

Applying Jigsaw Technique to Improve Reading Comprehension Skill for English-Majored Freshmen at Dong Nai Technology University

Lam Thi Phan^[1]

Abstract:

The paper is a research of applying jigsaw technique conducted with English-majored freshmen in higher education. Both of qualitative and quantitative methods were employed in the research. The results show that jigsaw brought a lot of advantages in improving students' reading comprehension ability. The students have more opportunities to share ideas, assisting and encouraging each other's efforts to achieve the learning goals; working together creates a collaborative learning context that brings an active classroom atmosphere so that jigsaw boost students' learning and academic achievement. In generally, the students shows favourable attitudes towards to application of jigsaw in the classroom. Thus, the researcher suggests that EFL teachers consider using jigsaw technique in reading classes.

Keywords: reading comprehension, jigsaw technique, cooperative learning

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I. INTRODUCTION

In Vietnamese education system, English is a core and obligatory subject in the curriculum from primary school to university. It is considered as a necessity in Vietnamese society because English needs for daily communication, employment and further studies as well. This leads to the point of how important the mastery of English for all students. Reading, like other language skills, is one of the crucial skills for students to be comprehended well. Therefore, reading teaching is vital to prepare the basic reading skills for students to be able to get knowledge and information from any reading passages. According to Rivers (1981), reading is the most important activity in any language classes, not only as an enjoyable activity and information source, but also as a way of consolidating and broadening one's language knowledge.

In despite of the need for readings skills, in reality at DNTU, EFL students have encountered difficulties in reading comprehension. As a result, they got poor marks in reading subject. Mikulecky and Jefferies (2004) reveals that reading comprehension is a problem for many students. The problems in comprehension of reading skills which students are dealing with may come from various factors. As Harris and Smith in Sutarsyah (2013) stated that the factors affect reading comprehension including internal one such as background experience, thinking ability affection, and reading purpose. The nature of reading text and physical factor belong to external factor. Based on the above factors, to improve students' reading comprehension, teachers are placed as the key factor in learning process. They should motivate students to actively participate in reading class. For this case, the teachers may offer instructions in supporting students to engage in the thinking process (Brown, 2001). Teaching

strategies or teaching models are also provided in order to encourage students to become more active and have much motivation in reading class. In this case, reading classes ideally should be filled with interesting and challenging ideas for discussion. Students can study through listening, speaking, explaining and thinking with peers. They can also use informal language to explain ideas with others which is easier understood by their peers. In this learning atmosphere, students get more opportunities to interact and engage with each other in a meaningful ways that will create them to be creative and critical readers.

As a result, it is necessary to conduct a research on using jigsaw technique to improve students' reading comprehension skill. It is believed that this technique of cooperative strategy provide more chances to deal with the EFL classroom's problems on reading comprehension. Moreover, the technique contributes advantages to learning process like boosting social interaction in classroom, stimulating students, building a positive learning setting, and developing reading ability. Maden (2010) points out that jigsaw technique can improving cooperative learning by making each learner for teaching some of materials to the group. Jigsaw itself is a cooperative learning method that is used to teach a variety of language skills. By applying the technique, students must master the text, since they are given opportunities to well comprehend the reading. To gain the aim of the study, the research questions are raised as follow:

- What are the benefits of using jigsaw technique to improve students' reading comprehension skill?
- What are the students' attitudes towards jigsaw in the classroom?

^[1]Faculty of Foreign Languages, Dong Nai Technology University, Bien Hoa city, Dong Nai, Vietnam, Email: lamphan83@gmail.com

II. RATIONALE FOR THE INNOVATION RESEARCH

The use of jigsaw technique have been supported by pedagogical study which suggests that it brings many advantages in EFL classrooms. Different researches also show that improving reading comprehension via jigsaw was an effective strategy. Yuhananik (2018) indicates that reading comprehension problem could be overcome by jigsaw application in the class activities. Another research was conducted by Dedi (2010) on comparison between SQ3R technique and jigsaw Cooperative learning. The results reveals a difference of students' reading comprehension achievement. The mean score of the post-test in the experimental class applying jigsaw was higher. Meantime in the class taught through SQ3R, the mean score of post-test increase significantly the students' reading comprehension achievement. Therefore, it is essential to clarify whether the using of jigsaw brings practical benefits to DNTU students. The innovation research also helps the researcher improve the teaching performance. To establish an evidence base for the study, theoretical background and some preceding relevant researches should be revised in this part.

1. Teaching reading comprehension

For years, teaching reading comprehension was based on a concept of reading as the use of the isolated skills such as recognizing keywords, finding meaning ideas, identifying cause and effect connection, sequencing, comparing and contrasting. Teaching reading comprehension was considered as a mastery of these skills. Harmer (2007) explains that there are principles behind the reading teaching that teachers should note to gain learning and teaching aims.

- Reading is not a passive skill: Reading is a receptive skill, but it does not mean readers are passive in reading activities. Readers need to comprehend texts and understand the argument.
- Students need to be engaged in what they read: if students are not involved, they will not actively interested in what they are reading. They will get much more pleasure when facing with interesting topics they like and challenging tasks.
- Encourage students to respond to the content of a text and explore their feeling about it, not just focus on its construction: it is important to study reading texts to find out the way they use language, the number of paragraphs they include. The message of the texts is important as well. Thus, students must be given opportunities respond the text message so that they be able to express their feelings about the topic.
- Prediction is an important factor in reading: before reading the article or book, readers can have an idea of the content based on photographs, headlines. The moment we get the suggestions, our brain begins guessing what we are going to read. In class, teachers should give hints so that students also get chances to guess what is coming.
- Match the task to the topic when using intensive reading texts: good reading tasks should be chosen with the right question types, suitable pre, while and post reading activities. The most usual passage can be made really interesting with imaginative and challenging tasks.
- Good teachers exploit the whole reading texts: Each reading text include words, sentences, ideas and descriptions. Good teachers combine the reading text into exciting lesson sequences, applying topic for discussion and further tasks using the language for study and later activation.

2. Jigsaw technique

2.1 Definition of jigsaw

In cooperative learning, students collaborate with their peers to discuss their own topic. However, it is quite dangerous since students tend to study their topic and do not care about their peers' topic. Jigsaw technique is one of activities in cooperative learning which can solve this problem. It allows each learner become an expert on a certain topic via discussion and interaction with others reading the same text and then share their findings to the "home" group to help them develop the same understanding. Jigsaw is cooperative learning method can reduce racial conflict among school children, advance better learning, promote learner motivation, and increase pleasure of learning experience (Aronson, 2000). In jigsaw technique, learners are expected to be more challenged in order to get students actively join in the course. Brown (2001;185) writes that jigsaw techniques is a special form of information gap in which each group member is given particular information and the purpose is to pool all information to gain some objectives. Teaching reading will be easier since this method asks learners be active in class. Kagan (2001) also defines that jigsaw is an effective technique to develop students' mastery on a topic, boost their concept development, encourage participation and learning.

2.2 Advantages and disadvantages of Jigsaw

When applying a teaching strategy, it must have its benefits and drawbacks. Both of them can be taken for good solution. Aronson and Bridgeman (1979) find that jigsaw promote students' self- esteem and race relation. A good self-esteem is developed when student want to be an expert, they must fully understand the text. Moreover, in mixed race classes, jigsaw helps students break the gap and build warm relations with each other. Based on Arronson and Patnoe (2011), jigsaw improves student learning and academic achievement: In this activity, each student is engaged actively in both of "expert" and "home" group. They are fully responsible to master their part of reading text. They also add that jigsaw enhances students' satisfactions with their learning experience. When expert grasp their own segment and deliver it to the others, the satisfaction happens. Students' retention are increased through puzzle activity in jigsaw because students are required to memorize their reading part and then interpret it to the group members.

Other advantage that jigsaw technique create a natural system in which students can show individual responsibility, leading interaction and using discussion skill across groups that help students develop social and oral skills (Parmadyani, 2013). Similarly, Astane and Berimani (2014) shows that jigsaw strategy creates a kind of team atmosphere among the groups.

Beside the benefits, several drawbacks of jigsaw are pointed out. Reese (2009) reveals some problems in jigsaw regarding different levels of students in one group that may cause difficulty for slower students and boring for high achievers. In classroom, jigsaw is a time-consuming activity. Astane and Berimani (2014) also adds that several students doubt sufficiency and validity of the information received from their mates.

2.3 The steps of teaching reading using jigsaw technique

According to Aronson (1978a, 1997b, 2008c) using jigsaw technique in teaching reading comprehension includes the stages as following: a) dividing class into six groups called 'home' group; b) selecting each group a leader; c) dividing the reading text into six parts; d) assigning each student to learn a part of text and giving them enough time to comprehend their parts; e) rearranging the students assigned the same part into expert groups. The experts should be given opportunities to obtain knowledge through reading, research and discussion; f) Bringing the students back to their home group and asking the experts to share what they have learned to the rest of the group; g) Moving from group to group, observing the process and making an suitable intervention if having problems; h) Giving a quiz on the reading text to find out students' achievement.

III. METHODOLOGY AND INSTRUMENTS

1. Methodology

Both of quantitative and qualitative methodology were used in the study. Kelle (2006) notes that quantitative method is designed to produce reliable data numerically and it is useful for carrying out on a large of participants that provides information in breadth. Conversely, qualitative method aims to collected information in detail and depth. Through this method, the researcher could explore the existing facts in the classroom; directly watch students' performances; and capture their attitudes to the innovation. As Robinson and Savenya (2005) indicates that qualitative method is implemented in natural setting that gives researcher a deep understanding on participants' activities and point of views.

2. Participants

The study sample was 60 students from two reading 1 classes in Faculty of Foreign Languages at DNTU. These students were matched in two groups of 30, one is controlled group who received conventional method as the treatment while the other is experimental group who received jigsaw technique in learning process. At the time of study, they were taking a course of reading 1 that lasts 10 weeks, one day per week and 90 minutes for each day. The classrooms are well-equipped for the researcher to implement the innovation such as projector, computer, microphone, flexible chairs and tables.

3. Instruments

Pretest-posttest design is most often utilized to collect quantitative data that helps researchers determine the effect of a treatment or intervention on a given sample. The participants of two groups took the pre-test at the

first week to evaluate reading ability of the groups before treatment. The pre-test consists of four parts with 25 items of multiple choice and true/false questions. The students did the test in 45 minutes. A post-test is the same structured with the pre-test used for two groups in the last week to measure achievement after the treatment.

Observation is one of the chief methods employed by many researchers in qualitative studies. The main strength of class observation is observer can focus on any aspect of the lesson and can provide an objective eye; and see directly what students do rather than what they say they did in the classroom (Richards, 2001). Observation was implemented with both of control and experimental group on week 5. To collect more objective data and avoid the subjective bias, my colleague was invited to observe the classes. She noted down on the available observation form.

Interview, as Hinchey (20018) noted, allows researcher to further explore participants' opinions, behaviours or preference; interviewer could ask more questions and interviewee have more opportunities to immerse themselves in a normal conversation. Therefore, semi-structured interview was employed on week 8 of the experiment to collect informative and richer responses from the students after they took the lessons with jigsaw technique. Five students were randomly selected to have an face-to-face interview within 6 minutes.

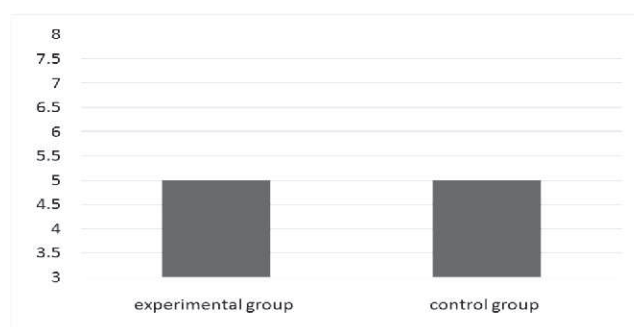
IV. FINDING AND DISCUSSION

1. Pre – test and post test

There were 30 students took pre-test in each class before conducting the treatment. The collected data was analysed by Microsoft Excel to get descriptive statistical result from pre-test score in experimental group and control group. The below table shows that in the experimental group highest score is 6.5 and lowest score is 4 and in the control group highest score is 7, lowest score is also 4. The bar graph reveals the means score of pre –test in control group and in experimental group is same.

Table 1: The pre- test score

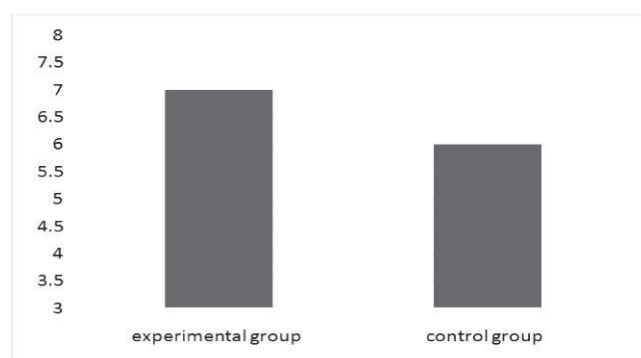
Subjects (30 students)	Experimental groups	Control group
Highest score	6.5	7
Lowest score	4	4
Sum	140	148
Mean	5	5



Bar graph 1: Comparison of average pre-test score in both groups.

The post – test was took by 60 students from 2 groups and the obtained data was also analysed by Microsoft Excel. As seen from the below table 2, the highest score in experimental group is 9.5, and the lowest is 6.5. There are 5 students achieved 9.5. While in control group the highest score is 8.0 and the lowest score is 6.5. Only two students got 8.0. The bar graph 2 shows the mean of experimental group ($M=7.5$) is also significantly higher than that of control group ($M=6.0$). It could be seen from the table1 and 2 the students in experimental group achieved higher results than ones in control group after treatment

Subjects (30 students)	Experimental groups	Control group
Highest score	9.5	8.0
Lowest score	6.5	4.5
Sum	140	148
Mean	7.5	6.0



Bar graph 2: Comparison of average post-test score in both groups.

From the bar graph 1 and 2, there is a significant difference between pre-test and post – test of the experimental group. The mean of pre – test score is 4 and it increases to 7.5 in post –test. The findings indicates that jigsaw is an effective technique to improve students' reading comprehension skill. It is suitable with Slavin (1997), he states that jigsaw as part of cooperative learning that brings many benefits in classroom such as providing assistance to each other to promote more positive peer relations, social support and increasing higher academic achievement.

2. Observation

The class observation was done on week 5 in both of classes. At the time, student studied unit 5 "Registering at the language school". In experimental class, after warm-up activity, students were divided into jigsaw group of five to reading the reading passage which was split into 6 parts and do the task. After that students were asked to make reports. From the observation sheet it shows that students have positive behaviour during discussion in jigsaw or expert group. They cooperated well and got involved actively in the material. They shared their opinions in solving the difficulties of the task. Although the class was quite crowded the teacher could control it well. The class environment was interactive and active. Applying jigsaw students are also more encouraged to ask unknown words and each student was ready to answer and response teacher's instruction. The teacher provided the activities useful to the students to understand the text. Through these activities they had chances to develop ability to identify the main idea,

supporting details, guessing meaning of new words and finding communicative purpose as well. After doing the task, many the students confidently reported their work.

However, the collected data from control group reveals that the class atmosphere was quite boring. It was not lively and interactive because each pair of students was asked to read the whole text. They did not have time to discuss much with their partner, so some pairs were not ready to give answers. Moreover, some of them volunteered to report their work.

In a word, the findings from class observation display that jigsaw not only improved the students' reading comprehension, but also the class environment and students' motivation. There was also a positive interdependence for each member in groups.

3. Interview

The data from interviews with the students in experimental group suggests that implementing jigsaw technique of cooperative learning strategy in teaching reading brings advantages in many ways. Firstly, it could improve students' reading ability. Secondly, there was a interdependence for each member of groups. Also, they had the same responsibilities and opportunities to present their findings to the jigsaw groups. Students can work together to achieve the shared goals and do the assigned task cooperatively rather than compulsively an individualistically. As two students remarked:

My reading score was significantly increased to 8.5. Actually, I was not good at reading, but after jigsaw class experience in 8 weeks I feel more confident about my reading ability. [S1]

Members in group cooperated well to accomplish the task. We could share ideas, ask difficult words and encourage each other's efforts. I find that I became more responsible and reading class was more interesting. [S4]

Moreover, students reveals that the jigsaw class gave them chances to interact meaningful with reading material and had responsibility to present ideas to other members in group. This enabled to integrate four aspects of language skills. Class discussion also brought them chances to talk and hear each other that develop their communication ability. As one student noted:

After discussing with others in group, I fluently report the work in front of the class. [S3]

Finally, five students expressed very positive feelings about applying jigsaw in the classroom. "I like it was a common response in the interview. However, they enjoyed jigsaw for various reasons. Some of their answers are:

I enjoyed the way you allowed us to work together in group. I like learning with my peers. Although it sometimes went off on a tangent, I liked the lively learning environment. [S5]

I am quite silent. My peers assisted me very much. We enjoyed sharing ideas and supporting. We did real work together to promote each other success. [S5]

V. LIMITATION

Despite of considering the potential problems before conducting the research, there are several limitations. The sample size is quite small, including 60 freshmen. Therefore,

the findings may not represent all students. Accordingly, the results of the research should be carefully to other cases. In addition, the duration of implementing the research is quite short, the reliability and validity of the results a possible affected.

VI. CONCLUSION

The research has shown that the use of jigsaw technique provides the benefits in improving the students' reading comprehension skills. Jigsaw provides students opportunities to share ideas, assisting and encouraging each other's efforts to achieve the learning goals; working together creates a collaborative learning context that brings an active classroom atmosphere. Students could learn together so that they subsequently could obtain greater individual competency. Therefore, jigsaw boost students' learning and academic achievement. As a results, the students have favourable attitudes towards to application of jigsaw in the classroom. Fundamentally, these findings have answered the two research questions and concurrently contribute to changing the teaching method to enhance the teaching performance and students' reading comprehension ability. Obviously, other teachers who want to change their traditional teaching method should consider applying jigsaw technique.

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