IMPLEMENTATION OF JIGSAW TECHNIQUE IN VOCABULARY ACQUISITION

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ABSTRACT

Undeniably, the teacher-centered learning approach has long been abandoned. From the preliminary observation conducted in an elementary school located in Sidoarjo, Indonesia, it is found that most of the teachers still maintain their role as the knowledge providers. In consequence, the motivation and participation of the students are low. Therefore, this study was aimed at describing the implementation of jigsaw technique in vocabulary acquisition and obtaining the students' perception of the implementation of the technique. Method. This qualitative study collected data using observation on English learning in a classroom to obtain a description about the implementation of jigsaw technique in vocabulary acquisition. Both field notes and a checklist will be used to collect the data concerning with the students' activities when applying the jigsaw technique. Moreover, a questionnaire will be spread to the students to obtain the students' perception of the implementation of the technique. Results and Discussion. The application of jigsaw technique in learning has followed an appropriate procedure. In addition, the students also showed positive perceptions of the Jigsaw Technique. This technique can create a positive learning environment, support Student-Centered Learning (SCL), support cooperative learning, and help students gain skills. Conclusion. The jigsaw technique is useful for learning English, especially in gaining understanding. Considering the benefits that students gain after applying the jigsaw technique to learn English, this technique is also recommended for improving other English language skills, such as listening, speaking, reading, and writing.

Keywords: *Jigsaw technique, Vocabulary acquisition, Perception*

INTRODUCTION

Undeniably, the teacher-centered learning approach has long been abandoned. In fact, the reluctance to move away from the old-fashioned approach is still clearly seen in classroom learning in suburban areas in Indonesia. Teachers, usually standing in front of the class, explain the materials and share knowledge they possess with their students. The typical phenomena are the characteristics of the learning approach in which teachers play the role as the only source of knowledge. This approach should be changed because the students' independence in learning should increase. It is absolutely conflicting with the expectation that students must not only depend on their teachers to acquire knowledge. It is in line with Jacobs et al. (2016) arguing that the student-centered learning leads that

students to become more active, not just in doing learning activities, but also in thinking about and in shaping their own learning.

From the preliminary observation conducted in one of the elementary schools located in Pranti Village, Sedati District, Sidoarjo, Indonesia, it is found that most of the teachers still maintain their role as the knowledge providers. During the observation in English learning there, the English teacher dominates the activities in classroom by giving the students only minor role to find the knowledge by themselves. The teacher's long explanation about the given topic definitely causes the students' low participation to obtain the knowledge. Similarly, they are not involved in the process of acquiring the knowledge. It is contradictive to some research findings that support the active involvement of the students in learning. Therefore, teachers still play a vital role to guide on the side, rather than the main players (Jacobs et al., 2016).

Since the invention of constructivism approach, the student-centered learning gets more popular. This approach is a way for a teacher to serve as a facilitator and guide students in exploring their own knowledge, as well as fostering their own concepts of knowledge that they acquire through learning experiences. Constructivists believe that it raises students' curiosity about knowledge through group discussions in a learning community. They work collaboratively to obtain and share the knowledge with each other. Unquestionably, this collaborative method encourages them to actively cooperate in learning.

Jigsaw technique, as the manifestation of cooperative learning first invented by Elliot Aronson in 1970's, gives an emphasis on the social aspects, namely promoting interaction between group members and giving motivation to students so that they always grow a sense of togetherness and mutual need between students in the learning process. Slavin (2008) claimed that cooperative learning enables students to learn and collaboratively work in small groups whose members consist of four to six people, with heterogeneous group structures. Cooperative learning gives opportunities for students to show active involvement in the learning process in order to produce positive impacts on the quality of both interaction and communication among students.

Triggered by the problem in English learning found in the above-stated elementary school, as evidenced by the students' low participation to explore the knowledge in the classroom, the teacher is encouraged to use jigsaw technique. Prior to the use of Jigsaw, most of the students only receive the vocabulary from the teacher. It will be challenging and interesting to provide more evidences that jigsaw classroom gives more meaningful learning. Therefore, this study is aimed at describing the implementation of jigsaw technique in vocabulary acquisition. Furthermore, it is also purposed to obtain the students' perception of the implementation of jigsaw in vocabulary acquisition.

LITERATURE REVIEW

1. Vocabulary Acquisition

Recently, vocabulary is one of the trending topics being researched, not only in applied linguistics but also in the field of education. Rod Ellis (2009, in Schmitt, Nation, & Kremmel, 2019) claimed that during his long experience in editing Language Teaching Research, articles published on vocabulary teaching outnumbers other topics. Moreover, Nation (2018) also asserted that more than 30% of the research on vocabulary learning in both L1 (first language) and L2 (second language) have been conducted in the last 120 years. It indicates the importance of vocabulary to play its significant role in language learning, especially in improving the four English skills. In efforts to increase the listening, speaking, reading, and writing skills, English learners need vocabulary because it is constantly integrated into those skills. In short, all English skills involve vocabulary.

Vocabulary acquisition refers to how language learners develop the number of words they understand when learning a target language (Wollacott, 2023). It is about the expansion of the number of words the language learners can obtain when learning a language. In addition, to acquire vocabulary does not only mean to have new words, but it also requires the acquirers to understand all important aspects of vocabulary in order to be able to use them in communication. Nation (2013) has divided vocabulary knowledge into nine components, namely spelling, word class, meaning, grammatical functions, collocation, and so forth). Similarly, to obtain a new word with more meaningful results, the learners must also be encouraged to know the combination of letters building it, find out the different types of meanings

(lexical, connotative, contextual, and grammatical meanings), how it should be pronounced, and other aspects.

2. Cooperative Learning

Concerning with the significant role of vocabulary in English learning, teachers must equip themselves with effective instructional techniques for introducing new words. One of the effective techniques highly recommended in teaching a big class relates to cooperative learning. Cooperative learning was first investigated in 1898. Hundreds of experiments and more than 100 studies investigating cooperative learning have been carried out by researchers in educational field. The characteristics of cooperative learning are: (1) the way students work in cooperative groups to complete learning material; (2) groups are formed from students who have high, medium, and low abilities; (3) whenever possible, group members should come from different races, cultures, ethnicities, genders and; (4) rewards are more group oriented than individual.

In completing group assignments, each member works collaboratively and helps to understand a material, checks and corrects the work of friends and other activities, with the aim of achieving high learning outcomes. The students should be emphasized that the task has not been completed if one member of the group has not mastered and understood the learning material. In addition, cooperative learning allows higher quality communication and interaction among students in groups. In this cooperative learning, the teacher functions as a motivator, facilitator and moderator. In cooperative learning, each student is assigned to the same role to achieve learning goals, mastery of subject matter, and learning success, which is perceived as not solely determined by the teacher, but is a shared responsibility, thereby encouraging the growth and development of a sense of cooperation and mutual need among students.

3. Jigsaw Technique

Jigsaw cooperative learning was first developed and tested by Elliot Aronson and his colleagues at the University of Texas, and later adapted by Slavin from Johns Hopkins University (Arends, 2008) The jigsaw teaching type was developed, as a cooperative learning method. This type can be used in several subjects, such as natural sciences, social sciences, mathematics, religion, languages and others. In other words, this learning technique is suitable for all classes.

Jigsaw is a multifunctional structure of collaborative learning structures. Jigsaw can be used in a number of ways to achieve a variety of purposes but is primarily used for presentations and obtaining new material; the structures it creates are interlocking dependency. Jigsaw technique is a learning model based on the multi-functional structure of study groups that can be used for all subjects and at all levels to develop the expertise and skills of each group. According to Isjoni (2010), jigsaw is a type of cooperative learning technique that encourages students to actively help each other in mastering the materials to achieve maximum achievement. Lie (2008) stated that jigsaw is designed to increase students' sense of responsibility towards their own learning as well as the learning of others. Students not only learn the material provided by the teacher, but they must also be ready to present and teach the material to other group members. Thus, students are interdependent with one another and must work cooperatively to learn the assigned material. Members of different groups with the same topic meet for discussion in expert groups to help each other on the learning topic assigned to them. Then, the students returned to their own jigsaw (home) groups to explain to the other group members what they have learned previously in the expert group meeting.

In jigsaw technique, two types of groups are made: jigsaw (home) groups and expert groups. Jigsaw groups consist of students with diverse abilities, sex/gender and family backgrounds. Expert groups, namely groups of students consisting of members of different origin groups are assigned to study and explore certain topics and complete tasks related to the topic to be explained to members of the jigsaw group. The expert group is a combination of several experts from each jigsaw group. The key to the success of the jigsaw is interdependence, that is, each student depends on his team members to be able to provide the information needed so that he can perform well during the assessment (Slavin, 2008).

4. Implementation of Jigsaw Technique

With this jigsaw technique, the teacher pays attention to the schemata or background of student experience and helps students activate these schemata so that the lesson material becomes more meaningful. In addition, students work each other in a mutual cooperation atmosphere and have many opportunities to process information and improve communication skills. Jigsaw is designed to increase students' sense of responsibility independently and also requires positive

interdependence (informing each other) of their group mates. The key to this type of jigsaw is the interdependence of each student on team members who provide the necessary information with the aim of being able to do the task well.

According to Elliot Aronson (2023), the implementation of the jigsaw learning technique includes 10 steps described as follows:

1. Dividing students into Jigsaw groups with a total of 5-6 people

2. Assigning one student from each group as a leader, generally a more mature student in the group

3. Dividing the lessons to be discussed into 5-6 segments

4. Assigning each student to study one segment and to master their own segment

5. Giving the students the opportunity to quickly read their segment at least twice so they get used to it and there is no time to memorize

6. Making expert groups with one person from each jigsaw group join with other students in the same segment to discuss the main points of their segment and practice presentations to their jigsaw groups

7. Each student from the expert groups returns to their jigsaw groups

8. Asking each student to convey the segment he has learned to his/her group, and provide opportunities for other students to ask questions

9. The teacher goes around from one group to another, observing the process and providing explanation necessarily. An appropriate intervention is immediately made by the assigned group leader when a student dominates the discussion

10. Giving a test or quiz on the material at the end of the section.

In its application, jigsaw cooperative learning not only encourages students to learn skills and academic contents, but also trains students to achieve the goals of social and human relations, which ultimately affect student academic achievement. Jigsaw technique is, characterized by the structure of tasks, goals and cooperative rewards, which creates a positive dependency attitude among fellow students, acceptance of individual differences and develops cooperation and collaboration skills. Such conditions make a significant contribution to help students who are less intelligent in mastering the given topic.

In the end, every student in the class can achieve maximum and parallel learning outcomes. In jigsaw cooperative learning, learning activities are more

student-centered. In the process of discussion and group work the teacher only functions as a facilitator, consultant and manager who coordinate the learning process. The learning atmosphere and relaxed interaction between students and teachers and between students make students' cognitive or thinking process more optimal. Besides, students construct their own knowledge into knowledge that will be meaningful and stored in their memory for a long period of time.

METHOD

This qualitative study will describe the implementation of jigsaw learning technique in vocabulary acquisition. Class observation will be conducted when the students are assigned to apply jigsaw technique to acquire English vocabulary related to a topic. The given topic discussed using jigsaw technique in this study is animals. Yin (2011) argued that qualitative studies can be used in many types of non-verbal presentation, such as the use of graphics, photographs, and reproductions. During observation, field notes and documentation in the form of pictures are used to describe the implementation of jigsaw technique. Furthermore, Dornyei (2007) emphasized that qualitative research focuses on providing depth understanding of the meaning in particular. By choosing the qualitative method, the clear description and understanding about the use of jigsaw in acquiring vocabulary will be achieved.

The method of this study is descriptive. Hence, the collected data will be presented, interpreted, and discussed descriptively by using theories and concepts related to cooperative learning method and jigsaw learning technique in order to provide logical explanation and deep understanding. Moreover, relevant findings of some previous studies published in journals and on websites are also used as the secondary data to support the interpretation of the findings of this study.

In relation with the data, data collection will be conducted using observation on English learning in a classroom in one of the elementary schools in Sidoarjo. The observation will be conducted to obtain a description about the implementation of jigsaw technique in vocabulary acquisition. Both field notes and a checklist will be used to collect the data concerning with the students' activities when applying the jigsaw technique in the classroom. At the end of the class, a questionnaire will be spread to the students to obtain the students' perception of the implementation

of jigsaw learning technique. Further, the data for analysis are in the form of words, phrases, and sentences that describe the implementation of jigsaw technique in vocabulary acquisition. Creswell (2012) asserted that statistics are not used to analyze the data in qualitative research; instead, the researchers analyze words (e.g., transcriptions from interviews) or images (e.g., photographs)".

RESULTS

As this study focused on jigsaw technique implemented in vocabulary acquisition in an elementary school located in Sidoarjo, the writer presented two findings in this section. The first finding dealt with how jigsaw technique was implemented in classroom to help the students acquire vocabulary. The second finding described the students' perception of jigsaw technique implemented in vocabulary acquisition.

1. The description of jigsaw implementation in vocabulary acquisition

In relation with the first finding, the description of how jigsaw technique was implemented was obtained from the checklist and field notes used during class observation. The checklist available below consisted of 10 items describing the use of jigsaw technique to support the students to acquire vocabulary about animals. Whilst, the field notes were made to describe essential additional description that was not covered in the checklist. The finding obtained from the checklist were described below.

Table 1. Checklist of the Implementation of Jigsaw Technique in Vocabulary Acquisition

No	Items	YES	NO
1	A vocabulary theme is determined.	√	
2	During the preparation stage, the students are provided with an explanation about how to implement jigsaw technique.	√	
3	The class consisting of 20 students is divided into 4 jigsaw groups.	√	
4	Each jigsaw group is assigned with different sub-themes.	√	
5	4 expert groups discuss the different sub-themes led by a leader.	√	

6	During discussion in each expert group, most of the students participate and work together actively to generate ideas dealing with animals	√
7	Each student in the expert group makes a list of names of animals acquired from the discussion.	√
8	After the discussion in the expert groups, the students go back to their jigsaw groups to present and share the ideas.	√
9	The students dominate the classroom learning.	√
10	The English teacher only plays minor roles during the classroom activities.	√

The description of how jigsaw technique was used to support vocabulary acquisition was also attained from the field notes written while observing the classroom activities. When writing the notes were written, observation with full focus on all jigsaw activities conducted by the students were recorded to investigate how jigsaw could be a very helpful technique for vocabulary acquisition. The findings obtained from the field notes were also involved to supply and provide extra illustration in addition to the findings recorded from the checklist.

In the field notes, all activities in classroom were observed and recorded to describe the implementation of jigsaw technique. The first note described the topic of the material to be discussed by the students. The topic was animals. The English teacher has chosen four different classifications of animals. They were land animals, water animals, air animals, and pets.

The second note described the making of four jigsaw groups and how they worked in those groups. The making of groups enabled the students to use jigsaw technique in classroom learning. Since the class had only 20 students, 4 jigsaw groups were made to facilitate the students to have a discussion about the given topic, that is animals. Each group has 5 members with one student chosen as the leader of each group. All jigsaw groups have the same theme (animals), but each of them has different sub-themes: land animals, water animals, air animals, and pets. After making 4 groups, the members chose one of the students who had more competence in English to be the group leader assigned with a responsibility to lead a discussion.

The third note also described how the students made another type of group. Four expert groups were made to discuss different types of animals. This type of group was made as a think tank for the students to discuss vocabulary dealing with the given topic. Each student from each jigsaw group gathered in expert groups to discuss and collect vocabulary about all four classifications of animals. After activities in the expert groups were conducted completely, the students went back to their jigsaw groups to share the knowledge obtained from the discussion.

2. **The students' perception of jigsaw implementation in vocabulary acquisition**

The second finding described the students' perception of jigsaw implementation in vocabulary acquisition. To obtain the findings, this study used a questionnaire listing ten items to describe how the students perceived jigsaw technique when learning vocabulary. The following questionnaire was distributed to all students totaling 20 students so that they could share their opinions about the implementation of jigsaw technique for acquiring vocabulary.

Table 2. Questionnaire of the Students' Perception of Implementation of Jigsaw Technique in Vocabulary Acquisition

No	Indicators	SD	D	N	A	SA
1	Jigsaw increases students' sense of responsibility in vocabulary acquisition.	0	0	2	2	16
2	Jigsaw supports students to be independent in acquiring vocabulary.	0	0	2	2	16
3	Jigsaw supports students to play a dominant role in vocabulary acquisition.	0	0	2	2	16
4	Jigsaw makes vocabulary learning more fun.	0	0	0	0	20
5	Jigsaw makes students more motivated in acquiring vocabulary.	0	0	2	0	18
6	Jigsaw makes students more active in in acquiring vocabulary.	0	0	2	0	18
7	Jigsaw supports students to work together in acquiring vocabulary.	0	0	0	0	20

8	Jigsaw encourages students to actively help each other in acquiring vocabulary.	0	0	0	2	18
9	Jigsaw motivates students to use acquired vocabulary in discussion.	0	0	0	2	18
10	Jigsaw helps students acquire vocabulary.	0	0	0	0	20

In relation with the first indicator, 16 students (80%) strongly agreed that jigsaw increased their sense of responsibility towards their own learning. 2 students (10%) chose the answer 'agree' for the same item, whereas 2 students (10%) chose the answer 'neutral'. It proved that none of them shared the negative perception. Furthermore, they experienced increasing responsibility when learning vocabulary. Whilst, the second indicator illustrated that 16 students (80%) strongly agreed that jigsaw technique supported them to be independent in acquiring vocabulary. 2 students (10%) chose the answer 'agree', whereas 2 other students (10%) chose to be neutral.

In terms of the perception illustrating that jigsaw technique supported cooperative learning shown in indicator 3, 16 students (80%) strongly agreed that this learning technique facilitated them to play the dominant role in learning. Conversely, the teacher only played a minor role to share knowledge. 2 students (10%) agreed with the idea, whereas 2 students (10%) chose the answer 'neutral. It proved that all of the students shared the same positive perception. In relation with the perception illustrating that jigsaw makes vocabulary learning more fun shown in indicator 4, 20 students (100%) strongly agreed that this learning technique created a fun atmosphere when learning English.

In terms of the perception illustrating that jigsaw technique makes students more motivated in acquiring vocabulary shown in indicator 5, 18 students (80%) strongly agreed that this learning technique supported the students' motivation in learning. Whilst, only 2 students (20%) chose 'neutral'. In terms of the perception illustrating that jigsaw technique makes students more active in in acquiring vocabulary shown in indicator 6, 18 students (80%) strongly agreed that this learning technique increased the students' activeness in learning. Whilst, only 2 students (20%) chose 'neutral'.

In relation with the perception illustrating that jigsaw supports students to work together in acquiring vocabulary shown in indicator 7, 20 students (100%)

strongly agreed that this learning technique supported them to cooperate in vocabulary acquisition. In terms of the perception illustrating that jigsaw technique encourages students to actively help each other in acquiring vocabulary shown in indicator 8, 18 students (90%) strongly agreed that this learning technique promoted the students to help each other in learning. Whilst, 2 students (20%) chose 'agree'. The finding was described in the pie diagram below.

Referring to the perception illustrating that jigsaw technique motivates students to use acquired vocabulary in discussion as shown in indicator 9, 18 students (90%) strongly agreed that this learning technique supported the students to use the English words they learned in discussion. Whilst, 2 students (20%) chose 'agree'. Concerning with the perception illustrating that jigsaw helps students acquire vocabulary shown in indicator 10, 20 students (100%) strongly agreed that this learning technique helped them to obtain English vocabulary.

DISCUSSION

1. The description of jigsaw implementation in vocabulary acquisition

In relation with the first focus of this study, the result obtained from both checklist and field notes illustrated how jigsaw technique was implemented in classroom to help the students acquire English vocabulary. The implementation of jigsaw technique was divided into three stages: preparation, implementation, and assessment.

In the preparation stage, the English teacher determined a vocabulary theme. Based on the syllabus, the students should learn about the classification of animals. From the field notes, the researchers found out that they learnt four types of animals. They are land animals, water animals, air animals, and pets.

After determining and shared the theme with the students, the English teacher explained how jigsaw technique should be implemented. The explanation is necessary to ensure the effectiveness of the technique for acquiring vocabulary. The class consisting of 20 students is divided into 4 jigsaw groups. Each jigsaw group had five students. Each jigsaw group was assigned with different sub-themes. Aronson (2023) suggested to divide the day's lesson into 5-6 segments All jigsaw groups have the same theme (animals), but each of them has the different sub-themes as stated above.

Once the students were assigned to the four jigsaw groups, they had to build another type of group, called the expert group, to discuss the four different sub-themes. Then, four expert groups were built also containing five students each. Aronson (2023) also suggested to form temporary "expert groups" by having one student from each jigsaw group join other students assigned to the same segment. Aronson (2023) also recommended to give students in these expert groups time to discuss the main points of their segment and to rehearse the presentations they will make to their jigsaw group. As observed in the classroom, expert group 1 discussed land animals. Expert group 2 discussed water animals. Expert group 3 talked about air animals, whereas expert group 4 discussed pets. The members of each expert group came from the representatives of each jigsaw group.

After the preparation was finished, the students started the implementation stage. As previously stated, the students should actively participate and cooperate in the discussion carried out in the expert groups. Each group discussed the assigned sub-topics led by a student having a better English competence or knowledge about the sub-topics. During the discussion, most students shared ideas by mentioning names of animals according to the assigned sub-themes. Each student mention at least one name of the animals and they did it repeatedly. During the discussion, they also took notes of all names of animals they collected because they had to share the vocabulary with their friends in the jigsaw groups.

Once the students finished the discussion in the expert groups, each of them went back to their jigsaw groups. It is in line with Aronson (2023) suggesting to ask each student to present her or his segment to the group. They need to share what they have in their lists. It means, each student in each jigsaw group has different types of animals. To exemplify, student 1 brings a list of land animals, whereas student 2 brings a list of water animals. Student 3 brings a list of air animals, whereas student 4 and 5 bring a list of pets. The same situation also happens in other jigsaw groups. Furthermore, they share the list of animals with one another so that they have all names of animals with different types.

During the implementation of jigsaw technique, the students look enthusiastic and motivated when doing classroom activities. The female English teacher is in the classroom, but she does not dominate the classroom learning. Instead, the students actively find their own knowledge through group discussion. They work

together to mention and make a list containing names of animals. This proves that jigsaw technique supports SCL (Student-Centered Learning) approach.

At the end of stage, the teacher comes up again to lead the class by conducting assessment. Aronson (2023) also asserted that at the end of the session, give a quiz on the material. Students quickly come to realize that these sessions are not just fun and games but really count. He should check the students' understanding about the topic to find out the fulfilment of the learning objectives. From the assessment, the students achieve a good and satisfying result as evidenced by the fact that most of them can mention a lot of names of animals with different types or classification.

2. The students' perception of jigsaw implementation in vocabulary acquisition

Concerning with the second focus of this study, the ten items in the questionnaire revealed the students' perception of jigsaw implementation in vocabulary acquisition. All students perceived that jigsaw technique supported their efforts to acquire vocabulary because of the following reasons. First, the students perceived that jigsaw technique created a positive learning environment. Second, the students perceived that jigsaw technique supported Student-Centered Learning (SCL). Third, the students perceived that jigsaw technique supported cooperative learning. Fourth, the students perceived that jigsaw technique helps the students to acquire and memorize vocabulary.

2.1. Jigsaw technique creates a positive learning environment

As expected, jigsaw technique creates a positive learning environment. A positive learning environment is built when a teacher encourages students' participation in learning, as well as when there is trust and relationship between the teacher and the students (Benes & Alperin, 2023). The teacher must first set the stage by creating a learning atmosphere in which all students feel respected, safe, and supported in order to develop trust that results in genuine participation and engagement in learning. In other words, a positive environment is established when the students' participation is preserved and when the student-student good rapport exists in classroom learning.

In a positive learning environment, jigsaw technique places great importance on cooperation and shared responsibility with the classmates in groups. The success of each group to acquire vocabulary depends on each group member's participation

in completing the task. This means that jigsaw technique effectively increases each student's involvement in all activities. When jigsaw technique is implemented, the students are assigned into small groups of five students. Each group assigned a different task should find or study the material relevant to the assigned task and discuss it with the group members. As the consequence, the cooperation and shared responsibility leading the students to build a good relationship among them support their efforts to share knowledge with others.

2.2. Jigsaw technique supports Student-Centered Learning (SCL)

From the result of the questionnaire, the students ascertain that jigsaw technique supports Student-Centered Learning (SCL). Kousa (2015) agreed that jigsaw is now seen as one of the very effective techniques of student-centered learning. The SCL approach has turn the students to be the center in learning so that they are encouraged to be more active. This is in line with Aronson et al. (1978, in Namaziandos, Gilakjani, & Hidayatullah, 2020) who stated that when implementing jigsaw, students become active learners in the classroom. Besides, this technique leads them to have interdependency because they need each other to obtain the knowledge.

SCL gives much different learning experiences compared to Teacher-Centered Learning (TCL). Before the invention of SCL, teachers dominate the classroom activities. They always play a dominant role in classroom by giving a long explanation about a topic to their students. On the other hand, the students do not get involved much to explore the knowledge by themselves. This condition definitely makes them more passive because their participation is very low.

Currently, the situation in classroom is changing to a better quality of learning as evidenced by the involvement of the students in all activities in classroom. By implementing SCL, they do not only sit quietly as passive listeners when the teacher describes and explains the topic. Conversely, they are given an instruction to find the knowledge by themselves by reading books or browsing the internet to find articles for information they need. Besides, they are provided with more opportunities to discuss a topic in groups. The activities referring to SCL indeed make them active learners.

2.3. Jigsaw technique supports cooperative learning

There is no doubt that jigsaw technique supports cooperative learning. Aronson (2023) claimed that the jigsaw classroom is a research-based cooperative learning technique invented and developed in the early 1970s. Aronson (2000, in Siregar & Girsang, 2020) also claimed that jigsaw is a technique used in cooperative learning. Moreover, this technique gives chances for students to cooperate with each other (Destirahmawati, 2021). Jigsaw, a method developed by Elliot Aronson is one of cooperative learning method in which students learn together in a group and responsible in understanding the materials for each other (Umam, 2021). McCafferty, Jacobs and DaSilva Iddings (2006, in D. S. A. Putri, 2013) suggest that cooperative learning represents the product of ongoing investigation based on theory, research, and practice as to how to maximize the benefits of student-student interaction. This idea is also supported by Namaziandos et al. (2020) asserting that jigsaw technique can be more interactive than the traditional instruction; it can encourage contacts between students and teachers; it can develop cooperation among students.

2.4. Jigsaw technique helps the students to acquire vocabulary

The students claim that jigsaw technique helps them to acquire vocabulary. The three findings discussed in the previous sections contribute in vocabulary acquisition. One of the important features of jigsaw is that this technique creates a positive learning environment. The positive classroom learning that supports Student-Centered Learning (SCL) enables the students to dominate classroom learning with active participation. Active participation provides more opportunities to use vocabulary, thus acquire it automatically. When it is implemented in classroom, the students are forced to be the actors in learning by playing an active role in classroom activities through communication in group discussion.

Besides, the relationship among the students definitely brings a benefit for learning outcomes. The good relationship creates a supportive learning atmosphere that helps them learn and acquire vocabulary. The non-dominant role of the teacher creates interdependency among them so that they feel free to be engaged in discussions, both in jigsaw and expert group discussions. Similarly, Putri and Yoshinta (2022) claimed that using breakout rooms discussion with jigsaw strategy online learning class on developing creativity and increasing student engagement.

Namaziandos et al. (2020) asserted that jigsaw promotes interdependent learning. They need each other to acquire the knowledge. This technique encouarges them to study in groups by helping each other to contstruct their knowledge. In addition, they feel more comfortable to generate and share ideas with their classmates.

CONCLUSION

The study investigating the implementation of jigsaw technique in vocabulary acquisition reveals two important results. First, it describes the learning activities using jigsaw technique that help the students acquire vocabulary under the theme "animals". Second, it presents the perception expressed by the students after using jigsaw technique for acquiring the above-stated vocabulary.

The use of jigsaw technique in classroom learning mostly implemented in activities in groups consisting of 20 students. To implement jigsaw technique, the students need to build two types of groups, namely jigsaw and expert groups in which the formation of those groups should be matched with the number of subtopics being discussed. Through group discussion, they have to work together to discuss the subtopics and finally acquire the targeted vocabulary.

After implementing jigsaw technique, the students receive an instruction to fill out a questionnaire purposed to find out how they perceive jigsaw technique. Ten indicators have been determined to seek the students' answers. From the ten indicators, this study exposes that they have a positive perception in the implementation of jigsaw technique in vocabulary acquisition. It finds four benefits: (1) jigsaw technique creates a positive learning environment; (2) jigsaw technique supports Student-Centered Learning (SCL); (3) jigsaw technique supports cooperative learning; and (4) jigsaw technique helps the students to acquire vocabulary.

All findings of this study are connected to one another. All of them support the idea that jigsaw technique is useful for English learning, especially in vocabulary acquisition. Considering the advantages that the students receive after implementing jigsaw technique for obtaining vocabulary, it is recommended that this technique should also be applied to improve English skills, such as listening, speaking, reading, and writing.

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