. The students had difficulty in conveying the conclusion of the material in pre-observation. Then in cycle 1 some students started to become confident in conveying the conclusion of the materials. It increases again in cycle 2, the students were confident in conveying the conclusion of the material. The third is applying knowledge. In pre-observation and cycle 1, the students still got difficulties in doing the task and then they started to do the task well in cycle 2. The fourth is problem solving, it increases better than before the action. The students finished their task in a group discussion after not finishing in the pre-observation.

The indicators of the affective aspect are stable in each cycle. The first indicator is students' honesty. They were honest in doing the task in pre-observation, cycle 1, and cycle 2. The second indicator is students' caring for each other. It appeared in the learning process, they were easy going to help each other. The next indicator is students' responsibility. It can be seen from their responsibility in completing the task in group discussion. The fourth indicator is students' social skills. It is going well. It can be seen in cycle 1 and 2, the students were brave in asking, arguing and communicating with others after in pre-observation they were passive in following the learning process.

The behavior aspect showed a positive response except the students' behavior in following the learning process. The students tended to be noisy both in discussion and their own business. While, the students' reaction in following the learning process shows the good result. They used the discussion effectively after in pre-observation they did not use the learning effectively.

The use of jigsaw strategy can create an active and interactive atmosphere during the learning process. It requires students to communicate with each other in learning the material. They learn the material while discussing their teamwork which makes the class situation active. When the jigsaw strategy was implemented, the class became noisy, but

the students were noisy because they talked about the material, shared their ideas to their group, and helped each other. It is suitable with the statement from Adams (2013, p. 74), who confirmed that jigsaw makes the pupils able to take an active part in the lesson by answering questions during and after the learning process. Another theory from Sharan (1989; Webb, 1985, 1988) stated that Cooperative learning jigsaw will help students to explain what they have learned and what they still need to know in their own heads.

Attitude can be thought of as learned patterns of behavior that influence someone how to act or how to see a particular object, situation, idea, or person in a specific way. Moreover, based on the construct of theory, attitudes can be measured by considering some indicators which represent all of the aspects of attitudes. The aspects are cognitive, affective, and behavioral. The difference of one's attitudes does not come from the students' various skill levels, but it gradually develops on the basis of their learning experience. It is supported by Mouly (1968, p. 454) that attitudes arise as the by-products of one's daily experiences. Instead, everything that happens in the classroom as it affects the child leads to certain attitudes being formed on his part.

In analyzing the data collected from the observation and the questionnaire, it was explained that the students' attitude has both positive and negative results. In pre-observation, the researcher viewed from the cognitive aspects that most of the students in the classroom were passive in following the learning process and not quickly understanding about the material, some of them were unconfident in conveying the conclusion of the material. Then, in cycle 1 and cycle 2, the students' attitude changed after the researcher implemented the jigsaw strategy. They started to understand the material and applied the knowledge about the material well in a discussion. They were brave enough to convey their ideas about the material and completed the task in group discussion. They also started to be active in every meeting of each cycle. Viewed from the affective aspects, the researcher found that the students did not involve actively in following the learning process. Still, their honesty, caring, and responsibility with each other was good. Then, the students' attitude changed better along with the meetings of each cycle. They started to be actively following the learning process. Viewed from the behavioral aspects, the students did not use the learning effectively, they were busy with their own business and they made a noise in following the learning process. After the jigsaw strategy was implemented, the students started to pay more attention to the teacher and each other. But they tend to make a noise in the learning process, both for discussion and their own business. Considering the discoveries above, it is undeniable that the students' behavioral engagement is playing a role in determining the students' attitude on a particular object in the learning activity. Aiken (1997, p. 251) stated that three aspects of cognitive, affective, and behavioral are necessary to measure the general attitudes of someone to a certain object. From these aspects, the teacher can determine what aspect of the students that they are not able to respond well to.

Based on the result of the research above, it can be concluded that jigsaw strategy can improve both the students' reading comprehension and the students' attitude in the classroom.

CONCLUSION AND SUGGESTION

The researcher concludes that the implementation of jigsaw strategy to enhance students' reading comprehension of the eleventh grade of Islamic High School in Boyolali is successfully implemented.

First, from the result of the data, it indicates that the use of jigsaw strategy can increase the students' reading comprehension of the classroom of Islamic High School in Boyolali. Statistically, the students' reading achievement mean score increased from 43 in the pre-test to 55 in the post-test 1 and rose to 65 in the post-test 2. It proved that the implementation of jigsaw strategy can enhance the students' reading comprehension.

The second is about the students' attitude toward the use of jigsaw strategy in reading class. The researcher draws conclusions based on the observation sheet and the questionnaire distributed to the students at the end of the action. The result of the questionnaire showed that most of the students give a good response. It means that their aspects of cognitive, affective, and behavioral are good. The cognitive aspects of students increase in each cycle, such as processing the information, constructing information, applying knowledge and problem solving increases are better than before the action. It also includes affective aspects, the students' honesty, caring, responsibility and social skills are also going well. Then in behavior aspects showed a positive response except the students' behavior in following the learning process, they tended to be noisy both in discussion and their own business. It means that they can process the information, construct the understanding, apply knowledge and solve problems better and also they have good honesty, caring, responsibility, and social skills in the learning process. In the learning process, the students are disciplined and respect others during the lesson.

Based on the results of the study, the researcher has some suggestions for improving student reading comprehension. To the students, a) In reading comprehension, they should practice their ability to increase their awareness and rich vocabulary. b) They should be involved in the learning process. They need to be active and keep their attitude better not only in the English subject but also in other subjects.

To the teachers, a) among a lot of teaching techniques, the teacher should choose the appropriate technique selectively. Jigsaw strategy is one of the teaching techniques that improved the students' reading comprehension. It gives students positive effects that make the content produced better. b) through jigsaw strategy, Students can have a good relationship with each other. Students try to appreciate others by sharing their knowledge. c) in the use of jigsaw strategy, The teacher must lead the students to do well in the process. Students should be well interested in the group discussion. In fact, the teacher should provide some learning experience and appropriate content clarification.

To other researchers, this research discusses the implementation of jigsaw strategy to enhance students' reading comprehension which is conducted on the eleventh-grade students of senior high school level. Further study can be conducted in different subject areas and levels of students. Considering that this research still has any lack, the researcher hopes that the other researchers can use the result of this research as the references for further research on a similar problem.

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