



# Application of Jigsaw Technique in Teaching Reading Comprehension to English Major Sophomores at Dong Nai Technology University

**BUI VY THAO TRAM**

*English Lecturer, Faculty of Foreign Languages, Dong Nai Technology University, Dong Nai Province, Vietnam.*

## I. INTRODUCTION

In the new global economy, English has proved its significance and become an international language. Acknowledging the significance of English, more and more Vietnamese learners spend their time on learning English. In accordance with these demands, English teaching has mushroomed everywhere in Vietnam (Hung, 1992). In fact, teaching English as a foreign language in Vietnam is a multidimensional task including four skills among of which reading plays an important part in language learning (Krashen, 2004). As the bitter truth, 80% of my students in a reading class do not seem particularly eager to read in a foreign language. When being asked the reasons why, a student in my class revealed that it was because there are a lot of new words in a long reading text. Consequently, it decreased her interest in learning reading. To deal with the problems mentioned above, I try to find a new reading method in which learners are the centers actively engaging in a reading lesson. Jigsaw, a kind of cooperative learning, designed by Aronson (2012) is believed to help me improve my current reading teaching. This method requires learners to learn in mixed groups so that they can help each other complete the jigsaw reading puzzle.

As a teacher, thus, I am curious to see how this new Jigsaw technique will work in my teaching context at a University of Technology. This study, therefore, is conducted to explore the effectiveness of jigsaw in enhancing students' cooperation in learning and in improving their reading comprehension skills by using qualitative and quantitative methodology.

## II. RATIONALE AND THEORETICAL PERSPECTIVES

To justify the rationale of my application of jigsaw into my reading class, I have followed some theoretical perspectives to reinforce my innovative jigsaw technique by exploring what the jigsaw is, how the jigsaw works and identify what benefits will occur in a reading lesson.

### Definition of Jigsaw Technique

Goodman (1990) defines jigsaw as a cooperative learning strategy in which students work cooperatively and assist each other for good understanding of new information. As cooperative learning methods, students form a group of five or six given different reading pieces and required to complete their full understanding of the final product (Slavin 1980).

### The stages of jigsaw reading teaching

As described by Slavin (1980), the stages of implementing a jigsaw reading in class are very simple. Firstly, the class is divided into groups of four or five people. Secondly, each group receives a different reading

segment to prepare individually before class. Slavin (1980) emphasizes that students' preparation in reading is a vital step since the more well-prepared the students are, the more successful the jigsaw reading works. After completing the reading assignments, students discuss in their groups. Then, those who have the same reading segments will teach each other in the expert groups. This is a crucial step of jigsaw and worth to be applicable to my teaching context since it can encourage learners to use the target language to teach and learn from each other. Lastly, students will return to their home groups and report what they learn from the expert groups.

### **The benefits of the jigsaw technique**

To strengthen my rationales, further findings about the effect of jigsaw cooperative technique on students' reading performance and achievement have been mentioned in the theoretical perspectives. As for students' performance in a jigsaw reading class, Caposey (2003) reveals that his participants feel more comfortable and eager when reading in their jigsaw groups, whereby they can easily deal with numerous new words for better comprehension of the reading texts.

Sahin (2010) also modifies that jigsaw can make students more responsible for their reading tasks since the students will be the centers leading the lesson, teaching and explaining reading assignments in class instead of depending on the teacher. Furthermore, participants involved in the interviews of Sami (2010) reported that jigsaw reading not only gave them motivation in learning such a boring subject but also improved their communicative skills since each of them was required to be an expert teaching new information to his or her peers. The findings from their study asserted that 80% of their participants had learnt how to work in groups and were confident in informal communication.

To sum up, according to numerous studies presented above, the jigsaw firstly highlights significant benefits which not only compensate for the lack of cooperation and communication existed in my current reading class but also improve my students' reading skills. Besides, the jigsaw also exists its shortcoming in terms of reading achievement (Harjono and Wachyunny 2008). Acknowledging the gap in this study, I can make an innovative jigsaw technique in my own reading class to answer two research questions as follows:

### **Research question**

- How does the jigsaw technique improve reading comprehension skills for second-year English major students?
- How does the jigsaw technique enhance cooperative learning in a reading class?

### **Description of research setting**

The research was conducted in the context of a university in the south of Vietnam over a period of three months. The university chosen for my research is Dong Nai university of Technology situated in the center of Bien Hoa city and near the largest city of the south as Ho Chi Minh City.

However, one possible barrier preventing all language teachers in my foreign language faculty from bettering their students' communicative skills was derived from the assessment criteria for students' abilities since the final tests just focus on grammar, vocabulary and reading which were hard to put in practice.

Hence, it should be necessary to carry out this innovation to tackle the problems in my university in general and in my reading class in specific. As being a lecturer at Foreign Language Faculty, I carried out a small action research which applied jigsaw cooperative approach in my reading class.

### **Participants and materials**

The participants involved in my study were 20 second year students (17 females and 3 males) majoring in English at intermediate level. Their ages are ranged 19 to 21. All participants had taken their Reading Comprehension courses last two semesters.

The textbook used in the course was "Reading advantage 3" book (Malarcher 2004). This book included general-content reading passages and designed with four skills. Hence, not only did it enhance students'

interests but also was in line with my innovation of using jigsaw cooperative approach in teaching reading comprehension.

#### **Research procedures**

On the first week, I took the consent forms from my students. Then, the training course was given to 20 participants during four weeks of ten-week semester. At the same time, I started observing my students' performance during the first four weeks. After two week training, I randomly chose a group of six students to be involved in a friendly conversation led by a group leader to get their honest information from participants. Finally, questionnaires were handed to all students at the end of the training course. To sum up, the initiative planned above contributed to assess the success of my innovation in reading teaching.

### **III. METHODOLOGY AND METHOD**

#### **Methodology**

The methodological approach taken in this study is mixed method approach of qualitative and quantitative. Hinchey (2008) suggested that both qualitative and quantitative have its own advantages and disadvantages. To get a deep understanding of participants, it was necessary to use qualitative approach (Creswell 2002). Thus, I adopted one more research method as open-ended questionnaire which was derived from quantitative research approach to get higher credibility with all participants (Sami 2001).

In short, to ensure reliability and validity of my evaluation methods, I decided to combine both qualitative and quantitative research methods by using triangulation methods of observations, focus group interviews and questionnaires. With the wonderful combination, it provided valid and reliable information which helped me to answer my two research questions regarding students' cooperative learning and the way to improve their reading comprehension skills.

#### **Evaluation method**

##### **Observations**

To see the whole process of my innovation whether it worked well or not, I have used digital audio recorder and checklists to observe 20 students for four weeks. Hinchey (2008) also mentioned that observation could enable the researcher to understand participants' attitudes and their difficulties occurring during the innovation process. Based on the difficulties explored from the observation, I could find out solutions for bettering my innovation. Besides the advantages, I also encountered a problem with my sole presence as an observer in the process. This influenced my students' behaviors since they could put up a façade to what they believed I was studying. Hence, to increase data and research conclusion's credibility and transferability, I employed one more research method as focus group interviews.

##### **Focus group interviews**

To control bias, measurements were conducted in a focus group interview. The interviewer of the focus group was the monitor of the class. She was asked to randomly choose a group of five or six students for the interview of four questions. By this way, students felt comfortable during the interview and had chances to express their true feelings, their thoughts, their difficulties and their expectations for the next lessons (Peshkin 1993). After acknowledging the participants' strengths and the weaknesses, I was confident in applying my innovation in my class for bettering my students' reading skills. This contributes to help me answer the research question one.

##### **Questionnaires**

After getting full and clear picture of the students' performances through observation and gaining a deep understanding of their attitudes toward the jigsaw class as well as their difficulties during the course, I finally delivered close-ended questionnaires after four-week training course to get the overall measure of the students' attitudes, opinions and obstacles, which could help to clarify my research question number one.

Different from observation and group interview methods, the questionnaire was impersonal, anonymous whereby participants were honest when giving their answers (Hinchey 2008).

In a nut shell, based on the advantages and disadvantages of three methods as observation, group interview and questionnaires mentioned above, I made a balance by flexibly taking the good points of this method to compensate for the weaknesses of the other methods, thus enabling the assessment process of my innovation to turn to be more reliable and valid.

#### **Data analyses**

To analyze the data collected from observation, focus group interviews and questionnaires, I utilized coding to interpret the data. According to Hinchey (2008), coding is defined as a process of segregating and grouping small pieces of the data into categories. To code the data, I manually highlighted all participants' responses with a colored pen and put them into different codes to fit the categories. Subsequently, to interpret the data I developed the categories of participant's perceptions, feelings toward my innovation, their obstacles in jigsaw reading process and the benefits of jigsaw technique in a reading class. These categories are related to my research questions as well as mirror what I have already found in my literature review. During the coding process, I discovered that there were some dominant themes regarding participants' difficulties in group working. Particularly, unfair task distribution and various opinions caused arguments among group members. Moreover, some said that group works wasted a lot of time since they had to wait for the other groups finishing their group discussion. These dominant themes did not mirror what I found in the literature review. Hence, I put the dominants into consideration for bettering my innovation.

### **IV. FINDINGS**

#### **Findings of focus group interview**

An interview of five students was carried out by a student leader of the class after the second week training course to gain their true feedbacks about my jigsaw lesson. The interview includes four questions asking about the participants' feelings, perceptions towards jigsaw reading lesson, their difficulties and expectations for the future reading class which are specifically listed in the Appendix 2.

From the interview, I discovered the following comments:

For the first question, I was glad to discover that all five participants expressed very positive feelings about the jigsaw reading class. "I liked it a lot" was repeatedly heard during the interview. All students enjoyed cooperative reading for various reasons. Firstly, a participant reported that cooperative reading made her feel more comfortable and active in learning rather than reading alone as traditional class. Secondly, 90% of the participants agreed that cooperative reading helped them gain a quick and effective comprehension of the reading texts. Finally, the five participants noted that cooperative reading helped them learn how to cooperate and develop good work relationship.

After acknowledging the positive feelings from the participants, the interviewer, known as the monitor, also tried to explore the problems students encountered during jigsaw reading process. In response to this question, an interviewee commented that reading in group made her headache since there were various ideas, which resulted in arguments. Another response from a dominant interviewee was that he preferred reading alone to reading in jigsaw group since he did not want to waste time for argument and waiting.

Through the unexpected findings above, I keep interpreting the next question whether the interviewees need any help from the teacher and what they need for help. In response to the question, most of the interviewees (100%) gave the same response – "Yes". An interviewee, when asked what she needed for help, said:

"Indeed, I just hope that the teacher can help me to identify the key words for outlining a reading text which I can base on to teach my peers in the expert group."

In short, through the positive and negative findings from the interviewees, I explore the last question to know whether they wish to participate in jigsaw reading in the future. Surprisingly, they all responded "Yes". This positive response gives me strength to apply the innovation in my teaching context.

### Findings of observations

The observational data were gathered by using observation checklists and video recording to confirm the sincerity of the interviewees' answers and to capture a full picture of the participants' interactions during the jigsaw process. Firstly, the results of the observation checklists were respectively analyzed. (see Appendix 4)

The table indicates that 70% of students were actively involved in the group discussion. Going around the class as a facilitator, I assisted them to overcome their shyness by joining them into groups of five in which they could freely express their opinions and check the others' ideas. At the second and third meetings, the participants appeared to be cooperative in learning. Particularly, they discussed how to prepare for the next reading lessons and how to distribute the reading task fairly to avoid arguments. Sometimes, they teased each other and created a comfortable and relaxing learning atmosphere. These positive findings truly reflected their interview answers.

Secondly, video recording during four week training course, it not only offers me good chances to gain the whole picture of students' performance but also capture teacher's input at all stages of the observation process. Hence, I just recorded the three steps of the jigsaw strategy. The findings are summarized below:

Pre-teaching: (30 minutes)

- Before introducing the topic, a teacher used a video clip to ask students to guess the topic and to answer some guiding questions. These warm up activities not only increased students' attention on the lesson but also built up their background knowledge and vocabularies of this reading unit. However, due to the limitation of time, the teacher just focused on explaining the new words and paid less attention on vocabulary pronunciation. This made some students confused and not confident of using them in a real life.
- Next, a teacher numbered each student one to five until the last one of the class. Those who had the same number formed a group of five. From the video recording, it can be seen clearly that students were very curious and excitedly discussed what could happen next.
- The teacher carefully introduced jigsaw reading task to the students. At this stage, some students (10%) tended to be noisy, thus they did not catch what the teacher said. However, it was glad to see that they asked their peers in home groups for good understanding of the teacher's instructions.

While-reading: (60 minutes)

- After understanding the task instructions, the students moved from home groups to expert groups. At this time, class atmosphere were noisy but active. It even made a sleepy student alert.
- Next, the teacher provided four groups with different reading segments and fact sheets. The students were asked to quickly scan their own reading segments then recorded their findings in the form of outlining them on their fact sheets. At this stage, the teacher moved around to support the students. However, with the aim to use checklists to observe two groups each reading lesson, the teacher failed to support the two remaining groups.
- Moreover, the findings from checklists revealed that 55% of the students had the problems with numerous new words and were unable to find the main ideas for outlining. Hence 70% of the students actively participated in group discussion to help each other such as giving opinions, checking others' ideas for good understanding. Nevertheless, some students (40%) did not do anything just passively listened to their peers. Otherwise, some (30%) tended to be dominant in group discussion. Hence, It is suggested that the teacher should balance the time to support each group and strictly manage the group task distribution.

Post-teaching: (60 minutes)

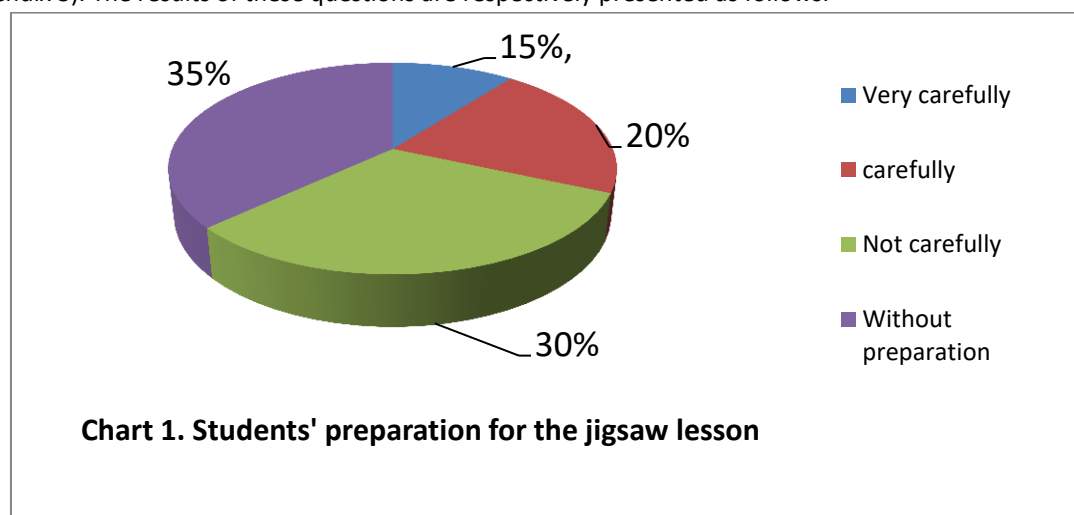
- After getting good understanding of the reading segments in the expert groups, all students returned to their home groups and reported what they learnt from the expert groups.
- Lastly, each group member was required to take turn to present their group work in front of the class. The teacher gave feedbacks for each group after class. As a result, the findings from checklists revealed that only

40% of the students were able to confidently present their group work just basing on the outlines recorded in their fact sheets. The remaining students still had difficulties with their presentation skills.

In summary, through checklists and video recording observations above, I can draw out some strengths and weaknesses in my innovation. As for good points, warm-up activities and group reading interested students in learning reading and showed their wish to study in group in the future. The teacher carefully prepared for the lessons such as using an interesting video clip, preparing informative and interesting reading texts and fact sheets. Besides the good points, I also discovered some weaknesses in my jigsaw teaching process. First, students still used their mother tongue to exchange the ideas in the expert groups. Second, the teacher needs to balance the time for each group to ensure that the weak students will not feel isolated and the dominated ones do not do so much group work. The final shortcoming which is imperative to be improved is that the teacher should facilitate students with reading strategies such as scanning and skimming for quick reading comprehension and the way to make an outline for a reading segment before implementing jigsaw reading.

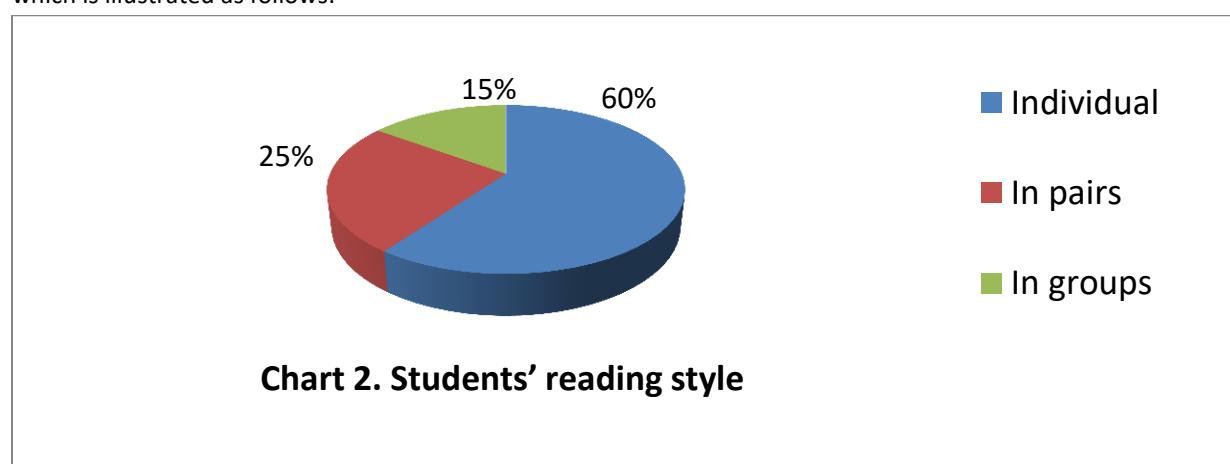
### Findings of questionnaires

After four week training course, questionnaires were delivered to all students with seven questions (see Appendix 3). The results of these questions are respectively presented as follows:



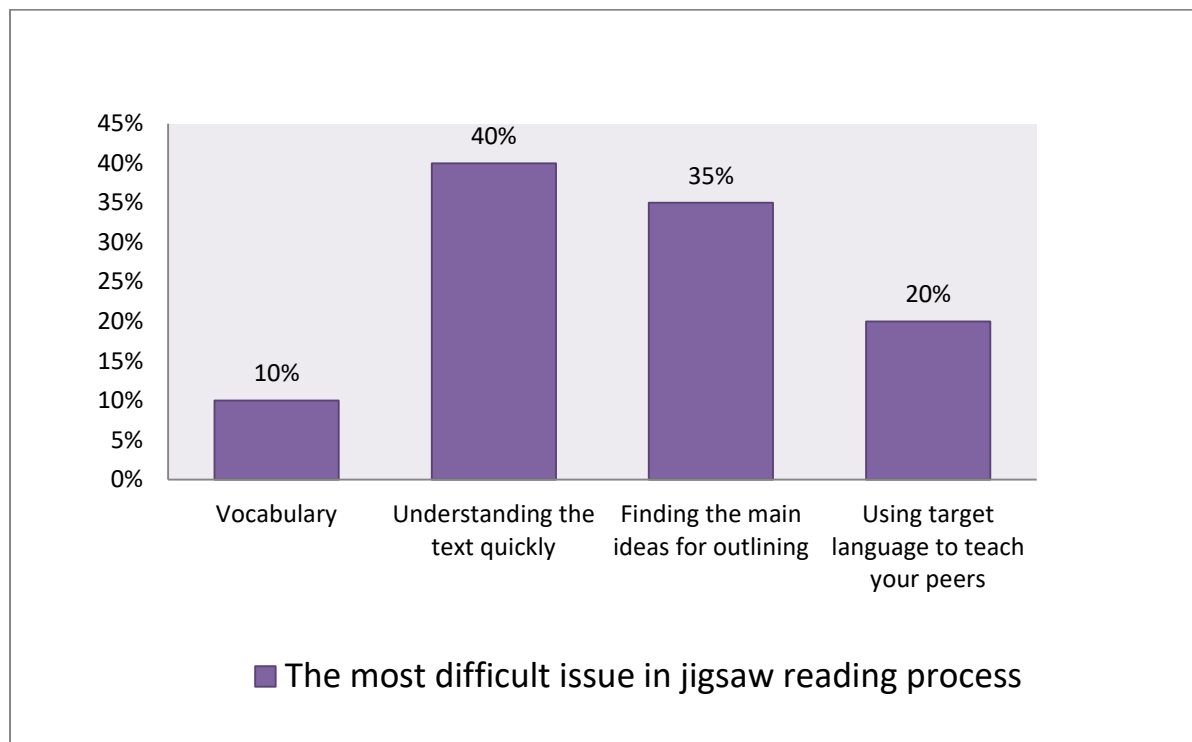
As we can see from the chart above, there are 21% of students preparing carefully for the reading lessons. It is a good signal when 3 of 20 students (10%) read carefully and check the meanings of new words. It means that 35% of students acknowledge the importance of reading, which makes them easy to complete the jigsaw reading tasks.

Secondly, it is vital to look at students' habit in reading whether they like reading alone or in groups, which is illustrated as follows:



The chart above reveals that only 15% of students have experienced in group reading. Meanwhile, 60% of students have never read in group before.

In the light of the above findings, I can conclude that students' preparation for skills and habits in reading cause a lot of difficulties for students in cooperative learning process, one of which they find the most difficult is clearly showed in the chart below.



**Chart 3. The most difficult issue in jigsaw reading process**

As can be seen from chart 2, 40% of the students found quick reading comprehension difficult to master. A student confided in the interview that reading comprehension task took her a lot of time. Hence, 35% of the respondents considered finding the main ideas as the second difficult step in the jigsaw reading process. The two last problems the students encountered in the process include numerous new words (10%) and English communicative skills for teaching their peers and presenting in front of the class (20%).

Next, the three last items are designed for the students to response on a five-point Likert scale which helps to capture the students' feelings, improvements and expectations after the jigsaw training course. The findings are summarized in the following table:

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
You enjoy reading in jigsaw group	35%	55%	10%	0%	0%
You get improvements on your reading skills after working in jigsaw group	30%	50%	15%	5%	0%
I expect to read in group for the next lesson	55%	40%	5%	0%	0%

**Table 1. Students' attitudes towards jigsaw reading technique**



From the table 1, we can see that 55% of the students agreed that they enjoyed cooperative reading a lot. Besides, 35% strongly agreed to read in jigsaw group in the future. This means that jigsaw reading techniques successfully increase students' interests in reading.

After four week training course, although only 5% of the students revealed that they could not get any improvement after the course, 50% of the students agreed and 30% strongly agreed that their reading comprehension skills improved. Moreover, most of them 95% agreed and strongly agreed to learn in jigsaw reading groups.

To sum up, in the light of the above positive findings, it can be concluded that jigsaw reading techniques should be continuously developed in my teaching context.

## V. DISCUSSION

The results of qualitative and quantitative analyses have provided evidence that is consistent with the results of other scholars in the field (e.g. Sami 2001, Sahin 2010, Kazemi 2012, Dat & Ramon 2012, Caposey 2003, Badawi 2008, Harjono & Wachyuni 2011). All of the above scholars have revealed that jigsaw strategy offered significant positive findings which were successfully applied in my teaching context. However, they also offered some findings which could not be practical in my innovation. This section, therefore, discusses some successful and unsuccessful findings arising from my innovation, whereby I can make recommendations on the basis of the findings.

The findings yielded in the study show some practical applications. Firstly, the observational results confirm the evidence of Caposey (2003) that jigsaw technique engaged 70% students in learning and created an active learning environment, whereby it can reduce their anxiety about learning reading.

Secondly, the interview results also support the evidence of Sahin (2010) that participating in a jigsaw reading task increases chances for students to interact in target language and to develop communicative competence. These positive findings successfully contribute to answer the second research question that jigsaw techniques can enhance students' cooperative learning.

In addition, to better my innovation I also explored the significance of reading materials in motivating students' interests. Dat and Ramon (2012) emphasized that an indispensable factor contributing to the success of this jigsaw technique is teaching materials. When asked to give opinions about the reading materials in the questionnaires, 75% of the students revealed that although the materials were hard to understand, 60% of the students noted that the reading topics were interesting. Hence, it encouraged them to keep reading. This finding motivates me to keep searching more interesting topics for my future reading classes.

Lastly, the results from questionnaires revealed that 30% of the students strongly agreed and 50% strongly agreed that their reading comprehension skills were improved after four-week training course. This finding was in line with the findings of Kazemi (2012) which can support to answer the first research question "to what extent jigsaw techniques improve students' reading comprehension skills."

Through the successful applications of jigsaw listed above, there is a problem occurring in the jigsaw steps of Kazemi (2012). When I applied jigsaw steps in my first-week training course, the study had a certain limitation in terms of the allotted time in jigsaw reading class since there were many tasks to do within 60 minutes. Hence, the impractical finding encouraged me to make some changes from the second week training course. First, I extended the allotted time of each jigsaw reading step by spending 30 minutes on pre-reading, 60 minutes on while-reading and 60 more minutes on post-reading. With the time allotted above, I had more time to help my students successfully complete the jigsaw reading tasks, especially preparation stage and reporting stage. Thus, it is suggested that I should well prepare my students for peer teaching by giving them the fact sheets. Then they have to read through to pick up the main ideas and key words for taking notes on the fact sheets. This stage requires students much patience and efforts to complete. The teacher, therefore, goes around to check and guide students if they do not know how to prepare for peer teaching. Kazemi (2012) asserted that the better the peer teaching preparation is, the more effective the group performances have become.



## VI. CONCLUSION AND RECOMMENDATIONS

The present study was designed to explore the effectiveness of jigsaw teaching method on improving students' reading comprehension skills and on engaging students in cooperative learning. The study has revealed some valuable findings which can help to tackle the problems I currently encounter in my teaching context. The findings showed that 90% of the students enjoyed the jigsaw and 70% eagerly participated in the jigsaw activities including helping and teaching each other in cooperative and communicative manners. This is also my wish to employ an appropriate and interesting method in my reading teaching and to promote students' abilities not only in reading but also in listening and speaking.

For better research on reading teaching, further studies may explore the effects of jigsaw techniques on a larger sample of non-major students at my university. Hopefully, jigsaw techniques will be widely used in Vietnam teaching context someday.

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