Application of The Jigsaw Type Cooperative Learning Model to Improve English Learning Outcomes

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ABSTRACT

This study aims to improve students' learning outcomes of the grade X.11. The research was classroom action research conducted in SMA Negeri 5 Semarang with the research subject was 36 students. The results of this research are that there is an improvement of student's activity of each indicator in each cycle that has been done at the end of the second cycle of all indicators. The activity of students has reached $\geq$ 75% of minimum score. The results of student learning in cycle I, which is 65.83 increased to 80.97 in cycle II or increased by 22.99%. Besides that, it also increases student learning activities as evidenced by the score for group activity, which is 63% in cycle I increased to 78% in cycle II. The conclusion of research showed that cooperative learning by using jigsaws makes an improvement of the learning outcomes of class X 11 students at SMA Negeri 5 Semarang in English subjects with descriptive text and recount text material.

Keyword : Classroom Action Research, Jigsaw, Student's outcome

1. INTRODUCTION

English has grown to be considered the first foreign language used by people all around the world, as a result of its broad usage in business, travel, and technology. Susanto et al., (2020) state that it is impossible to deny the expanding impact of modern technology on globalization in education in terms of teaching and learning activities. Learning a foreign language is a difficult task that calls for a variety of learning strategies. Therefore, teachers must select a learning model that is suitable for the content and amount of time available. Law on the National Education System (No. 20/2003) stated that education is a deliberate effort to provide a learning environment and learning processes so that students actively develop their potential, have religious spiritual strength, self-control, personality, intelligence, and skills that are needed by themselves, the community, the nation, and the country.

Many teachers today prioritize memorizing over understanding in the learning process, leading to passive students and below-average grades. To improve the learning environment, teachers should plan and create collaborative learning environments that encourage student interaction and understanding. The cooperative learning approach, a group-based activity, has been discovered to promote student participation in the teaching and learning process. Developing appropriate teaching strategies and preparing the classroom environment for effective communication and learning are crucial. Where learning is dependent on interactions between experts in groups, each student is responsible for the learning process in class and also in his group (Jumrah, 2023; Anggriani, 2022).

Based on initial observations made on class X 11 students at SMA Negeri 5 Semarang during guided learning, it was found that English learning did not provide meaningful activities for students. Because the teaching method is considered as monotonous, students are less motivated to learn English. As a result, only the teacher is more active while the students are more passive in receiving the lessons given by the teacher. In other words, the atmosphere for learning English for class X 11 students at SMA Negeri 5 Semarang seems stiff, which

results in the teaching and learning process not running optimally.

Low student learning activities and low student learning outcomes are caused by low implementation of the learning process. Students rarely ask questions of their teachers or other students. Most students just sit quietly listening, following or taking notes on the teacher's lesson material until the learning hour ends. According to the data on learning outcomes, genuine efforts and actions are required to change students' learning strategies so that they participate more actively in classroom learning activities.

Suprijono (2016) stated that idealistic learning implies mental, physical and social activities, leading to the all-round development of the individual. Therefore, learning can be understood as the process of seeking knowledge or knowledge brings about changes in behaviour level. Based on Johnson, Johnson, dan Smith (2006) learning is a personal process and also a social process that occurs when each people relates to others and builds understanding and shared knowledge. Learning is a difficult idea and process. Most educators and students would agree that social and emotional learning are just as important as cognitive learning, thinking, and problem-solving (Wahyuni). Learning involves the growth of the mind, body, and soul. Advancement and expansion are developments. Development is evidence that learning has occurred. To learn, one needs to apply themselves to a certain situation or setting

Depending on the context of their work and other variables at the moment, learning is considered differently by those who have spent time exploring and experimenting in the field. We will examine the work of both behaviourist and cognitive psychologists and take into consideration the very different perspectives that each takes and the very different descriptions that each might offer of a process that, for most of us, comes very effortlessly. Teachers who want to design activities that could result in successful learning taking place in classrooms need to have a fundamental understanding of how learning occurs.

Rifa'i dan Anni (2009), Sudjana (2010), Hamalik (2008) stated that learning outcomes are improvements in behavior that students experience as a result of participating in learning activities. Then the skills that students have from their educational experience. It can also be a change in behavior in someone who previously didn't know to know and who previously didn't understand becomes understanding is the result and proof that someone has learned. Beside that Meliyana (2018) said that the key reason for these learning outcomes is teacher assessment. Learning impacts and supplementary impacts are both examples of learning outcomes. For teachers and students, both effects are positive.

To get the best learning outcomes, teachers must take great care to select and implement teaching strategies that permit modifications to student activities as needed. Jigsaw type cooperative learning is believed to be able to change the low level of English learning activity of class X 11 students at SMA Negeri 5 Semarang to become more active, as the Jigsaw type cooperative learning method is intended to increase students' sense of responsibility towards both their own learning and the learning of others. Students must be ready to present and teach the offered content to their group in addition to learning it themselves.

Arends (2001) said that Salvin and associates at John Hopkins University modified Jigsaw after it had initially been created and tested by Elliot Aronson and friends at the University of Texas. Reading, listening, or speaking instruction can all be taught using jigsaw puzzles. This strategy involves the teacher paying close attention to the students' schemata or past experiences and assisting the students in bringing these schemata to life so that the learning material has more relevance. Harmer (2007) as cited by Murtiningsih (2018) pointed out that Jigsaw reading is one of the most highly regarded educational strategies since it offers an option to reading aloud to oneself.

Isjoni (2010) claimed that a strategy that can motivate students is the cooperative learning model of the jigsaw type. The Jigsaw Type Cooperative Learning Model divides students into small groups with members between 4-6 who are heterogeneous and have a beneficial relationship and are independently responsible for the accuracy of the educational material that must be studied and shared with homegroup members who are active and achieve maximum performance. The Jigsaw Type Cooperative Learning Model is a technique that can motivate students to work hard and reach their full potential.

The Jigsaw Type Cooperative Learning Model can be applied to help students develop their research abilities when working with the data or materials they must gather, analyse, and then transform into a shared understanding (Shume: 2016).

A cooperative learning approach known as the "Jigsaw Type" assigns students to groups of 4-6 individuals, with each student in charge of memorizing one sub-chapter that is then taught to the group as a whole. In the jigsaw cooperative learning paradigm, the teacher serves as a facilitator to help students build teamwork, cooperative learning skills, and in-depth knowledge that would be hard to acquire if they were to learn the material alone. It can be used to develop research skills in dealing with information or materials that students must gather, analyse, and turn into a shared knowledge.

2. RESEARCH METHOD

This research is Classroom Action Research Collaboration. This research was carried out in collaboration with subject teachers and field lecturers. This Classroom Action Research offers new ways and procedures for teachers to increase the success of the learning process by looking at various indicators of the success of the learning process that occurs among students. The research was conducted in SMA Negeri 5 Semarang which is located in Pemuda street no 143, Sekayu, Semarang Tengah, Semarang, Central Java in July to August 2023.

Based on Kemis (2014) to do research using the classroom action research technique, there are generally four parts that must be completed: (1) preparation, (2) implementation, (3) observation, and (4) reflection. For this research, the researcher did 2 cycles of the learning process.

The subjects of this research were 36 students of class X 11. The object of this research is the implementation of learning activities using the Jigsaw Type Cooperative Learning Model as an effort to improve learning outcomes in English subjects in descriptive and recount text material.

Data collection techniques used for data collection in this research is observation, test and documentation

Research instruments are needed to obtain data or collect accurate data. Instruments used in this research aim to obtain data about the quality of learning using a jigsaw type learning model, and student learning outcomes in the form of a test of the ability to solve questions in English subjects. The questions in the formative test are used to obtain data on student learning outcomes at the end of each cycle. The test questions were created by researchers using a formative test grid guide.

Data analysis was carried out based on the data collection process using research instruments in the form of data from observations and student ability test results. Then the data obtained are analyzed qualitatively and quantitatively.

The calculation of the percentage of learning activities of students per group in following the learning process is as follows:

$$\text{Percentage of students activity} = \frac{\text{Total Score}}{\text{Total of students X Maximal Score}} \times 100\%$$

Persentase	Kriteria
75% - 100%	Master
50% - 74,99%	High
25% - 49,99%	Midel
0% - 24,99%	Low

(Yonny et al 2012: 175-6)
Tabel 1 Student Activeness Percentage

Quantitative analysis is used to determine the increase in student learning outcomes in English subjects through the jigsaw method. The statistical formula used is:

$$P = F / N \times 100$$

P = Percentage Number
F = Number of answers
N = Number of individuals.

$$Mx = \sum X/N$$

Information:
Mx = Class average
N = Number of students taking the test
$\sum X$ = Sum of all data values

The student completion percentage is calculated using the formula

$$P = R/N \times 100\%$$

Information:
P = Percentage of student completeness
R = Number of students who scored ≥ 70
N = Many students

The indicator of success in this research is an increase in student activities and student learning outcomes in English subjects from cycle to cycle, namely improving student learning outcomes as indicated by achieving the minimum completeness criteria (KKM) in English subjects with a minimum score of 75 reaching 75% at the end of the cycle.

3. FINDING AND DISCUSSION

Research results obtained by researchers in classroom action research in SMA Negeri 5 Semarang in cycles I and II include test and non-test results. The test results obtained are in the form of formative test scores, namely formative test I for cycle I and formative test II for cycle II. While the non-test results obtained are in the form of observation data, namely observations of student learning activities. The full research results will be presented in detail as follows:

Cycle I

The data collected during the implementation of cycle I actions was divided into two categories: learning outcome data and observation data collected during the learning process. The learning outcome data is a list of values obtained from the implementation of formative test I, whereas the observation data is a list of values obtained from observations of student learning activities.

Student learning outcomes from cycle I actions were obtained through formative test I, which was carried out at the end of the cycle I meeting, on July 31, 2023.

Students' formative test results in cycle I achieved an average grade of 65.83. This indicates that learning in the first cycle did not meet the standard success indicators of an average score of at least 75 and a completion rate of 75%. However, given the high percentage of classical completeness, learning in the first cycle remains far below the success indicators that have been established. Only six students out of a total of 36 have completed or passed the minimum completeness criteria. The outcomes of the formative test I describe the student learning outcomes during cycle I implementation. Meanwhile, using the jigsaw type cooperative learning model, student learning outcomes can be determined by the results of the quiz, specifically the quiz at the end of cycle 1. The growth scores obtained by each student in his group will be averaged and

used to determine student awards. At meeting 1, awards were distributed to all existing groups, identifying two groups as middle groups, two groups as good groups, and two groups as master groups.

Based on the test and non-test results obtained, researchers feel that they have not maximized in applying the jigsaw-type cooperative learning model to grade X 11 students the Descriptive Text material. This happens because there are several obstacles in implementation, both from the students and from the teacher.

From the student side, the obstacle that arises is the lack of enthusiasm of students in following the learning process by applying the jigsaw type cooperative learning model. This is because students still feel unfamiliar with the learning model used. One of them is shown when students work in groups. Students do not yet understand what the task is in the group, all they know is that in the group there is only one student who is the representative of the group and usually a clever student, so that each member in the group is less responsible with their individual duties.

Cycle II

Data on the results of the implementation of cycle I actions as described above, show that learning outcomes using the learning model The Jigsaw type is still not optimal. For this reason, researchers carry out follow-up actions in the form of implementing cycle II actions to improve student activities and learning outcomes as well as teacher performance on cycle I

Student learning outcomes from cycle II actions were obtained through formative test II, which was carried out at the end of the cycle II meeting, on August, 21 2023.

Students' formative test results in cycle II achieved an average grade of 80,97. This indicates that learning in the cycle II have met the standard success indicators of an average score of at least 75 and a completion rate of 75%. Only five students out of a total of 36 have uncompleted or failed the minimum completeness criteria.

The outcomes of the formative test II describe the student learning outcomes during cycle II implementation. Meanwhile, using the jigsaw type cooperative learning model, student learning outcomes can be determined by the results of the quiz, specifically the quiz at the end of cycle II. The growth scores obtained by each student in his group will be averaged and used to determine student awards. At meeting 1, awards were distributed to the master groups, identifying three groups as good groups, and three groups as master groups.

The percentage of completion of formative learning, from 17% with an average student learning outcome score of 65,83 in cycle I, increased to 80% with an average student learning outcome score of 80,97 in cycle II. Student learning activity from 63% in cycle I, increased to 78% in cycle II.

Discussion

No	Analysis aspect		Cycle I	Cycle II	Improvement
1	Formatif Test	Average	65,83	80,97	22.99%
2		Percentage of achivement	20%	80%	60%
3	Group Activity		63%	78%	15%

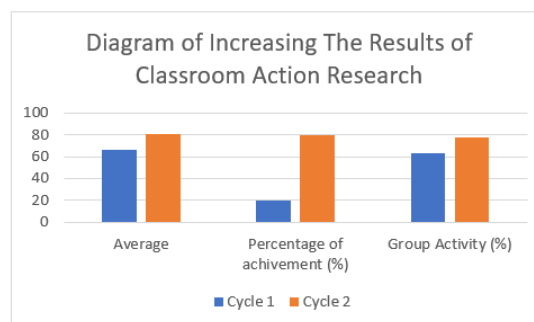**Tabel 2** Students' analysis of cycle I and II

Diagram 1 Diagram of Increasing the Results of CAR

The presentation of the learning results shows that learning English on descriptive text and Recount text material using the jigsaw type cooperative learning model has succeeded in achieving the specified success indicators. The implementation of learning in cycle II was declared successful, because both teachers and students were accustomed to implementing the jigsaw type cooperative learning model, although the results obtained were not 100% successful. This is because students who still get low grades basically have low abilities.

Based on the research result, students' learning outcomes significantly improved by implementing the jigsaw type of cooperative learning. In the formative test I or formative test carried out in cycle I, the average score obtained met the predetermined success indicators, namely 65,83. However, these learning outcomes cannot be said to perfectly meet the indicators of success. This is because the percentage of completion of classical learning that has only reached 17%, while the success indicator requires that the percentage of completion of classical learning be at least 75%. The lack of success in learning in cycle I was due to the fact that the use of the jigsaw type cooperative learning model was being implemented for the first time, so students still felt unfamiliar with the implementation of the learning. Students' understanding of the material is less than optimal. This is because students' attention is more focused on adjusting to the learning process, so that the material provided is neglected.

Improvements occurred in all aspects of learning outcome assessment. The average value increased by 22.99%, from 65.83 in cycle I, to 80.97 in cycle II. While the percentage of student learning completion increased by 66%, from 17% in cycle I, to 83% in cycle II. The success of learning in cycle II shows that students' understanding of the material also increases along with improvements made during the implementation of cycle II actions, so it can be interpreted that the application of the jigsaw type cooperative learning model can improve student learning outcomes on Descriptive text and recount text material.

Student involvement in information acquisition makes learning more meaningful for students, so students better understand what is being Learned. As stated by Trianto (2009: 56), that with cooperative learning under constructivist theory, students will more easily find and understand difficult concepts, if they discuss with their friends, or in other words students are involved in acquiring material he learned.

Meanwhile, based on the results of observations on student learning activities during the implementation of research actions, a percentage of 63% or with high criteria was obtained in cycle I. Despite having obtained high criteria, the large percentage of student learning activities has not reached the established success indicators, which is 75% or with master criteria. This shows that student motivation during the learning process is still lacking. Students still feel unfamiliar with the jigsaw type cooperative learning model and are still carried away with the old learning situation, namely by using the lecture method, so students still feel awkward in following the learning process with the jigsaw type cooperative model, such as cooperation between students is still low, students are still shy and reluctant in opinions, and students lack confidence in making presentations in their groups.

While in cycle II obtained the percentage of student learning activities of 78% proficiently. The percentage has exceeded the established success indicator of 75%. The increasing percentage of student learning activities in cycle II is indicated by increased student involvement during the learning process. Students are no longer picky in groups, students' courage in arguing or responding to friends' statements is always visible, and students' confidence in presenting the results of their discussions is getting higher, as evidenced by the louder and firmer students in making presentations. The increase in student activity is in accordance with Stahl's statement, that by cooperative learning, it can train students

to have skills, both thinking skills and social skills, such as the ability to express opinions, accept suggestions and input from others, cooperate, a sense of loyalty to friends, and reduce the incidence of deviant behavior in class life (Isjoni 2010: 23).

4. CONCLUSION

Based on the results of Classroom Action Research (PTK) and discussions that have been put forward in each cycle, learning through the Jigsaw type Cooperative Learning method in grade X 11 students of SMA Negeri 5 Semarang on Descriptive Text and Recount Text material, it was concluded that learning with the use of the Jigsaw type Cooperative Learning model can improve the learning outcomes of grade X 11 students of SMA Negeri 5 Semarang on Descriptive Text and Recount Text materials. This can be seen from the results of student learning in cycle I, which is 65.83 increased to 80.97 in cycle II or increased by 22.99%.

In addition to improving learning outcomes, the use of the jigsaw type learning model can also increase student learning activities as evidenced by the score for group activity, which is 63% in cycle I increased to 78% in cycle II.

From these results, it can answer the hypothesis of the research at the beginning of the chapter, namely the Jigsaw Type Cooperative Learning Model can improve the learning outcomes of class X 11 students at SMA Negeri 5 Semarang in English subjects with descriptive text and recount text material.

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