

THE EFFECTIVENESS OF USING JIGSAW STRATEGY IN COMPARISON TO TRADITIONAL LECTURING IN ENHANCING READING COMPREHENSION SKILLS OF SAUDI EFL LEARNERS

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Abstract

This experimental study aims to investigate the effectiveness of using Jigsaw strategy in comparison to traditional lecturing in enhancing ICP EFL students' reading comprehension skills. The experiment was conducted in an ICP EFL reading comprehension course, a five credit course, with five hours of instruction per week, over the first semester of 2021-2022 academic year. Forty ICP EFL students of Sciences and Arts College taking EFL reading comprehension course took part in this study, with 20 students in the experimental group and 20 in the control group. The experimental group received a Jigsaw strategy instruction, whereas the control group received a traditional lecturing instruction. The sole instrument used in this study was an identical pre-post EFL reading comprehension test. Both of the experimental and control groups were administered pre and post EFL reading comprehension tests. The pre- and post- scores from the EFL reading comprehension tests were calculated for descriptive statistics and compared using a *t* Test. The findings of the study indicated that there were statistically significant differences in favor of the effectiveness of using Jigsaw strategy instruction in enhancing ICP EFL students' reading comprehension skills. The students' scores in EFL reading comprehension were higher for the post-test than the pre-test after being subject to Jigsaw strategy instruction. Most literature published on using cooperative learning strategies in the Saudi higher education context did not focus on using Jigsaw strategy in teaching EFL reading comprehension for ICP EFL students. To the best of the researcher's knowledge, this is the first paper to investigate the effectiveness of using Jigsaw strategy in teaching EFL reading comprehension for secondary school leavers without prior experience with cooperative learning strategies like ICP EFL students. In conclusion, EFL reading comprehension instructors are highly recommended to use Jigsaw strategy instruction in EFL reading comprehension courses.

Keywords: Jigsaw Strategy, EFL reading comprehension, Intensive Course Programme

1. INTRODUCTION

Starting from primary school stage up to university level, English is the first foreign language that is officially taught in the Saudi educational system. Learners must be able to master the four language skills: reading, writing, listening, and speaking in order to have a good command of English. Speaking and writing are regarded active or productive skills, whereas listening and reading are regarded passive or receptive skills. However, reading is considered to be the most fundamental skill. Reading remains a major challenge for most Saudi EFL learners, as well as many other students learning English as a foreign language. The average TOEFL result in Saudi Arabia is, sadly, 57 out of 120. This is currently the second lowest in the entire Middle East. The lowest average belongs to Qatar, 51. These results are below most African countries, and they are two of the lowest average TOEFL scores in the world. The average Saudi score on the Reading

Section of the TOEFL is 10. The average Saudi score on the Listening Section of the TOEFL is 15. The average Saudi score on the Speaking Section of the TOEFL is 18. The average Saudi score on the Writing Section of the TOEFL is 15. These scores are out of 30 points each (www.Saudi-TOEFL.net). Saudi EFL learners' steadily unsatisfactory TOEFL test scores in particular in reading section point to the need for educators to examine their methods of instruction in EFL reading comprehension courses.

The conventional lecturing way of teaching English language skills in general and reading in particular is followed in most Saudi higher education institutions. In conventional lecturing reading classes, the instructor is in charge from the beginning to the finish. He introduces the course text as well as the procedures. Following that, the students are introduced to new vocabulary, expressions, strategies, grammatical structures, and other significant information. The students are asked to react to the instructor's questions at the end of the lecture. In such a situation, students compete with one another to go ahead of their peers. Furthermore, students who are unable to respond correctly and accurately to the instructor's questions become increasingly frustrated. After recognizing the drawbacks of the traditional and personalized teaching style of lecturing, a shift in the way reading skills are taught will arise. Traditional lecturing in the undergraduate EFL reading comprehension classroom following with an assignment from the text, the method of instruction most instructors have been applying, has not been effective yet as it does not meet all students' needs and learning styles (Jang, 2007; Saulnier, Landry, Longenecker, & Wagner, 2008). Namaziandost, Rezvani et al., (2020) noted that a variety of factors influence foreign language learners' progress and success in comprehending reading texts, including classroom environment, teaching strategies, learner views and attitudes toward language learning and acquisition, and interaction with other learners.

Cooperative learning, according to D. W. Johnson and Johnson (1989), is a learning strategy in which small teams with members of different abilities use different learning activities to enhance their understanding of a topic. In other words, D. W. Johnson and Johnson (1994) define cooperative learning as an instruction which involves teams of students working and studying together to reach a specific goal. The majority of studies on the effectiveness of cooperative learning have consistently indicated that this approach promotes more accomplishment, more productive interpersonal relationships, and self-esteem than competitive and individualistic strategies (Gomleksiz, 2007; Namaziandost, Hosseini et al., 2020). There is clear evidence to suggest that when students debate and express their viewpoints about a text in a cooperative way, greater understanding is attained that leads to a greater overall development of understanding (Namaziandost, Shatalebi et al., 2019). In order for small groups to work together effectively, the instructor must include five key elements in each class. (Namaziandost, Neisi, Kheryadi et al., 2019): (a) Mutual interdependence: each group member is responsible for the group's overall performance and is assigned a fair amount of the task. (b) Face-to-face interaction: students work in close physical proximity, which helps them to connect quickly and provides them with oral communication opportunities (c) Student accountability: each student is accountable for completing his or her assigned responsibilities; all participants are aware that each student plays a part in completing the assignment. (d) Social skills: community learning activities encourage cooperation and engagement. Instructors should encourage their students to use leadership, decision-making, and conflict management skills as an integral part of group work inside the classroom. (e) Group processing: throughout the course of an operation, group members are aware of their metacognitive learning. Students have the capacity to give and accept feedback as a result of team analysis, which improves the skills of each team member (Namaziandost, Neisi, Mahdavidirad et al., 2019).

One of the so many effective types of cooperative learning approaches that has proven beneficial to students from a wide range of academic abilities and helped raise academic achievement in reading comprehension is the Jigsaw strategy. Brown, (2007) emphasized that: "*Jigsaw activities are a special form of information gap in which each member of a group is given some specific information*". As a result, students study the content in a subject group with many others who have the same piece, and then categorize the information through discussion. This strategy consists of a regular instructional cycle of activities that include reading, grouping, regrouping, expert group discussion, team reporting, testing, and finally team recognition (Kagan, 1994; Namaziandost, Nasri et al., 2019). According to Sahin (2010), "Jigsaw strategy allows students to actively participate in learning process. By being constantly subjected to this method, students should feel more comfortable about their roles" (p. 778). Additionally, Haryanto (2012) asserted that, with Jigsaw strategy, learners can carry out the learning activities through cooperating with their classmates in order to get their aims. In addition, Jigsaw supports essential cooperative learning features like constructive interdependence and human responsibility. This is because Jigsaw learners have to understand each other to get the "big picture" and need to know "all the material, not just their own part, as they are evaluated individually" (Millis & Cottell, 1998, p. 129). Every team member has a piece of information that all team members have to learn, and each team member is responsible for teaching their segment to the other team

members. The members should have the entire picture after all the pieces are put together-hence the term, Jigsaw (Millis & Cottell, 1998; Tahmasbi et al., 2019).

According to Aronson (2010), the Jigsaw is a cooperative learning strategy in which a group is divided into four to six individuals. It encourages students to concentrate on the content they are studying and to work together. In line with this, Kagan (1994) stated that the Jigsaw strategy is most appropriate for use in bilingual classes. It may be used to any course materials, but it is especially useful in bilingual courses where the content, worksheets, and quizzes are frequently in English. Suyanto (2012) went on to say that introducing Jigsaw technique into the teaching-learning process will increase student accountability. As a result, they actively participate in identifying and solving problems in a collaborative manner. Furthermore, Gladstone (2013) claimed that the Jigsaw strategy is a cooperative learning activity in which learners gain proficiency in various areas and then teach what they have learned to other learners. Cooperative learning strategies such as Jigsaw strategy, if conducted appropriately, enable the individual learner to develop higher order thinking skills, acquire oral communication skills, and foster a deeper understanding of content material (Berry, 2003; Jang, 2007; P. E. King & Behnke, 2005; Topping, 2005).

Using the Jigsaw strategy can be beneficial for enhancing Saudi EFL learners' reading comprehension. Reading is significant in foreign language learning and plays a vital role in gaining knowledge and information from original resources. While fluent decoding is a crucial ingredient of skilled reading, it should be considered as a prerequisite to successful comprehension rather than an end in itself (Block & Pressley, 2002). Consequently, reading comprehension is the act of comprehending and constructing meaning from different passages (Brown, 2007). Furthermore, Block and Pressley (2002) pointed out that comprehension, which is the main aim of reading instruction, includes constructing meaning that is sensible and accurate through connecting what has been read to what the reader already knows and thinks about all of this information until it is comprehended. As a result, in order to acquire knowledge and understand new content, students have to be good at reading skills. However, Saudi EFL learners struggle with reading comprehension. They read the textbooks in order to answer the questions, not to comprehend them. Furthermore, they read the textbooks individually rather than in groups.

In employing Jigsaw strategy for this study, students are given active roles in their reading comprehension learning, with the lecturer holding each student accountable for the completion of a group goal. Given the importance of Jigsaw strategy in facilitating reading comprehension for EFL learners and the unsatisfactory performance of Saudi students on standardized tests, it could be concluded that this topic has not been given appropriate attention in the Saudi EFL teaching context. Thus, based on this and on the researcher's experience as an English as a Foreign Language lecturer, there is a general tendency among English language instructors to consider teaching reading comprehension a complex task. Taking this into consideration, this study is conducted to investigate the effectiveness of using Jigsaw strategy, compared by traditional lecturing instruction, on ICP EFL students' reading comprehension in the Saudi higher education context.

2. REVIEW OF LITERATURE

According to Schmuck and Schmuck (1997), the nature of cooperative learning is based on the belief that cooperative learning extends to both academic excellence and people's affective growth. R. T. Johnson and Johnson (1990) asserted that there are in general three social principles in the learning environment of all classrooms worldwide; competitive, individualistic, and cooperative. Cooperative learning was defined by D.W. Johnson et al. (1998) as an instructional method by which learners cooperate with each other in small groups to reach learning goals. There are various cooperative learning strategies that may be employed to help students acquire language more effectively and rapidly. One of these strategies is Jigsaw strategy which was proposed by Elliot Aronson in 1971 from Texas University and California University (Namaziandost, *et al*, 2020). According to Miaz (2015), the Jigsaw cooperative learning strategy includes small group learning activities in which students learn and work together both individually and cooperatively.

Reading comprehension can be improved by using the Jigsaw cooperative learning strategy. Reading comprehension, according to Suparman (2011), refers to understanding what has been read. Reading comprehension is an active thinking process that relies on students' comprehension skills, prior knowledge, and experience.

Furthermore, Yunita (2016) stated that reading comprehension is the capability to communicate a text resulting in an integrated process that includes decoding vocabulary items and sentences, applying prior knowledge related to the text and using cognitive and meta-cognitive strategies to make sense and to get the target message the writers aim to transfer. Reading comprehension, according to Ahmadi and Pourhossein (2012), entails a complex combination of the reader's past knowledge, linguistic skills, and meta-cognitive

strategies. Likewise, reading comprehension refers to the thinking and constructing meaning before, during and after reading by integrating the information presented by the writer with the reader's background knowledge (Etemadfar et al., 2019). According to Grabe (2009), there are several purposes of reading, namely, reading to search information, reading for quick understanding, reading to learn, reading to integrate information, reading to evaluate critique and use information, and reading for general comprehension. Yunita (2016) stated that "Teaching reading must teach as follows; identify pronominal references, main ideas, supporting details, what kind of text is involved, topic, and making inferences" (Yunita, 2016). Reading comprehension is defined by Sahin (2010) as the ability to get meaning from what is read. Furthermore, it is defined by Tompkins (2011) as the level of comprehending a text. This comprehension arises from the interplay between the written words and how they elicit knowledge outside the message. Tompkins (2011) expressed that comprehension is a creative process that hinges on four skills called phonology, syntax, semantics, and pragmatics.

In Saudi EFL classrooms, reading is a problematic skill for teachers and learners. According to Al-Mansour and Al-Shorman (2011), Saudi EFL students of different educational levels are unable to read efficiently or comprehend what they read. Even worse, Al Abik (2014) pointed out that Saudi TOEFL candidates' average mean score in reading ($X=12$) is far below the average mean score worldwide ($X=20$). This result was supported by his own study of Saudi English-major undergraduates, in which he concluded that the majority of students (almost 70 percent) who were majoring in English and translation could not score more than 10 in the reading comprehension test. He emphasized that reading comprehension instruction in Saudi Arabia is not given proper attention and that there is an urgent need to change classroom practices in order to develop students' reading skills. Elsayed and Puteh-Behak (2017) carried out a study in the Saudi higher education context to examine the effectiveness of using cooperative learning strategy of learning together on improving students' reading comprehension achievement. The study aimed to find out how Saudi EFL university students perceive the impact of 'learning together' as a cooperative learning strategy on their reading performance. The experimental group consisted of 40 EFL second-year students of Qassim University. Before and after receiving the learning together strategy-based instruction, the participants filled out a questionnaire. The results revealed that the learning together strategy-based instruction improved the students' motivation for reading texts, their interaction with each other and the mutual assistance atmosphere. More than 86 percent of students in the experimental group agreed that the learning together strategy-based instruction improved their reading comprehension and self-confidence (Elsayed and Puteh-Behak, 2017).

By the same token, Elsayed (2018) investigated the effectiveness of using learning together instruction in improving reading comprehension among Saudi EFL undergraduates by comparing the learning together instruction and traditional lecturing instruction. The study employed an embedded concurrent mixed methods quasi-experimental design to obtain both quantitative and qualitative data from EFL undergraduates. Eighty EFL third-level students taking an English Reading and Vocabulary course took part in the study, with forty participant students in the experimental group and forty in the control group. The quantitative data were collected through two instruments, namely, learning together questionnaire, and identical reading comprehension pre- and post-tests. The qualitative data collection procedures incorporated researcher's journal entries and field notes, face-to-face interviews with twelve participants and two student focus group interviews with nine participants. The data suggested that learning together instruction had a positive impact on students' reading comprehension skills overall (Elsayed, 2018). Several studies were carried out to investigate the effectiveness of using the Jigsaw strategy on language learning. Al-Salkhi (2015), for example, aimed to get a perception of the effectiveness of the Jigsaw strategy on the achievement of the 7th grade students and their learning motivation. To undertake this study, 53 female students were selected and divided into two groups: experimental and control. The achievement test and the motivation learning scale of the Islamic Education were used to gather the required data. The teaching materials related to the Jigsaw strategy were also prepared. The results indicated that the experimental group outperformed the control group. Moreover, the findings revealed a positive relationship between the achievement of the 7th grade students and their learning motivation. In another study, Azmin (2016) investigated the impact of the Jigsaw cooperative learning strategy on students' performance in psychology and their views towards it. The required data were collected through pre-and-post tests and an open-ended questionnaire from 16 conveniently selected students at one Sixth Form College in Brunei. The results indicated that the participants reported that they enjoyed using the Jigsaw strategy and performed significantly better after the treatment.

According to the results of the above discussed studies, it is clearly proved that the more students work in cooperative learning groups, the better they will learn, the easier the retention of the material will be, and the better they will feel about themselves, the class, and their classmates. Moreover, cooperative learning

involves “students working together in small groups to accomplish shared goals” (Gillies, 2007, p. 1). The students support each other to improve the learning of everyone in the group (Jolliffe, 2007). Cooperative learning elements include positive interdependence, individual accountability, group processing, small-group and interpersonal skills, and face-to-face interaction (Jolliffe, 2007). Through cooperative grouping of students, the theory of positive social interdependence, a vital component to meeting the needs of all learners, is nurtured (Johnson & Johnson, 2002; I. C. King, 2003). Positive social interdependence is said to have occurred when group members work collaboratively to achieve a common goal (Johnson & Johnson, 1994, 2002).

To sum up, the literature review suggests that instructional intervention is an important factor that influences students’ reading comprehension achievement. Derived from the researcher’s experience in teaching EFL reading comprehension course for the ICP students of the College of Sciences and Arts in Unaizah, the researcher found the main problem on the students’ reading comprehension skills was that, the use of an inappropriate teaching method, namely, traditional lecturing instruction. Hence, the impact was straight lacking on the students’ achievement in reading comprehension tests. Founded on this teaching situation, it is needed to select one of the most common cooperative learning strategies, like Jigsaw, in order to enhance the students’ reading comprehension skills. Thus, this research selected the Jigsaw strategy which is derived from cooperative learning which facilitates the students to understand the reading comprehension text much easier. The students are taught to work together within small groups to achieve the goal of reading comprehension text. The researcher’s interest in conducting this study stemmed from the observable unsatisfactory state of reading instruction performance in Saudi Arabia and the lack of sufficient empirical literature on the topic of the effectiveness of using Jigsaw strategy in enhancing ICP EFL students’ reading comprehension skills. The current study is a simple step toward understanding how the cooperative learning Jigsaw strategy instructional intervention conditions within the ICP EFL reading comprehension classroom can affect students’ reading comprehension achievement. For this study, the theory of positive social interdependence is examined by using cooperative learning Jigsaw strategy in one ICP EFL reading comprehension classroom and not using it in another classroom. The aim of the present study is to investigate the effectiveness of using Jigsaw Strategy in comparison to traditional lecturing in enhancing reading comprehension skills of Saudi ICP EFL students. In the light of the above-mentioned points, the following research question was addressed in this study:

“Do ICP EFL students who receive Jigsaw strategy instruction perform better on EFL reading comprehension tests than those who receive traditional lecturing?”

3. METHOD

3.1. Participants

To undertake this research, all students were ICP EFL students; hence, they were selected as the target participants of the study. The participants were selected through non-random sampling. All the participants who took part in the study were male students, ranging in age from 18 to 20. The ethical compliance of the participants was taken into account. The researcher provided the participants with a consent form to fill out. Since the researcher is one of the English Language and Translation Department faculty members at College of Sciences and Arts in Unaizah, Male Section. The male students were perfect in terms of availability. The researcher taught both the control group and the experimental group. The sample involved 40 ICP EFL students from College of Science and Arts in Unaizah who were enrolled in Reading Comprehension Skills course (ENGL025) with the researcher as the lecturer. The participants were divided into two groups; control group and experimental group. Twenty students were assigned as the experimental group, and the other twenty were assigned as the control group.

3.2. Instrumentation of the Study

The researcher used a pre-post reading comprehension test to investigate how effective the Jigsaw strategy was in improving participants’ reading comprehension. The pre-posttest was based on five reading comprehension skills: (a) making prediction, (b) skimming, (c) scanning, (d) guessing the meaning of new words from context, and (e) making inferences. The reading comprehension pre-test was used to determine the reading comprehension levels of both groups before the treatment. The post-test was used to identify any progress or differences in both experimental and control groups’ reading comprehension achievement by comparing the scores of the post-test to those of the pre-test. The standardized test (TOEFL) was used to create the pre-post reading comprehension test utilized in this study. According to the researcher’s experience in teaching reading comprehension for the ICP EFL students and the findings of Al-Nujaidi’s study (2003), the participants’ poor reading levels were anticipated. The test was scaffolded to match the

pre-intermediate level of the participants. On the Flesch reading ease scale, the readability of the chosen passages varied from 60 to 70. The researcher reviewed the ICP EFL reading textbook, *Interactions Access: Reading and Writing, Diamond Edition by Pamela Hartma. (2012)*, and discovered that the readability of the passages in the textbook closely matched the readability of the passages in the current study's test. Three passages were used in the test, the first of which was 242 words long and was taken from Rogers (2011). Phillips (2001) provided the second and third passages, which were 163-171 words long. The test consisted of 20 multiple-choice comprehension questions designed to save time and ensure that participants comprehended the reading material. The test questions were categorized according to the targeted five specific reading skills: (a) making prediction, (b) skimming, (c) scanning, (d) guessing the meaning of new words from context, and (e) making inferences.

These reading comprehension skills were selected since ICP EFL students are regularly taught, trained and tested on them. To make sure that the instrument used in the study was valid to be used, the researcher employed content validity. The content validity of an instrument is defined by Wynd et al., (2003) as whether an instrument accurately represents the research domain of interest to measure a certain entity. To ensure the pretest items' Content Validity Index, five faculty members who are specialized in TEFL and Applied Linguistics and familiar with foreign language learning and cooperative learning strategies and taught English for more than ten years looked through the test and made revisions and modifications to improve the clarity, simplicity, and representativeness of the items of the test. Only minor changes were made to the instrument's questions in response to their input and recommendations. To estimate the test reliability, it was piloted on a similar group in another ICP section at the College of Sciences and Arts in Unaizah whose course textbook and level were the same as those of the experimental and control groups. Following validation and piloting, the required revisions and modifications to the test were made in order to achieve item characteristics (i.e., item facility, item discrimination, and option distribution). For the final version of the pretest, a total of 20 items were selected. The pre-test reliability was calculated using the Kuder and Richardson (KR-21) formula (Kuder & Richardson, 1937), yielding a value of 0.989. The test time limit was 60 minutes, and each accurate answer scored one point. Wrong answers were not penalized.

The pretest was administered again, as a posttest, at the end of the 24 treatment sessions to determine the possible effects of using Jigsaw strategy on the ICP EFL students' reading comprehension achievement. In fact, the identical reading test was utilized twice in this study, first as a pre-test and then again as a post-test. In terms of duration and number of items, the post-test had exactly the same characteristics as the pre-test. The only difference between the post-test and the pre-test was the order of questions and choices, which was modified to exclude the possibility of recalling pre-test answers. This was necessary in determining whether the participants were able to choose the correct response after receiving the treatment. The validity of the posttest was also confirmed by those faculty members who validated the pretest and its reliability was calculated through Kuder and Richardson (KR-21) formula ($r = 0.859$).

The participants' reading comprehension pretest scores, compared to posttest scores, were used to determine how using Jigsaw strategy affected their reading comprehension achievement. For both groups, participants were given 60 minutes to finish each of the entire reading comprehension pretest and posttest. At the beginning of the treatment, the Reading Comprehension Pretest was given to both student groups to assess their EFL reading comprehension proficiency. At the end of the treatment, all participants were given the Reading Comprehension Posttest to measure the learning outcomes and competencies targeted during the treatment. The researcher developed the identical reading comprehension pretest posttest. All 20 questions for the test were multiple-choice questions. The identical test matched the typical ICP EFL reading comprehension tests that students normally take. To make sure of the content validity of the test, five experts were asked to make evaluation and validation of it. To make sure of good inter-scoring reliability, the reading comprehension pre and post tests were independently rated by other five faculty members.

3.3. Research Design

The experimental study was carried out in the ICP EFL reading skills course (ENGL025), a five-credit course, over the first semester of 2021-2022 academic year. Ten chapters were assigned for study for the period of the full first semester. These chapters were selected from *Interactions Access: Reading and Writing, Diamond Edition by Pamela Hartma. (2012)*. A pretest-posttest comparison group quasi-experimental design was employed. The experimental group received Jigsaw strategy instruction, whereas the control group received traditional lecturing instruction. Both groups had the same learning materials, schedules, tests, and lecturer; the sole difference was the instructional method. An EFL reading comprehension test was administered as a pretest to measure the entry level of each group before the treatment and as a posttest to check the students' English reading achievement. The experimental design for the study is shown in Table 1.

Table 1. Summary of the Experimental Design of the Research Study

Groups	Instructional Methods	Pre-Test / Procedures	Treatments	Post-Test/Procedures
Experimental group	Jigsaw strategy-based instruction	1. Reading Comprehension Pre-Test	Receiving "Jigsaw strategy-based instruction"	1. Reading Comprehension Post-Test
Control group	Traditional lecturing instruction	Reading Comprehension Pre-Test	Receiving "traditional lecturing instruction"	Reading Comprehension Post-Test

3.4. Treatment and Data Collection Procedures

The participants were given the reading comprehension pre-test at the start of the treatment to determine their proficiency level. The participants were divided into two groups after the pre-testing: one control group and one experimental group. The participants of the experimental group were exposed to cooperative learning Jigsaw strategy-based activities over the course of the 24 treatment sessions during the first semester of the 2021/2022 academic year. The following steps describe how each class session was administered: For the first fifteen minutes, students were greeted and checked for attendance in the classroom. Later, the students were introduced to the reading passage's topic and offered several pre-reading questions to activate their previous knowledge. The experimental group students were exposed to cooperative learning Jigsaw strategy-based instruction, whereas the control group students were taught the same reading chapters using traditional lecturing-based instruction.

3.4.1. Traditional Lecturing-Based Instruction

The control group students were exposed to the traditional lecturing-based instruction. The lecturer provided students with some background information before teaching them the reading text, and then the lecturer asked the students, one by one, to read the text loudly line by line and give its Arabic translation. Before each class, students were asked to preview the reading comprehension text for each chapter as a kind of assignment, and the lecturer instructed the whole class by explaining the reading comprehension text passage by passage, concentrating on guessing new vocabulary, skimming for main ideas and scanning for specific details. The lecturer communicated with learners by asking questions and leading discussions. After completing each chapter, learners were tested individually on the material they had. It is worth mentioning that the traditional lecturing-based instruction focused on learning by memorizing new vocabulary and expressions without paying much attention to developing other necessary skills like critical thinking skills or problem solving skills.

3.4.2. Jigsaw Strategy-Based Instruction

The experimental group participants were exposed to Jigsaw strategy-based instruction. The experimental group students were divided into five small heterogeneous groups of four members based on their pretest marks at the beginning of the treatment. In the first two weeks of the treatment, the lecturer spent about 20 minutes every week showing students how to practice Jigsaw strategy through illustration and training. In the Jigsaw strategy classroom, learners were told to preview the chapter text and prepare their individual questions before the reading comprehension class, and then bring their pre-prepared individual questions to class for working together. In the course of working together, group members simplified and explained word meanings and cross word puzzling texts, and after that involved in a conversation to decide the proper answers to their pre-prepared questions. Throughout group negotiations, the lecturer assisted students in working out any misunderstandings, gave feedback, and guided discussions. After group discussions, students were stimulated to ask questions on the reading comprehension text they had read, and the lecturer presented a short-term lecture to explain any unclear text and answer their questions. Lastly, students were tested individually with a chapter reading comprehension exercise prepared by the lecturer. The experimental group students were asked to work on reading the 10 chapters. Each team member read an assigned chapter, afterwards, members from different teams who had studied the same chapters met in "expert groups" to discuss their assigned chapters. After that, students went back to their respective teams

and took turns teaching their teammates about their chapters.

In order to carry out the Jigsaw strategy intervention in the experimental group, the procedural steps described by Namaziandost, et al. (2020) were followed: (1) Forming five jigsaw groups of four students for each group. (2) Designating the student with the highest grade in each group as the group leader. (3) Dividing each chapter into 4 parts. (4) Assigning one part for each student to learn. (5) Allowing each student to read his assigned part at least twice to grasp it. (6) Creating temporary "expert groups" by bringing one student from each Jigsaw group together with other students allocated to the same part. Providing enough time for students in these expert groups to discuss the major themes of their part and practice the presentations they will deliver to their Jigsaw group. (7) Bringing back the students of the expert groups into their Jigsaw groups. (8) Having each student to come in front of the class and give a presentation about his part. Other students in the groups were invited to ask about anything they didn't understand. (9) Observing the procedures while moving from group to group and providing the required intervention for working out any problems encountered by the groups. (10) A material quiz was given at the end of the session. Following the end of the treatment sessions, the two groups, control and experimental, were given the reading comprehension post-test to assess their reading comprehension achievement.

3.5. Data Analyses

After the completion of the data collection process, the data were processed and input into the computer for analysis. In order to answer the research question, the data were analyzed using the software package SPSS 14. To understand the effectiveness of using Jigsaw strategy in enhancing reading comprehension skills of Saudi EFL learners, some steps were followed: First of all, a paired samples t-test and an independent sample t-test were used in the analysis. To examine the effects of the treatment on the participants' reading comprehension, an independent sample t-test was utilized as a between-groups test. Furthermore, a paired samples t-test was used as a within-group test to see if each group enhanced from the pretest to the posttest. Finally, pretest and posttest results were compared to determine whether the differences were significant.

4. RESULTS

Comparing mean scores of the pre- and post- reading comprehension tests :

The researcher designated the experimental group (n=20) and the control group (n=20). As the next procedure, to show how using Jigsaw strategy-based instruction affects Saudi ICP EFL learners' reading comprehension test scores, a paired-sample t-test was carried out to compare the mean scores in the pre- and post- reading comprehension tests for each group. As regards the experimental group, (n=20), the result of the t-test showed that there was a significant difference in scores between the pre-reading comprehension test (M = 16.24, SD = 4.46) and the post-reading comprehension test (M = 17.61, SD = 3.53) conditions; $t(19) = -4.556, p = .000$. The result of the t-test is outlined in Table 2.

Table 2. Paired sample t-test comparing the pre- and post-reading comprehension test scores of the experimental group

The experimental Group (n=20)	Pre- Post	Mean	SD	T	Df	P
		-1.368	1.852	-4.556	19	.000*

*Significant at $p < .05$

As regards the control group (n=20), the result of the t-test showed that there was no significant difference in the scores for the pre-reading comprehension test (M = 16.80, SD = 2.97) and post-reading comprehension test (M = 16.17, SD = 3.77) conditions; $t(19) = 1.103, p = .279$. The result of the t-test is outlined in Table 3

Table 3. Paired sample t-test comparing the pre- and post-reading comprehension test scores of the control group

The Control Group (n=20)	Pre- Post	Mean	SD	T	Df	P
		.633	3.146	1.103	19	.279*

*Significant at $p < .05$

In brief, the mean score of the control group decreased .63 in the post-reading comprehension test. On the contrast, the mean score of the experimental group increased 1.37 points in the post-reading comprehension test. According to the change of the mean scores of the two groups, the experimental group outperformed the control group in reading comprehension test by showing as much as 2.00 point (1.37 - (- 0.63)) difference. Consequently, it can be stated that using Jigsaw strategy-based instruction was effective and supportive for Saudi ICP EFL learners to enhance their reading comprehension achievement through the process of assessment.

5. DISCUSSION

The research main question is addressed in this section based on the findings from the results section. After the researcher carried out the tests, the data were analyzed in order to determine the effectiveness of using the Jigsaw strategy-based instruction on the ICP EFL students' reading comprehension achievement. Previous literature has shown that social interaction and interactive learning of cooperative learning strategies (like Jigsaw strategy) activate learners' stimulation and motivation necessary for reading comprehension to occur and to ensure reading and actively engaging with the text (Koda, 2005; Mathewson, 1994). It could be noted that in comparison to the traditional lecturing instruction, experimental group students used more time to preview and study reading comprehension texts in greater depth. Working together allowed them to learn reading comprehension texts much easier with the assistance of other group partners. The backing, aid, and feedback gained through working together enhanced students' reading comprehension achievement. The results revealed that students who were taught using the Jigsaw strategy-based instruction performed better than those who were taught through traditional lecturing-based instruction. The results statistically showed that the experimental group performed significantly better than the control group (p.05).

As the results showed, the experimental group scored higher on the post-test than the control group. This might be because the Jigsaw strategy has some appealing qualities. The Jigsaw strategy can be more participatory than standard education; it can increase student-teacher interaction; it can foster students' collaboration; and it can focus time on task. Based on the researcher's observation during using Jigsaw strategy-based instruction, the effectiveness of using Jigsaw strategy in enhancing ICP EFL learners' reading comprehension skills can be related to the cognitive processes of Jigsaw strategy. Group discussions, which is a vital part of Jigsaw strategy, facilitate learners' reading comprehension by fostering a supportive learning atmosphere, which offers more opportunities for explanation, logical inference, and debates to elaborate student understanding of reading materials, and makes ideas concrete (Liao & Oescher, 2009). The study results demonstrate that using Jigsaw strategy aids both active and interactive learning, which produces an encouraging learning environment and helps learners enjoy engaging in discussions, activities, group work, problem solving, and involving in the EFL reading comprehension course. This accordingly enhances their reading comprehension skills and achievement. This encouraging cooperative learning atmosphere, enjoyable group discussions and students' interactions with their peers were also found in the findings of the study by Elsayed and Puteh-Behak (2017). Elsayed and Puteh-Behak (2017) and the current study agree on the results and the sample, although they differ in terms of instrumentation and the cooperative learning strategy used. Elsayed and Puteh-Behak (2017) confined their research to a pre- and post-questionnaire and used cooperative learning strategy of learning together for intervention, whereas the current study includes pre and post reading comprehension tests and utilized the cooperative learning Jigsaw strategy for treatment.

The results of this study are consistent with Aronson et al. (1978) and Aronson and Bridgeman (1979) who indicated that students in Jigsaw strategy-based instruction become more active learners in the classroom and confirmed that Jigsaw strategy has a collaborative structure and encourages learners' interdependence. Furthermore, the results of this study back up Al-Salkhi (2015) and Azmin (2016), who found that adopting the Jigsaw cooperative learning strategy to enhance students' language learning was effective. Additionally, the results of this study are in line with the findings of the study by Namaziandost et al (2020) who claimed that the Jigsaw strategy benefited Iranian EFL students. They stated that implementing the Jigsaw strategy in teaching and learning can result in favorable learning outcomes since it can immerse students in English learning. They also concluded that the positive effects of using the Jigsaw strategy became noticeable after the treatment and confirmed that using the Jigsaw strategy in instruction can facilitate the English learning process. They asserted that Jigsaw strategy can help students learn how to study in groups and how to become independent learners. In regard with the effectiveness of using the Jigsaw strategy, they recommended it to be applied in other teaching and learning settings (Namaziandost et al, 2020).

6. CONCLUSION AND IMPLICATIONS

The purpose of the study was to examine the possible effects of using cooperative learning Jigsaw strategy on enhancing Saudi ICP EFL students' reading comprehension achievement. This study findings emphasized the positive effects of using cooperative learning Jigsaw strategy to improve learners' reading comprehension achievement. Experimental group learners who were exposed to Jigsaw strategy performed significantly better on EFL reading comprehension post-test than learners who were exposed to traditional lecturing instruction. The results of this study could be very significant in terms of adopting and implementing cooperative learning strategies in EFL reading classes. This study highlights the relevance of a learning environment that promotes active and coherent engagement in the English language classrooms. The findings of this study are likely to offer some contributions to the related literature in field of English language education and may be beneficial to many stakeholders in the higher education institutions. For students, Jigsaw, as one of cooperative learning strategies, can be used to unlock students' learning potential, enhance their reading comprehension skills, inspire them to learn English and help them develop their interpersonal and communication skills. In addition, the Jigsaw strategy enables students to work and learn together which can result in effective and meaningful learning outcomes. It is worth noting that the Jigsaw strategy provides student-centered instruction and lays the responsibility for learning on the students' shoulders, with the instructor acting as a "facilitator" who works with them to help them through their own learning experience. In addition, EFL students can practice Jigsaw strategy in their learning of other language skills other than reading. EFL instructors can use Jigsaw strategy not only in teaching reading comprehension but in teaching EFL in general as well. By using this strategy, they can offer their students incentive, effective and cooperative learning atmosphere in which students help each other within the group. This study may draw instructors' attention to the need of using the cooperative learning Jigsaw strategy to incorporate new methods into English language instruction. This study may be beneficial for higher education institutions to hold training sessions for English language instructors in order to improve their awareness and understanding of the value and significance of adopting and applying the cooperative learning Jigsaw strategy in teaching not only reading comprehension, but other language skills as well.

In comparison to traditional lecturing instruction, using Jigsaw strategy-based instruction caused a significantly positive improvement in the ICP EFL learners' reading comprehension achievement. The results of this study are consistent with the findings of previous studies carried out through reading comprehension and other cooperative learning strategies (Chen, 1998; Ghaith, 2003; Tsai, 2004; Liao & Oescher, 2009; Suh, 2009; Bolukbas, Keskin, Polat, 2011; Manolas & Filho, 2011; Ning, 2011; Elsayed, 2018). The findings of this study considerably fill the gap in the current literature as reading comprehension is still an under-researched skill in this domain. The findings of the study are expected to aid Saudi Arabian educational officials, EFL instructors, curriculum designers, and developers in improving and developing more effective EFL learning environments for Saudi EFL students. While the study adds to and verifies past research in the field of TEFL, particularly approaches for teaching reading, it also emphasizes the need for more research into innovative pedagogical methods including online and outside-of-class cooperative reading and peer feedback training. Additionally, this study can attract educational researchers' attention to investigate the application of the Jigsaw strategy to other language skills.

Despite its numerous advantages, the Jigsaw strategy has some drawbacks. For instance, 71.3 % of students in a research by Nusrath et al. (2019) expressed an opinion on the drawbacks of the Jigsaw strategy. The most often mentioned drawback by participants was that it is a time-consuming procedure that does not allow for in-depth exploration of the topic. "A lot of time is wasted. Instead, we could learn all the topics by ourselves and present it randomly" (Nusrath et al., 2019, p. 4). Similar drawbacks were identified in some studies, despite the fact that these studies used a hybrid approach in which students worked outside of the classroom environment for expert group discussions (Kumar et al., 2017; Persky & Pollack, 2009). Another flaw identified in these studies is that not all members of the group fulfilled their part, or that the group's success was affected as a result of these students' poor performance (Kumar et al., 2017; Persky & Pollack, 2009). To summarize, it is normal that every teaching-learning strategy has benefits and drawbacks. However, the Jigsaw strategy has more benefits than drawbacks.

There are some limitations in this study. Keeping in mind the Kingdom of Saudi Arabia's gender-segregated higher education system, the first limitation is that only male students have participated in this study. The second limitation is the small size of the participants which was limited to 40 students. The third limitation is that the present research was carried out on Saudi ICP EFL male students, so its results cannot be generalized to female language learners. The fourth limitation is that the study included only participants that were 18 to 20 years old. So, the results cannot be generalized to other age groups.

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