

**AN ANALYSIS OF THE STRENGTH OF JIGSAW
IN TEACHING AND LEARNING**

THESIS

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**FAKULTAS TARBIYAH DAN KEGURUAN
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THESIS

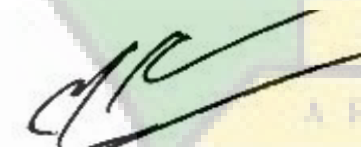
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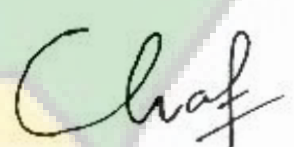
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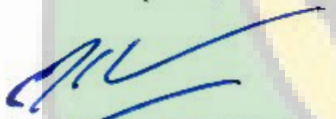
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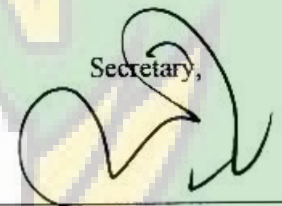
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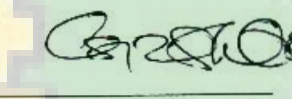
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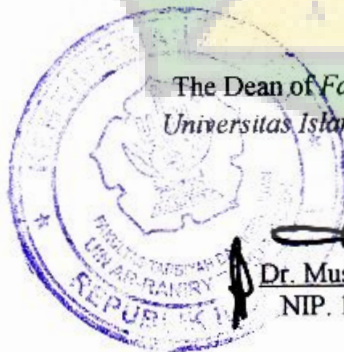

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SURAT PERNYATAAN KEASLIAN
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An Analysis of the Strength of Jigsaw in Teaching and Learning

adalah benar-benar karya saya, kecuali semua kutipan dan referensi yang disebutkan sumbernya. Apabila terdapat kesalahan dan kekeliruan di dalamnya, maka akan sepenuhnya menjadi tanggungjawab saya. Demikianlah surat pernyataan ini saya buat dengan sesungguhnya.

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Saya yang membuat surat pernyataan,



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ABSTRACT

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The aim of this study was to find out the strength of jigsaw in teaching and learning. The writer reviewed ten articles about jigsaw. Based on the article, she found that eight of them claimed that the method gives positive effect in teaching and learning, such as increase students' motivation and achievement and good in teaching. In addition, two articles show that students perceived Jigsaw Positively. It means that Jigsaw method is a good one. Therefore, it can be concluded that the use of jigsaw in teaching and learning has a lot of advantages for students, and also proved to be positively responded by students.

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CHAPTER I

INTRODUCTION

A. Background of the Study

To complete the final project of an English Education program, the writer must write a thesis. But, because of the current condition, namely the pandemic coronavirus or COVID19. It is a situation when people shouldn't get together and make a crowd. It's called social distancing because this virus can transmit in various ways such as by air, by touching, sneezing, and others. Therefore, the authors cannot collect the data in the field because all schools are closed. The Ar-Raniry State Islamic University also helped the final student by offering several other alternatives such as making scientific articles, translating books, making learning animations, reviewing articles, compiling learning tools, etc. So that's why the writer chose to review several items to complete her final task.

The writer is interested in analyzing the jigsaw method of teaching reading. Students get the information by reading some texts such as books, posters, leaflets, advertisements, newspapers, articles on the internet, etc. Reading is one of the crucial skills that language learners need to master. It requires a dynamic process involving not just a physical activity but also emotional involvement. (Dahlia, 2016, p. 83). Some people feel that reading can make them happy and perhaps it is one of their hobbies because they enjoy it, whereas some people are not. Many people outside there who do not like reading and feel

bored when they read. Students also felt it. So, to make reading as a fun activity and the purpose of reading itself to get the information and knowledge must be clear. Here learning method is needed. Many methods can be applied to teaching reading. And teachers should adopt the learning methods to the situation in the classroom in which one will use. But in this written, the authors focus on the advantages of the jigsaw method. The writer must review ten articles related to the jigsaw method. The articles are mention below.

First, the writer tried to review the article of Marquez, Llinas, and Maciasluis, which will discuss collaborative learning: use of the jigsaw technique in mapping concepts of physic. Second, there is an article from Farzaneh and Nejadansari about students' attitudes towards using cooperative learning for teaching reading comprehension. Then the third article of Amedu and Gudi about the view of students towards collaborative learning in some selected secondary schools in Nasarawa state. Fourth, Permatasari's report discussed the learning strategy implementation of Jigsaw to upgrade the counselor candidate's academic competency. Fifth, the article from Tabiolo and Rogayan about enhancing students' science achievement through the Jigsaw II strategy.

Next is the article of Sofyan, Hasanah, and Haryudin about improving reading skills using Jigsaw. Then the article from Koç, Yildiz, Çaliklar and Şimşek it is about the effect of Jigsaw II, reading-writing-presentation, and computer animations on the teaching of "Light" unit. After that, the article from

Özdemir and Arslan, which discussed the effect of self-regulated jigsaw IV on university students' academic achievements and attitudes towards English courses. Then the article from Perwitasari, Setiyadi, and Putrawan about the implementation of jigsaw technique and student team achievement division (STAD) in teaching reading. The last is the article from Harun Er, which discusses the impact of teaching the subjects under "Science in Time" unit in the social studies class in the 7th grade using jigsaw technique on the students' academic success. In this thesis, the writer focuses on reviewing the article's strengths, including explaining the article's introduction, what the article told about, methods used to collect the data, and the final result of the article.

B. Cooperative Learning Theories

Johnson and Johnson (2000), cited in Jacobs (2002) claims that Cooperative Learning also known as collaborative learning is the instructional use of small groups so that students work together to maximize their own and each other's knowledge. Principles and methods for helping students work together more effectively. Besides that, "Cooperative Learning is a teaching approach in which learners of diverse abilities, talents, and backgrounds work together in a small group to attain a common goal" (Onaiba & Elsaghayer, 2018). The point is that cooperative learning involves more than just asking students to work together in groups. It goes into helping students make the experience as successful as possible.

Besides, cooperative learning exists when students work together to accomplish shared learning goals. Each student achieves his/her learning goals if only the other group members make theirs. Then, Slavin and Davis (2006) argued that "In the cooperative learning method, students work together in a four-member team to materials initially presented by the teacher."

Thus, cooperative learning is a practical approach group work because of some factors. First, each student has the responsibility to master the material. Second, when a student got confused about the content, he/she can ask their member group, and the last is this method can create students centered and only focus on students.

C. The History of Jigsaw

Jigsaw method was first developed in the early 1970s by Elliot Aronson and his students in the USA. It is a structured way of engaging every student by requiring them to cooperate with each other in order to master an area of knowledge. Each student in a jigsaw group is responsible for learning a piece of the subject. They do this in a temporary expert group before returning to their home jigsaw group, where the team members teach each other what they have learned.

1. Definition of Jigsaw

Melinamani, Francis, George, and Vergheese (2017) stated that Jigsaw strategies are one of the integrated learning methods that empower students to participate in their learning materials, plan for themselves, lead and present among their peers and motivate each other to learn. The jigsaw method is a way to learn the course material in a cooperative learning style. This method helps students learn cooperatively as group members in sharing opinions and social skills to complete an assignment.

Besides, Perwitasari, Setyadi, and Putrawan (2018) described that Jigsaw is the right approach for students as it is an effective teaching approach that facilitates attention, participation, interaction, peer teaching, etc. Jigsaw is a cooperative learning method designed to maximize their own and other learners' responsibilities. (p.30). Also, students have to learn the material given by the teacher and have to be prepared to teach that material to the group member. Therefore, the students are depending on each other and have to work cooperatively to learn the material (Permatasari, 2017, p.13).

To conclude, Jigsaw is a learning method which known as an effective method. It is because the teacher act as a facilitator, and students can work together with their group. Every student has the responsibility to learn and teach.

2. The Implementation of Jigsaw

According to Aronson (2000), there are ten easy steps to set up the jigsaw classroom, namely:

- a. Divide the students into jigsaw groups of 5 or 6 participants. In terms of gender, ethnicity, race, and skill, the groups should be diverse.
- b. Appoint one student as the leader for each group. Initially, the most advanced student in the school would be this student.
- c. Divide the day's lesson into five until six segments. For instance, if you want history students to learn about the text, you might divide a short definition of that text, such as the meaning of recount text or descriptive text.
- d. Each student is assigned to learn one chapter. Verify that students do have direct access to their sections.
- e. Give students time to read and familiarize themselves with their section, at least twice. They don't need to memorize it.
- f. Shape temporary "expert groups" by making one student join other students assigned to the same section from each jigsaw group. In these expert groups, give students time to discuss their segment's key points and rehearse their presentations to their jigsaw group.
- g. Put the students back into their jigsaw groups.

- h. Ask each student to present her or his chapter to the group. Encourage other students in the group to ask questions for clarification.
- i. Move from group to group, and watch the cycle. When any party is having difficulty (e.g., a member is dominating or disruptive), do a suitable intervention. Basically, the task is best performed by the group leader. Leaders may be taught by whispering directions about how to act before it is handed from the chief.
- j. Give a quiz on the content at the end of the session so that the students easily know that these sessions are not only fun and games but actually count.

In short, there are ten easy steps of Jigsaw that can be applied in the classroom. These steps are important to know by all the teachers to avoid teacher centered because students are responsible for their own learning. In addition, Jigsaw method can also create an active teaching and learning situation.

3. The Advantages of Jigsaw

According to Aronson (2000), the advantages of jigsaw method are: 1) improve students' motivation, 2) increases the enjoyment of the learning experience, 3) increasing positive educational outcomes, 4) each student has

something important to contribute, 5) most teachers find Jigsaw easy to learn, 6) it can be used for another subject.

According to Arronson and Patnoe (2011), the advantages of the Jigsaw Method are: Jigsaw encourages academic success and learning for the students. This can occur because each student is actively involved in both the group of experts and the household group. They are entirely responsible for mastering their text section, and this situation indirectly enhances the academic achievement of students through the activity complete obligation they hold. After that, Jigsaw increases retention for graduates. Jigsaw provides the puzzle activity, which means the students attempt to memorize the paragraph and interpret it for the community members. Then, Jigsaw increases the happiness of the students with the learning experience. The happiness will show as the expert completely understands and passes it on to the others regarding their own component file.

Next, the jigsaw method is designed to help students improve oral communication skills. Not only in reading through comprehension, but also allows the students to have more practice on speaking activity when explaining it to their home community and Jigsaw builds social skills for the students. They are expected to switch to various classes, and at this point, they need to address strong social skills.

In conclusion, the jigsaw method can improve students' skills indirectly. By teaching and learning processes, students enhance their oral skills such as speaking and improve their social skills by communicating in the groups.

4. The disadvantages of Jigsaw

According to Johnson and Johnson (2000), there are also some disadvantages of using the jigsaw method, they are: 1) require some time to prepare students to learn how to work in groups, 2) require some time to make groups that each group has heterogeneity in their member ability, and 3) teacher should make special preparation for teaching in the class.

Based on Kholid (2009), using Jigsaw strategy has some disadvantages. First, in-classroom learning, Jigsaw is a time-consuming activity. The students need to spend their time in two groups by only learning a text, second, many students felt lost during the practice of Jigsaw, and the last is, in jigsaw practice, there are some students who can't handle their reading content.

In conclusion, every teaching and learning method always has advantages and disadvantages. But Jigsaw has more advantages than disadvantages.

D. Methodology

The process of the writer got the articles was by opening websites or international journal websites such as ERIC, Research Gate, Academia Edu, and Google Scholar. The first thing the writer did was looking for international journals on various websites that the writer mentioned before. Then, the writer had to find an article on the jigsaw method in the teaching and learning process. After that, the writer also saw the years of each article. Here the writer took articles from 2014 to 2019. The writer also paid attention to the use of language in the article, if the language used in an article is easy to understand, understood and in accordance with the context that the writer needs, she directly chose the article to be reviewed.

Milardo (2019) stated that an analysis of a journal article discusses the intensity and shortcomings of a research paper in terms of what the paper is seeking to achieve. The summary will include explanations, paraphrases, and an overview. The review included will help readers determine the importance of an article without even having to read the article itself. To write a review correctly, firstly the reviewer needs to read the article twice, at the very least. Then, it should be summarized to simple sentences. Based on the theory above, firstly writer read the journal article and paid specific attention to the articles' authors' last names or year, and its focus. After that, the writer wrote who the participants

were, and the setting was, then the finding in the article and the last is the writer's suggestion.



CHAPTER II

Review of Articles and Discussion

This chapter presents the review of articles. The writer has classified the articles below based on the type of research contained in the article. And she also presents the discussion of each article.

A. The use of Jigsaw in the teaching and learning process

Eight articles discuss the implementation of Jigsaw in the teaching and learning process.

1. Collaborative Learning: Use of The Jigsaw Technique in Mapping Concept of Physics

This article is written by Marquez, Llinas, and Macias (2017), Problems of Education in the 21st Century, VOL. 75, NO. 1, 92-101, ISSN: 1822-7864.

In recent years, the average student has difficulty in learning physics because it uses the usual method, such as the Lecture-based Teaching Approach (LTA). Then the emergence of movement and encouragement from the field of education that students must also be involved in the learning process. It means the methods should make students more active, such as group learning. In discussions on how to improve the learning of physics

principles, it is believed that students need to engage in social interaction. It is also important to encourage students to express their own ideas and provide an atmosphere that will allow them to discuss their learning with other students and their teachers. On the other hand, the article shows that students would learn to be more scientific and to feel better about themselves as science students if active teaching is used more widely and more frequently. The aim of this research is to analyze the effect of collaborative learning on academic achievement and the perception of students about this technique in teaching physics subjects, taking all these points into account. This paper describes a didactic experience with an active methodological approach – collaborative group learning using the jigsaw technique.

Traditionally, students at the secondary level feel difficult to achieve meaningful learning in science subjects. To resolve this condition, the article shows that the Jigsaw technique proves as an effective technique at covering certain broad themes. It is a socio-constructivist technique that is very simple to apply in such areas as social sciences, humanities, biology, etc. However, it can also be applied in the physical sciences, showing advantages over the traditional teaching approach, e.g., for magnetic fields and electric fields. The technique divided students into some groups called the "Jigsaw group," and it also has a group called "expert group. Each member of an expert group has to

receive a topic from the teacher. After that, they will go back to the jigsaw group to explain the problem, and the group works cooperatively.

This research consists of a quasi-experimental design with pre-test and post-test measurements. The sample of the research is 28 students and divided into two groups. Each group has 14 students who began the experiment; 12 students completed it. The other group worked according to LTA and served as a control group. The topic studied on was that of radioactivity in the physics curriculum.

The topic chosen for the experiment is part of Spain's 2nd year Bachillerato curriculum. It was chosen for two reasons: First, it has been tested with a questionnaire that the average student has learned the topic. Second. This topic is easily divided into groups and fits well with the Jigsaw technique.

The experimental research teaching sequence (ETA) was developed over five classroom sessions as described below:

In the first step, the teacher had divided students into groups of jigsaws. The material setting out the content of the topic was provided to each group, divided into three sections. Every member of the group had the free option of one section. After about five minutes, Groups of experts (1, 2, 3)

were created. Each group of experts had the initial task of selecting the most important concepts in their subject section.

Second and third steps, the expert groups each discussed their section together and constructed their corresponding concept map on the basis of consensus (Figure 4). Throughout these sessions, the teacher checked how the maps were being prepared and corrected details of some of them, as well as answering any questions that arose about the subject.

In the fourth step, the students have returned to their respective groups of jigsaws. The student explained the section of the topic worked on to the others in the jigsaw community, using the definition map elaborated in the related expert group as the basis. Then, each jigsaw group prepared from the different expert group maps a concept map of the whole topic.

Last step, the definition map of one of the jigsaw groups has been studied and discussed by the entire class. The subject's study was finalized with the students of the control group solving the same problem exercises.

After the LTA, the control group studied the subject of radioactivity during the same class sessions.

A quasi-experimental method of pre-test and post-test measurements was followed to test the Hypothesis (a). As a pre-test, the average mark each student received before beginning the experiment was taken in the last

assessment. As post-test, the findings of a 15-item questionnaire prepared by the subject's instructor were taken. Every element was given four possible answers, of which only one was correct. To test hypothesis (b), the participants responded to a six-item, open-ended questionnaire on their satisfaction with the experiment. Both the post-test and satisfaction questionnaires were completed one week after the topic was finished, without receiving any prior warning of the test from the students.

The data were analyzed using the Mann-Whitney u-test at the 5% level of significance, using the IBM SPSS statistics software (IBM, 2016). The result of the research is the pre-test mean scores of the two groups were not much different. Previously, the experimental group was chosen as the group that had a lower pre-test value (an average of 4.95 out of 10). A Mann-Whitney U-test showed there to be no statistically significant difference between the distributions of the experimental and control group pre-test scores ($p\text{-value} = 0.597$, i.e., $p\text{-value} > 0.05$) so that the two groups can be considered as being homogeneous at the start of the experiment.

In the post-test, the control group underwent hardly any change in its mean score (from 5.28 to 5.29), whereas there was an improvement in that of the experimental group (4.95 to 5.17). However, a $p\text{-value} = 0.835 > 0.5$ for the Mann-Whitney test showed that between the two post-test distributions, there were no significant differences.

In conclusion, this research shows that there is an increase in students' interest or knowledge with a subject based on learning methods. And this is also useful to exercise students to take the test without any specific preparation. Although one of the educational stage goals is "learning to learn" that is achieving autonomy in the development of knowledge in general, students at this level are still quite diverse in facing the necessity of learning curriculum topics.

This research has shown that students are able to learn a topic with ETA autonomously, and thus improve their performance. The proposed methodology was able to improve learning for the experimental group. Since the students did not receive any advance notice of the post-test, they did not make any special preparation for the exam, So that the post-test assessed the information they had learned (and retained) from the lessons in the classroom. In the case of the experimental community students, this means there was more effective learning with less individual effort. The stance the students displayed was always very positive. This was expressed in the questionnaire results on satisfaction, with most experimental group students feeling inspired by the experience.

2. Learning strategy implementation of Jigsaw to upgrade the academic competency of counselor candidate

This article is written by Permatasari (2017), The International Journal of Counseling and Education, VOL. 2, NO. 1, 11-18, DOI: 10.23916/002017023910, ISSN: 2548-348X (p) 2548-3498 (e).

In general, a counselor candidate must understand counseling concepts and be skilled in speaking and strengthening knowledge in the field of counseling guidance, especially in management and evaluation. This guidance and counseling are needed to know the theory, context, principles, and tools used in conducting counseling guidance services, also in developing professionalism as a counselor on an on-going basis by practicing counseling guidance and performance procedurally in school. Academic competencies that will be obtained by students can be categorized into three aspects of academic achievement competencies, namely cognitive, affective, and psychomotor.

In the article, the researcher concludes that the lack of the three aspects above is caused by the expository learning process in the classroom, which pays little attention to organizational learning experiences. So the material given tends to be easily forgotten.

The use of jigsaw learning is expected to facilitate the organization of students' e-learning experiences in improving the academic competencies of prospective counselors. This research was conducted at the first degree (S1) guidance and counseling education program in Malang Kanjuruhan University for guidance and counseling study program students who are being prepared to become counselors in elementary to high school, of course, they must have academic competence that can be developed through their experience in accordance with the rules of learning for prospective counselors who become the basic competencies for professional counselors then.

Based on the observation conducted by students from the generation of 2015 from September until November 2015 on some courses. The observations show that synthesis analysis skills in mastering basic theories of Guidance and Counseling are at a low level. Here are some gained data that shows the low level of students activities of counselor candidate are: (1) too picky in choosing friends as the members of the study group, (2) pretend to be nice towards disfavor friends when having interaction, (3) doing the group tasks by dividing based on the number of students and then accomplish them by their self, put the tasks together without discussing, so that each of them responsible for their own tasks (4) disregard toward friends that giving their opinion or presentation (5) judging friends by their physical appearances only, (6) busy with their own business while the lecturer is explaining the subject in

front of the class, (7) the students tend to be passive and quiet when the lecturer is giving question, and (8) students tend to be satisfied quickly with the answers given by fellow students that are offering the material of class presentation.

This research uses a qualitative approach. The type of qualitative research used is classroom action research. Classroom action research is a systematic observation, conducted by researchers, teachers, principals, school counselors, or others who have the authority to make policies on teaching and learning. The subject of this research is the students of the Guidance and Counseling Department of the University of Kanjuruhan Malang that are studying Management of Guidance and Counseling course on offering B 2015/2016 generation with 36 students. The next are students of Evaluation on Guidance and Counseling course at offering A 2013/2014 generation with 36 students.

This work is carried out in several stages, which are the introduction analysis and the arrangement of measures planning. The introductory study activity is performed to gain enough data to formulate the needs. The next step is to arrange an action plan to be implemented in the course of the action cycle. The next action is conducted observation and subsequent assessment of behavior. If the case related to the objective of learning is not achieved, then the revision will be conducted on the next cycle. The conduction of action on

one cycle covers four steps, which are planning, conducting the action, observation, and reflection.

The results obtained in each cycle increase gradually. Cycle one shows that the development of students' academic competencies is still ranked low. This is because students do not understand the material's concept by group representatives, causing the way in delivering the material summary cannot be understood by the original group. And another weakness that hinders the learning process is that in presenting material to groups, students tend to read texts, and presenters cannot convey material well so that many students are still confused by the explanation. This is what causes students to not be able to understand the three aspects of achievement in academic competence, but students do not realize that discussions need to pay attention to these aspects.

Cycle II shows the medium average development of student academic competency. According to data collection instruments, the process of observation and reflection is done, showing that the Jigsaw in cycle II has been carried out harmoniously and comprehensively. The lack of development of the three aspects of academic competence achievement is assumed to come from students who lack confidence in delivering group material so that students point to each other. In addition, the weakness of this cycle is students who depend on the conclusions of the material for lecturers, so that the

development of three aspects of academic achievement of competence is still hampered.

Cycle III shows that the average development of students' academic competencies is ranked high, which means that indicators are defined at the beginning of the study for three aspects of academic competency achievement of prospective counselors have been achieved. This was a constant development from the results of a thorough analysis. The revision was carried out by the companion lecturer as the researcher on Cycle III strategy applied to the jigsaw learning cycle by giving the community representative the material order, and at the time of reporting, The original group had each responsibility according to the material already Order and select the leader of the group so that the discussion is conducted smoothly by one responsible and the group's conflicts were minimized. In addition, they also selected a secretary to issue notes and deliver the outcome of the discussion orderly so that the lecturer no longer depends on the explanation for the conclusion. They are remembering that the tasks of companion lecturer are only to correct the material and give rewards to students' achievement in presenting the material with responsibility.

Thus, it can be concluded that the improvement of academic competency through the learning process is by using the jigsaw learning strategy was successful. Improving academic competency through three

aspects of achievement is done continuously to reach defined indicators, which are cognitive, affective, and psychomotor. Choosing the right learning strategy in Jigsaw will contribute positively to improving the competence of the nominee counselor. The students should be able to change three at the end of cycle III aspects of academic achievement of "high"-level counselor nominee, while some students still have trouble in the proper delivery of the content.

According to the writer, this method is good to apply in other majors for students in university because it can improve their academic competency.

3. Enhancing Students' Science Achievement through Jigsaw II Strategy.

This article is written by Tabiolo and Rogayan (2019), JOURNAL OF SCIENCE LEARNING, VOL. 3, NO. 1, 29-35, DOI: 10.17509/jsl.v3i1.17680.

According to this article, it is found that science education in the Philippines has shifted from adopting traditional means into utilizing a modern and productive method. Generally, this change is triggered by some factors such as; the advancement of industrial era 4.0 and the emergence of the K affecting the new curricula application toward science learning based on students' engagements as the core of the pedagogical process. However, to

deep observation, the most crucial factor leading to this alteration is the lack of efficiency in the traditional method in enhancing the educational system in this country. Even based on the World Economic Forum, the Philippines took the 55th position among countries having higher education institutions and ranked 76th of 137 countries in terms of math and science education. This data evidences that this country is still not well-developed in terms of Science education, and the option to redirect the course of education system model from almost-passive learning to a fully-active method taken by the government is the right choice to develop a better level of students' understanding in comprehending the subject matter. Still, this change does require a good monitoring system. Thus it will levitate the success of this method application as well. Therefore, proper research in analyzing the effectiveness of a new teaching method applied in the Philippines' education curricula is considered important to provide evidence on the impact of this new method before, during, or after the implementation.

This study aims to observe the effects of the Jigsaw II method in the Philippines' education system on the advancement of students' ability in science, especially for grade 9 students in a secondary school in Zambales, Philippines, within-group quasi-experimental research.

The Jigsaw method is a means by which teachers can involve students in learning the subjects in a small group consisting of 5-6 members to teach

each other in their own ways. This learning method is very applicable since students might understand more about their mates' learning style as well as giving a contribution to the success of the learning process in the class. The Jigsaw II method, on the other hand, is an improvement from the previous level, composing a sense of healthy competition within students to compete on increasing their level of ability.

The main participants of this research are students consisted of 17 boys and 34 girls with ages ranging from 14 to 17. For assembling data needs, some tests are employed; first, A teacher-made pre-test for measuring pre-implementation effect, second, Posttest for post-implementation, and third, individual or team quizzes and laboratory activities for measuring on-going implementation. These tests cover four domains, such as; knowledge (6 items), process (8 items), understanding (4 items), and performance/product (12 items). The data received then are analyzed using frequency count and percent, weighted mean, standard deviation, and t-test for paired samples.

The result from this research indicates that most students in the class are in approaching proficiency level, a medium level before the usage of the Jigsaw II method. The levels are described as follows; Advanced (25-30), Proficient (19-24), Approaching Proficiency (13-18), Developing (7-12), Beginning (1-6). Along with the implementation, the change occurs that Advanced level dominated the results, and only one category possessed a proficient level,

namely team quizzes. After the implementation, the proportion of ability's categories altered, allowing half of the class members to be considered Proficient.

To conclude, according to this study and results, it is clear that the Jigsaw II method marks a significant impact on the students' ability to understand subject materials. This improvement results from the teacher's contribution to making students involved in various learning tasks and assignments in line with their interest and team-work awareness.

4. Improving Reading Skill Using Jigsaw

This article is written by Sofyan, Hasanah, and Haryudin (2019), PROFESSIONAL JOURNAL OF ENGLISH EDUCATION, VOL. 2, NO. 5, 745-751, ISSN: 2614-6320 (p) 2614-6258 (e)

English has become a language considered difficult by some of the students in Indonesia. This resulted from. Besides, it was a foreign language, the misleading perception that cultivated a sense of fear in students towards learning this language. According to the journal, there are two factors leading to this; the first is internal, and the second is the external factor.

Internal factors are mostly provoked by students' self-laziness whenever approaching to English learning materials. Most students recognized English very hard to understand since they found it less attractive

in the beginning. In fact, they solely did not arm enough vocabulary to be able to comprehend it and are not equipped with clear pronunciation that sometimes makes them shy just to consult their difficulties in learning to their teacher or parents. Thus, with these problems, students became more separated from English content, after all.

External factors are mainly dominated by the lack of parents' and teachers' involvement in supporting the student's learning process. Generally, some students highly demanded direct support and guidance throughout their learning process, especially those who are susceptible to distraction and less-motivated to study. The effect of this failed cooperation between teacher and parents also affect students' motivation not only in short-time but also long-time period. Even when infrastructure and proper facilities are not provided, this may also worsen the situation.

Seeing those issues, the writer intends to use the Jigsaw method as a solution to level up students' ability and willingness in reading, especially on contents using English as their language instruction such as magazines, books, newspapers, and websites. Through this method, it is hoped that students' ability to read English materials increases. Moreover, within this purpose, the writer also mapped this method efficiency towards advancing students' interpreting skills in English through the score students attained during the

research process so students may understand every concept clearly and effectively at the same time.

Based on the theory, reading is a skill paramount for learning international materials. This is also essential as it took a vital role in student's learning concepts absorption as well as increasing comprehension. The jigsaw method used in this research is a well-known means in the pedagogical process. This actively involves students to support each other on understanding subjects taught and together are responsible for the outcome or teaching success. This method is also believed to strengthen students' views on concepts compared to individual learning styles.

This research subjects were the first-year students in one of the vocational schools (SMK) in Bandung consisted of 32 individuals with the instrument like notes, test, and interview sessions. This also employed a quantitative method and a design named classroom action research composed of 4 stages; 1. Planning, 2. Acting, 3. Observing, 4. Reflecting.

Moreover, seven encounters were used and divided into two types of periods called treatment period/period I (4 meetings) and test period/period II (3 meetings). During the treatment period, students will be taught reading skills mostly about the narrative text with the application of the Jigsaw method. The test sessions were divided into three categories: pre-test, post-test

1, and post-test 2, generally subsisted of 10 items each in the form of finding out the Narrative text structure and comprehending questions to texts.

According to the period I, it is shown that there are two types of results coming up; 1. Positive results, and 2. Negative results. The positive result indicates that students start exhibiting their curiosity by asking questions and actively participate in class sessions while the negative result appears as a result of some less-active students relying on others to do the work. Therefore, the writer then initiated to Revise the implementation of the Jigsaw method in this class to improve the quality of their learning as well as their average value in the next period.

In period II, before applying the test session, the researcher intentionally shifted the groups' members in a class by allowing students to choose their mates to revise the previous result. This is done in the hope that students included will be more attracted to studying sessions due to having been surrounded by their preferred members. The result from period II shows that the students scored better from test to test with the result gradually increase either in minimum or maximum score.

Improvement on students' score of the tests

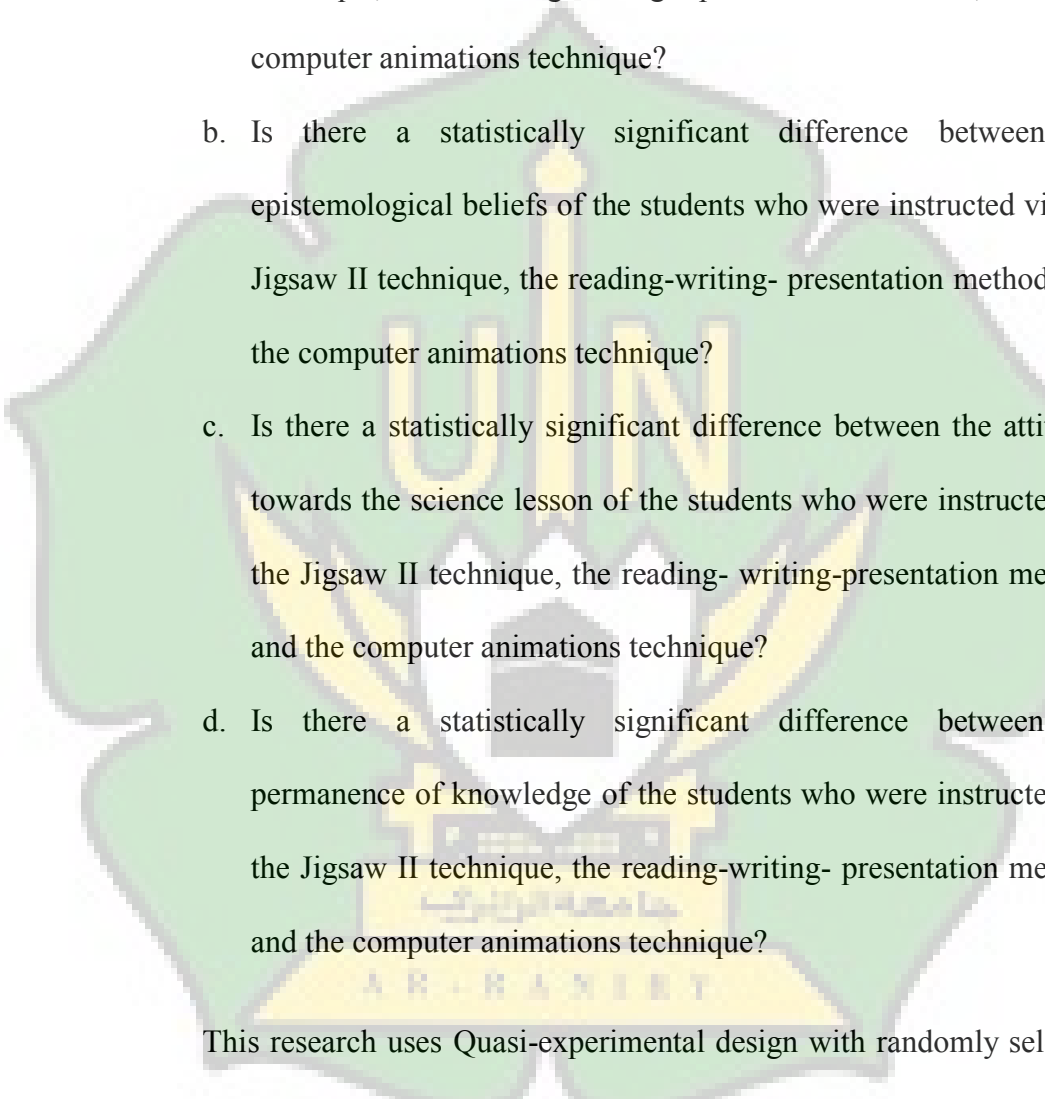
	Pre-test	Post-test 1	Post-test 2
Minimum score	3,0	5,5	6,5
Maximum score	6,0	7,0	8,5

Based on this research data, it is clear that the Jigsaw method's implementation may be regarded as successful as the final result exposed that the minimum score rate reached 6.5 compared to the pre-test, which is only 3.0. The focus on minimum score rise is believed to be reliable since it represented the least score that research subjects achieved before Jigsaw method implementation.

5. Effect of Jigsaw II, reading-writing-presentation, and computer animations on the teaching of “Light” Unit

This article is written by Koç, Yıldız, Çaliklar, and Şimşek (2016), EDUCATIONAL RESEARCH AND REVIEWS, VOL. 11. NO. 20, 1906-1917, DOI: 10.5897/ERR2016.2861, ISSN: 1990-3839.

This research is aimed to reveal the influence of the Jigsaw II technique, reading-writing-presentation method, and computer animations technology, which are among active learning methods and techniques, on students' academic achievements, epistemological beliefs, attitudes towards the science lessons, and the permanence of students' academic achievements within the framework of the “Light” unit covered in the seventh grade. Some questions lead the research, these are;

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- a. Is there a statistically significant difference between the academic achievements of the students who were instructed via the Jigsaw II technique, the reading-writing- presentation method, and the computer animations technique?
 - b. Is there a statistically significant difference between the epistemological beliefs of the students who were instructed via the Jigsaw II technique, the reading-writing- presentation method, and the computer animations technique?
 - c. Is there a statistically significant difference between the attitudes towards the science lesson of the students who were instructed via the Jigsaw II technique, the reading- writing-presentation method, and the computer animations technique?
 - d. Is there a statistically significant difference between the permanence of knowledge of the students who were instructed via the Jigsaw II technique, the reading-writing- presentation method, and the computer animations technique?

This research uses Quasi-experimental design with randomly selected pre-test post-test comparison groups. There are 71 seventh grade students attending 3 different middle schools affiliated with the Ministry of National Education of the Republic of Turkey in the 2013-2014 academic year. Randomly, one of the schools is selected for the Jigsaw II technique (JIIG)

(n=24); another is selected for the reading- writing-presentation method (RWPG) (n=22); and the last one is selected for computer animations (AG) (n=25).

For the data collection, this research uses three data collection tools. These are Academic Achievement Test (AAT), epistemological Beliefs Questionnaire (EBQ), and Science Lesson Attitude Scale (SLAS). Academic Achievement Test (AAT) is prepared by the researchers in a way covering all the acquisitions of the “Light” Unit for the seventh graders. The table of specifications is prepared to ensure the validity of the test. Then, epistemological Beliefs Questionnaire (EBQ) is a self-reporting questionnaire. Students’ answers are taken in a five-point Likerttype scale. The original questionnaire is actually consists of 26 items. However, after a long process, it has only 15 positive and 9 negative items (that is, a total of 24 items). Then, Science Lesson Attitude Scale (SLAS) is a 5-point Likert type scale with a Cronbach’s alpha reliability coefficient of 0.83. This scale consists of 15 items, 10 of which are positive while 5 are negative. These items are for revealing the attitudes towards the science lesson.

Based on the research, it is found that among the methods and techniques employed in the study, Jigsaw II and reading-writing-presentation were seen to be more influential on academic achievement and permanence of knowledge compared to computer animations. However, there is no

significant difference between the influences of reading-writing presentation and computer animations. It is possible to say that all the methods and techniques employed in the study ensured the permanence of knowledge. However, Jigsaw II technique is more influential than others. It is because students teach the topics they specialize to each other, the Jigsaw method direct them to cooperation, they explain their ideas in a relaxed atmosphere while application of Jigsaw method, so learning process are more productive.

Furthermore, it is also found that there are differences between the results of the Epistemological Beliefs Questionnaire administered before and after the instruction in the group instructed via the Jigsaw II technique and the group instructed via computer animations. However, no difference is detected in the group instructed via the reading-writing presentation method. Hence, it is possible to say that the Jigsaw II technique and the use of animations had a more positive influence than the reading-writing presentation method. It is possible that the reading writing-presentation method was not influential on the students' epistemological beliefs because they had difficulty in working in group in the reading and writing phases and had a tendency to work individually.

Last, the researcher also finds that there are differences between the results of the Science Lesson Attitude Scale administered before and after the instruction in all the three groups. Hence, it is possible to say that all the

methods were effective in creating positive attitudes towards the science lesson among the students. However, the use of animations is seen to be more effective in this matter. This may be because animations addressed both visual and auditory senses, created pleasure among the students to follow the instruction, enhanced motivation, and increase the interest in the lesson. In conclusion, it is possible to say that active learning methods and techniques can be employed for other subjects and units as well. In this way, learning can become more effective and permanent.

6. The Effect of Self-regulated Jigsaw IV on University Students' Academic Achievements and Attitudes towards English Course

This article is written by Özdemir and Arslan (2016). JOURNAL OF EDUCATION AND TRAINING STUDIES, VOL. 4, NO. 5, 173-182. DOI: 10.11114/jets.v4i5.1453, ISSN: 2324-805X

Self-regulated learning is a process in which students are responsible for their own behaviors and learning. It is a combination of skill and will. It is a self-controlled process in which students transform their mental skills into task-oriented academic skills. It is also the learners' active participation in their own learning process metacognitively, motivationally, and behaviorally. Here, the learner plan, conduct, control, and evaluate his or her cognitive, motivational/affective, behavioral and contextual processes by their own self. At the end of the learning process, they are expected to be self-regulators. As

a learning strategy, self-regulated learning is described as a process whereby students activate and sustain cognitions, behaviors, and affects their learning process.

Furthermore, this research study aimed at investigating the effect of self-regulated jigsaw IV upon university students' learning a new grammar structure within the EFL learning process and also their attitudes towards the English course. However, At the same time, this research also tried to analyze students' views on the use of self-regulated learning. The design of this study used experimental design by using a non-equivalent control group pre-test and post-test design. This research was conducted on 40 EFL students attending two different prep classes of Bülent Ecevit University in Zonguldak province, in the 2011-2012 spring term. Regarding their scores for a proficiency exam, both participant classes were selected randomly from 160 students whose language levels are close to each other. One of the classes was defined as the control group (n=20) and taught with a traditional teaching method while the other class, experimental group (n=20), was taught with self-regulated jigsaw IV technique. At the beginning of the study, an achievement test and an attitude scale towards English Courses were conducted to both groups as the pre-test. At the end of the study, a semi-structured interview form was used as a data collection instrument to determine the effects of self-regulated jigsaw IV on students in the experimental group.

Based on the quantitative finding, it is found that experimental group students who used the self-regulated learning strategies together with the jigsaw IV group process had a better performance than the control group students in the achievement test. Therefore, it is clear that self-regulated jigsaw IV has a significant effect on grammar achievement when it is compared to traditional learning methods. Although self-regulated jigsaw IV learning has increased the experimental group students' attitudes towards the English course, it isn't significant. It is may because of the limitation of time for the unit. When the use of this technique lasts more, the increase in their attitudes may also be more significant. It may also be because the students are accustomed to traditional teaching methods, not being ready for cooperation, and unaware of the method.

Moreover, as stated above that, at the end of the experimental process, six students, randomly selected from the experimental group, were interviewed in order to examine their views about using self-regulated learning in their independent studies and to find out whether they feel satisfied with their learning and evaluate their own learning. It is found that the students in the experimental group feel self-satisfied with their learning, and they can use self-regulation skills in their autonomous studies.

Therefore, it can be concluded that the self-regulated jigsaw IV technique is more effective than traditional teaching methods in foreign

language teaching, specifically grammar. It has been concluded that the self-regulated jigsaw IV technique is useful and effective in increasing the academic achievements of students. Therefore, some new proper studies adaptable to the higher education period are required for the acquisition of these skills. In this process, self-regulated and collaborative learning environments offer students the opportunity to make their own plans within the framework of their goals, work together with their peers, self-evaluate, and correct themselves at the end of the process, should be organized. The study is limited to only one grammar unit and to a specific sample. Therefore, it can't be generalized to all other units and students. However, in order to be able to get more valid results, various kinds of studies should be carried out with larger amounts of samples and a greater number of units in different levels of classes.

7. The Implementation of Jigsaw Technique and Student Team Achievement Division (STAD) in Teaching Reading

This article is written by Perwitasari, Setiyadi and Putrawan (2018). AKSARA Jurnal Bahasa dan Sastra, VOL. 19, NO. 1, 28-36.

There are many kinds of teaching methods in class. Some of them are Jigsaw and Student Team Achievement Division (STAD). Jigsaw is an appropriate method for Junior High School because this method is an efficient teaching method that encourages listening, engagement, interaction, peer

teaching, etc. Jigsaw is cooperative learning, which is designed to improve the responsibility of themselves and the other learners. The students do not only learn the material given by the teacher in the class, but they also have to teach those materials to their own group. Besides, Student Team Achievement Division (STAD) is a type of the simplest cooperative learning. It is an approach that emphasizes the activity and interaction among students to motivate and help each other to master the subject matter in order to achieve the maximum score.

Furthermore, this research is focused on reading comprehension for the students in the second grade of Junior High School. Based on the pre-observation of the researcher taking place in the second grade of SMPN 1 Abung Surakarta, it is found that there are some problems facing by students when they study English, especially in a reading activity such as they have low motivation in learning English, low English vocabularies mastery, and low ability in identifying aspects of reading.

For the design, this research uses qualitative design. The subjects of this research are 26. The data are collected using interviews, observation, and triangulation design. The samples of this research are students of class VIIIB and that of VIII C of SMPN 1 Abung Surakarta in the second semester of the 2016/2017 academic year.

The result of this research shows that there are some obstacles found during the implementation of the Jigsaw and STAD Techniques as follows: first, limited vocabulary knowledge. Vocabulary knowledge is an essential part of English. It will be difficult for students to understand the word since they do not have much vocabulary. Besides, most of them did not have a dictionary while learning English. Then, the second, it is found that the student difficulty level of the text (readability). The texts which contain many unusual words are more difficult to understand than those used every day. It means that the books that are too difficult would be made the students tend to difficult to comprehend the materials so they would make many errors. Third, the class is noisy. According to the result of the observation in SMPN 1 Abung Surakarta, the class's condition is noisy when the students tend to be active with the materials or methods given by the researcher in the class. Fourth, some of the students have no background knowledge about the materials taught in the class. It is much easier to read with understanding if the reader already processes some prior knowledge of the topic.

Further, it is also found that students have a hesitancy in expressing their opinions. There are some factors why the students had hesitancy in expressing their opinions as follows: (a) the students felt unconfident with their ability to comprehend the materials. In this problem, the researcher, as the facilitator in the class, tries to motivate them in order to be more confident

with themselves when they have to express their own opinion to others. (b) The students tended to feel scared about making mistakes in expressing their opinions. With this problem, the researcher also tries to motivate the students when they have to express their opinion.

8. The Impact of Teaching the Subjects under "Science in Time" Unit in the Social Studies Class in the 7th Grade Using Jigsaw Technique on the Academic Success of the Students

This article is written by Harun Er (2017), UNIVERSAL JOURNAL OF EDUCATIONAL RESEARCH, VOL. 5. NO. 5, 838-847, DOI: 10.13189/ujer.2017.050516, ISSN: 2332-3213

The main aim of today's study is to realize a meaningful and healthy learning process at the highest level by putting the student as the center of education. Therefore, it needs a correct method that can be worked well together to achieve the goals. In the learning process, based on the jigsaw technique, students create an interactive atmosphere, where everybody contributes individually at a high level, by taking the role of both teacher and student. The application of this technique can be quite important for contributing to permanence in learning, promoting friendship, increasing success and self-esteem, and enabling communication in class.

The contribution that the jigsaw technique makes in the learning-teaching process in the studies realize enabled this technique to be utilized in several courses related to science, math, and social studies. This technique can be considered suitable for social studies course, which includes social field disciplines with its aspects, especially based on students' individually expressing themselves, learning together, and cooperation and interdependence. Therefore, based on the explanation, the purpose of this research is to find out the impact of teaching “science in time” unit under “science technology and society” learning area in the social studies class in the 7th grade using jigsaw technique on the academic success of the students.

This study uses sequential explanatory design, a specifically mixed method where the researcher conducts the quantitative method first and uses a qualitative method in order to support the findings collected from quantitative data or to reduce the data. In the study, the impact of the jigsaw technique (independent variable) on academic success (dependent variable) was examined. In the quantitative sub-factor of the study, experimental research based on "pre-test- post-test with control group" design was conducted. Experimental studies are those in which there are two groups; one being experimental and the other being the control group. The study was carried out at 7/A and 7/B branches of a public secondary school of the Ministry of National Education in Bartın city during the 2015-2016 academic year. There

were 23 students in the experimental group, involving 13 males and ten females, and 23 students in the control group involving 14 males and nine females.

The quantitative data obtained is analyzed in terms of arithmetic average, standard deviation, and t-test using the SPSS 15 statistical package program. Then, the qualitative data of the study was gathered after the experimental study through the use of the interview form is analyzed using the content analysis technique. In order to ensure the reliability of the analysis, all of the data is separately coded and compared with the support of an expert academicians.

Based on the quantitative research method, it is found that instruction through the jigsaw technique has a positive impact on the academic success of the students and that there is a statistically significant difference in pre-test and post-test results. When the results are examined, that the score averages of the students in the experimental group are higher than the averages of the students in the control group indicates that students followed the steps of jigsaw technique in the implementation process. In addition, this could be interpreted as students are aware of their individual responsibilities in the process, predicated on cooperation and collaboration by keeping communication within the group high and spent the maximum effort to learn the subject.

Additionally, related to the qualitative sub-dimension of the study, student opinions about the jigsaw technique were taken after the implementation. Students who participated in the study indicated the advantages and utility of jigsaw technique with the following statements: "it increased success and collaboration, improved expression skills and equipped us with problem-solving and empathy skills." Regarding the disadvantages of the technique, students used the following statements: "it is time-consuming and boring, difficult for the learner, students may have difficulty in telling the subjects and the seriousness of the class might be ruined." The common thing among the students who stated their opinions was that if this technique is accepted by the student, and if the classroom is convenient for this practice, it will have a positive impact on success. The thing to be taken into consideration here is that this technique should be taught well to the students with its reasons. Student motivation parallel to the teacher's willingness should be kept at a maximum level.

Finally, it can be concluded that the jigsaw technique could be a good alternative. Because what lies on the basis of this technique is an active individual who takes responsibility, uses cooperation and communication skills, and who learns to learn. Also, students learning with this technique are given the opportunity to reconsider their misconceptions or missing

knowledge as they are encouraged to learn via group study and exchange of information.

B. Students' attitude towards cooperative learning in the teaching-learning process

There are two articles below will discuss students' attitude on the cooperative learning method.

1. Students' Attitude towards Using Cooperative Learning for Teaching Reading Comprehension

This article is written by Farzaneh and Nejadansari (2014), THEORY AND PRACTICE IN LANGUAGE STUDIES, VOL. 4, NO. 2, 287-292, DOI: 10.4304/tpls.4.2.287-292, ISSN: 1799-2591.

In the teaching and learning process, various learning techniques are needed. And each technique shows the difference, as well as the attitude of students. This study aims to investigate how students' attitudes when learning by using cooperative methods. Today there seems to be a push to allow learners to engage more actively in the teaching and method of thinking. To many teachers, one way to make learners shareholders in their learning is to become more of a facilitator of the learning process, providing guidance for the learners. Scholars have come to the conclusion that one way to improve

the intellectual ability of learners is by incorporating cooperative learning in teaching. In this instructional method, learners work together as a team to achieve a specific target or objective. However, the presence of innovative well-documented approaches is still fraught with difficulties in the educational sense. Lessons' Perceptions, views, attitudes, and behaviors are key determinants of an educational program's success. Typically in Iranian classrooms at all educational levels, a teacher-centered approach seems to be utilized. In such classrooms, the lecturer is typically seen as the repository of knowledge with students passively taking notes, asking very few or no questions. Taking this into account, this study was conducted to investigate students' attitudes towards using cooperative learning techniques for teaching English reading comprehension in Iranian private language schools.

The participant for the study was 52 intermediate EFL learners, 16 males, and 36 females, attending Gouyesh Language School in Gachsaran in 2013. The design of the study was a descriptive, survey-based design is employed. To determine the views of intermediate level students towards cooperative learning strategies, a survey questionnaire was used. For the instrument, a survey questionnaire was distributed among the participants to determine their views about employing cooperative techniques for instructing reading comprehension. The questionnaire survey technique is a very effective tool since it enables large scale numerical data to be obtained over a

short period. It can also be easily administered. In this study, the researcher wanted to gain numerical data to indicate students' views on cooperative learning methods. For the purpose of analyzing the gathered data, the respondents were allowed to rate each item on a scale of options, which were numerically coded as 1 (strongly disagree); 2 (disagree); 3 (neutral); 4 (agree); 5 (strongly agree). The survey results were analyzed to identify students' attitudes towards cooperative techniques.

The process of data analysis and the results obtained is discussed in this section. As already stated in previous sections, the data collected for this study were gathered through a questionnaire distribution among 52 intermediate EFL learners from Gouyesh Language School in Gachsaran. The data obtained from the survey were analyzed and interpreted using Statistical Packages for the Social Sciences (SPSS) version 19. The result of the per-statement analysis will be discussed below.

STATEMENT	MEAN VALUE
I willingly participate in cooperative learning activities.	4.42
When I work with other students, I achieve more than when I work alone.	3.96
Cooperative learning can improve my attitude towards work.	4.00
Cooperative learning helps me to socialize more.	4.39
Cooperative learning enhances good working relationships among students.	4.21
Cooperative learning enhances class participation.	4.35
Until item 12 ...	

The results of this study show that the participants generally hold a positive view of implementing cooperative strategies in the context of instruction and learning. This is probably because students who work in groups feel like they can rely on support from others, which gives them the courage to solve problems and enjoy learning. Positive attitude towards cooperative approaches may indirectly change the attitude of learners towards language learning and fuel their confidence. Based on the study results, teachers need to use cooperative approaches to learning side by side with non-cooperative approaches to teaching. It is worth noting that cooperative learning is implemented effectively techniques involve teaching and learning events that are structurally organized. It is also recommended that the

approach be employed for communication skills like reading since cooperative learning collects feedback and ideas from different community members, and the ideas apply are readily apparent.

2. Attitude of Students Towards Cooperative Learning in Some Selected Secondary Schools in Nasarawa State

This article is written by Amedu and Gudi (2017), Journal of Education and Practice, VOL.8, NO. 10, 29-34, ISSN: 2222-288X (Online) 2222-1735 (Paper).

In the article, the Nasarawa government will popularize learning and the production of sufficient numbers of teachers to inspire and support national development. This desire may not be achieved if teaching and learning methods are not given a priority place in the education system. From the article, the research report shows that cooperative learning facilitates the learning process. Students are assigned to create small groups where they work together to maximize themselves and learn from each other. This is a clue to a problem in the teaching and learning process. It could be that the method used so far is inaccurate and ineffective or both. One reason why student performance is poor in science may not be due to the absence of teaching, but the ineffectiveness of the way subjects are taught and learned in

school. However, the research report shows the importance of collaboration, verbal collaboration / verbal interaction, and group work.

So, the article's problem is that the government hopes that students exposed to the secondary school curriculum must excel in external examinations. But in reality, the student's performance declined. Could this be due to students' dependence on teachers with very limited contributions to their learning process? Will the application of student-centered learning strategies such as cooperative jigsaw learning improve student understanding and enhance positive development? Therefore, this study aims to investigate the ability of the cooperative jigsaw method in developing positive attitudes in students at selected secondary schools in the State of Nasarawa.

It is said in the hypothesis; there is no significant development of a positive attitude towards the Jigsaw type cooperative learning approach by students who are taught to use the cooperative learning approach.

The research target population consists of senior secondary (SS1) students in the senior state of Nasarawa High Schools. The average age of students in this class is about 15 years old and biology as the subject. The sample for this study was taken from 179 students of SS 1 biology from three public high schools in the State of Nasarawa selected by purposive sampling. This is to allow the researcher to obtain the schools which have the required features needed for analysis. The schools selected for the study are:

- a. Government secondary school, Alice. - (South zone).
- b. Government science secondary school, Gudi. – (North-zone)
- c. Government secondary school, Garaku. – (West zone).

The instruments are Jigsaw Attitude Questionnaire (JAQ). To determine students' attitudes to the jigsaw method and how they rated the method, a 10 item Jigsaw attitude Questionnaire (JAQ) was administered on the students who were in the experimental groups and taught using the jigsaw method. The Jigsaw Attitude Questionnaire (JAQ) was adapted from Koprowski & Perigo (2000). And the Interview Guide. There were interviews conducted using a semi-structured interview guide. These interviews were videotaped and transcribed using the videography, a special computer program designed for that purpose. A semi-structured interview guide was developed by the researcher under the guidance of a professor.

The responses on the Jigsaw Attitude Questionnaire (JAQ) were converted into scores as follows:

Strongly agree 4

Agree 3

Disagree 2

Strongly disagree

‘Strongly agree’ and ‘agree’ were considered positive responses, while ‘disagree’ and ‘strongly disagree’ were considered as negative responses.

From the scores obtained, the percentage of negative or positive ratings by students taught by the jigsaw method was determined.

Through a jigsaw cooperative learning approach, students experience significant development and positive attitudes towards the method. The students in the experimental class who were taught using the Jigsaw cooperative learning approach developed a positive attitude towards this method. This is good news because one of the big problems teachers have is a lack of adequate motivation for students to learn. With this jigsaw method, students are helped in building good interpersonal relationships. As one student said, "I enjoy working with my classmates. I can chat with them and can ask if there is something that is not understood". When asked whether the jigsaw method stimulated them to come to school, one respondent said, any day that I miss this lesson is like I missed a lot because if I did not come to school. I don't know- like today, for example, if I was not in school, I would not know what happened today. But I enjoy coming to school because of the jigsaw method and am free with my friends to learn through my mates. Another student simply said: When you are involved with the jigsaw method, you won't want to miss class... From the empirical results of the study and the interviews, it can be seen that the jigsaw method is effective in enhancing effective outcomes.

From the results of this study, the following conclusion was made. There was a development of positive attitudes by the students toward the jigsaw cooperative learning approach. There is a recommendation in the article about the jigsaw cooperative learning approach that is highly recommended to use in teaching in secondary schools. It has the capacity to improve achievement, enhance conceptual change, and develop positive attitudes.

Thus, it can be concluded that nine out of ten articles proved that the jigsaw method is an effective method in teaching and learning. And it has a lot of advantages for students.

C. Discussion

Based on ten articles above, it is found that nine articles were proved the strength of the Jigsaw method. The first, the second and third articles found that there are increasing students' interest, improve their academic competency, and marks a significant impact on the students' ability to understand subject material by using the Jigsaw method. After that, the fourth, fifth, and sixth articles point out that Jigsaw methods more influential methods than others. Also, eight articles show that Jigsaw techniques could be a good alternative for students in the teaching and learning process. But, the seventh article gives a different result. It shows that there are some obstacles

found during the implementation of the Jigsaw method. In addition, two articles show good positive on students' attitudes towards cooperative learning methods in teaching and learning. For more explanation, it will be discussed below.

Marquez, Ilinas, and Macialuis found an increase in students' interest or knowledge of a subject based on learning methods. Also, this research useful to exercise students to take the test without any specific preparation. The instrument of this research was pre-test and post-test. Besides, this research has shown that students can learn a topic with ETA and thus improve their performance. Moreover, Permatasari points out that the improvement of academic competency through the learning process using the jigsaw learning strategy was successful. After that, the type of this research was classroom action research. Then, Tabiolo and Rogayan show that the Jigsaw II method marks a significant impact on the students' ability to understand the subject material. This research instrument was pre-test and post-test, also individual quiz/team, while in the Marquez, Ilinas, and Macialuis's article, there is no quiz test. Whereas in the article of Sofyan, Hasanah and Haryudin found that the first test of the post-test was not greatly improved, then in period II, the teacher changes the strategy. Before applying the test session, the researcher intentionally shifted the group members in a class by allowing students to choose their mates to revise the previous result. After that, based on research

data, it is clear that the implementation of the jigsaw method may be regarded successful as the final result exposed that the minimum score rate reached 6.5 compared to the pre-test, which is only 3.0.

Besides, Koç, Yıldız, Çaliklar, and Şimşek researching the effect of Jigsaw II, reading-writing-presentation and computer animations technique, which are among active learning technique on students' academic achievements. In conclusion, the Jigsaw II technique is more influential than others. It is because students teach the topics they specialize in each other, jigsaw technique direct them to cooperation, they can explain their ideas in a relaxed atmosphere while application of Jigsaw, so the learning process is more productive. Different from Koç, Yıldız, Çaliklar and Şimşek,'s article, Özdemir and Arslan researched at the same time about the effect and students' attitude of Jigsaw towards English course. After that, the instrument of this research was pre-test and post-test. At the end of the session, six students randomly selected from the experimental group interviewed to examine their views about using self-regulated learning. It found that students in the experimental group feel self-satisfied with their learning, and they can use self-regulation skills in their independent studies. While Perwitasari, Setyadi, and Putrawan researched about two techniques that are Jigsaw and STAD in teaching reading. Different from other articles, the result of this research shows that there are some obstacles found during the implementation of

Jigsaw and STAD techniques. Such as limited vocabulary, most of them did not have a dictionary, noisy class, and some students have no background knowledge about the materials taught in the class. For the design, this research uses qualitative design. The data has collected using interviews, observation, and triangulation design.

On the other hand, Harun Er found that Jigsaw techniques could be a good alternative. Because what lies on the basis of this technique is an active individual who takes responsibility, uses cooperation and communication skills, and learns to learn. In addition, this study uses sequential explanatory design, a specifically mixed method where the researcher conducts the quantitative method first and uses a qualitative method in order to support the findings collected from quantitative data or to reduce the data. But, the thing to be taken into consideration here is that this technique should be taught well to the students, and student motivation parallel to the willingness of the teacher should be kept at a maximum level. In addition, the students' attitude towards this method is needed. Farzaneh and Nejadansari show that the participants generally hold a positive view of the implementation of cooperative strategies in the context of instruction and learning. This is probably because students who work in groups feel like they are can rely on support from others and gives them the courage to solve problems and enjoy learning. For the instrument, a survey questionnaire was distributed among the

participants in order to determine their views. After that, the respondents were allowed to rate each item on a scale of options, which were numerically coded as 1 (strongly agree); 2 (disagree); 3 (neutral); 4 (agree); and 5 (strongly agree). Besides that, Amedu and Gudi also researched the same thing with Farzaneh and Nejadansari. They want to find out the attitude of students towards cooperative learning. It is found that through a jigsaw cooperative learning approach, students experience significant development and a positive attitude toward the methods. After that, the instruments of this research were Jigsaw Attitude Questionnaire (JAQ) and Interview Guide. There were interviews conducted using a semi-structured interview guide.

Thus, it can be concluded that nine of ten articles proved that the Jigsaw method is an effective one in teaching and learning, and it has a lot of advantages for students.

CHAPTER III

CONCLUSION AND RECOMMENDATIONS

This chapter presents the conclusions of this study related to An Analysis of the Strength of Jigsaw in Teaching and Learning and proposes some recommendations to the future writer and English Department Student of UIN Ar-Raniry.

A. Conclusions

Upon the conclusions of this study, the results were categorized into three points; the strength of Jigsaw, this method good for teaching, and students perceived positively. The point of the strength of Jigsaw are eight of ten articles show the positive effect of this method, and each article found the positive results of research. It means Jigsaw has more advantages in teaching and learning process. The other point is good for teaching, such as teachers find Jigsaw easy to use because each student has something important to contribute and this method can also be used for various subjects. Lastly, two articles found the positive attitude of students toward Jigsaw, such as students' view and how they learned in teaching learning process.

In teaching English, Jigsaw is appropriate to teaching reading and speaking. Because this method increases students' reading achievement and can improves students' speaking skill. It is very useful when working with short authentic text such

as newspaper or magazine. It can be concluded that this method proved positive effect on teaching and learning.

B. Recommendation

Based on the explanation, the writer gives some suggestions to the future writer. Because of the limitation of this study, the writer hopes if there are students who wants to write the same way like this writing, it can review more than ten articles for deeper analysis and better result. Besides, pay attention more to the result of each articles, then be careful when it is analyzed.

In addition, the writer suggests that teachers should make special preparation for teaching in the class by using Jigsaw method. It is done to avoid time-consuming activity, because teachers have to require some time to prepare students to learn how to work in groups. Thus, the teachers have to master how to use Jigsaw well for better teaching and learning process.

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PENGANGKATAN PEMBIMBING SKRIPSI MAHASISWA FAKULTAS TARBIYAH DAN KEGURUAN UIN AR-
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Pada Tanggal: 07 Agustus 2020
An. Rektor
Dekan,



Muslim Razali