

Review Article

Enhancing English Grammar Learning among Fourth Preparatory School Female Students' Through Using Jigsaw Strategy

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Abstract: The objective of this study was to improve English grammar acquisition among female students in the fourth preparatory school year by employing the jigsaw technique. To accomplish this objective, the researcher employed an experimental methodology and chose the sample from Yarubia Preparatory school which consisted of seventy two (72) female. The researcher selected two classes: one as the experimental group (36 students) and the other as the control group (36 students). During the second term of the 2025–2026 school year, the control group learned the old way, while the experimental group learned the jigsaw approach. The primary instrument of the study was an accomplishment test including four areas and comprising 32 validated items. It was given as a pre-test to make sure the two groups were the same and as a post-test to see how their achievements differed. We used SPSS, the T-test, as well as Mann-Whitney test to collect data that we obtained and figure out how important and what direction the results were going. Effect size was also assessed to see how the jigsaw method affected things. The results showed big disparities for the benefit of the test subjects the experimental group, which showed that the technique worked. The research advised using the jigsaw method to teach English grammar and said that more research should be done to see how it affects other language skills and disciplines.

Keywords: Jigsaw technique, English grammar acquisition, Cooperative learning, Experimental methodology, Preparatory school.

1. SECTION ONE

INTRODUCTION

Grammar is the system and set of structural rules governing how words change form and combine into phrases, clauses, and sentences to convey meaning in English. The jigsaw method is a cooperative learning strategy where students are divided into small groups to become expert on specific subtopics of a larger subject. This research aims at an identification the effect of using jigsaw strategy on students' learning grammar. It also aims at an evaluating the differences in students' proficiency in grammar through applying the jigsaw strategy. To achieve these aims, null hypotheses are formulated. There are two groups: control group taught by using traditional method and experimental group taught by using jigsaw method. The most important result is that the jigsaw method makes the lesson a positive and engaged place to study.

1.1 Statement of the Problem

None of the fourth-grade students' grammatical accuracy, motivation, or classroom engagement appears to have improved. This prompted the researcher to consider more effective methods for teaching and learning grammar. Therefore, the researcher considered it essential for him, as a practitioner, to identify both the benefits and limitations of utilizing the jigsaw strategy as a cooperative learning approach in the context of learning grammatical rules, as well as its impact on enhancing students' motivation, confidence, and the overall classroom environment.

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1.2 Research Questions

1. Are there significant differences at the level between the mean scores of the experimental group learning English grammar through the jigsaw strategy and mean scores of the control group studying English grammar via the traditional method?
2. Are there statistically significant differences at the level in English grammar learning between the mean scores of high achievers in the experimental group and those in the control group?
3. Are there significant changes at the level in English grammar acquisition between mean scores of both low or poor achievers in experimental and control groups?

1.3 Research Hypotheses

1. No significant differences at the level between mean scores of the experimental group learning English grammar through the jigsaw strategy and those learning through the traditional method.
2. No statistically significant differences exist at the level in English grammar learning between mean scores of high achievers in both groups (i.e experimental and control).
3. No significant differences exist at the level in English grammar learning between the mean scores of low or poor achievers in both groups (i.e experimental and control).

1.4 Purpose of the study

1. Assessing the impact of the jigsaw technique on students' grammatical accuracy in learning grammar.
2. Assessing the variations in fourth graders' proficiency in grammar attributable to the implementation of the jigsaw strategy
3. Assessing the factual proficiency of students in grammatical exercises
4. Enhancing the pedagogical approach to English language instruction, with a specific focus on grammar, for fourth-grade students.

1.5 Limit of the Study

These constraints have been taken into account in the conduct of the study:

1. The research was implemented in Al-Yarubia School for Girls.
2. During the second semester of the academic year, which took place between the years 2025 and 2026, the study was put into practice.
3. Concerned with mastering grammar from the English language course book "English for Iraq" fourth grade, (from Unit One to Unit Four) through implementing the experiment.
4. Grammar learnt in this experiment included:
 - a. Present tenses active (simple & perfect)
 - b. Present tenses passive (simple & perfect)
 - c. Past tenses active (simple & continuous)
 - d. Past tenses passive (simple & continuous)

1.6 Definitions of Basic Terms

1.6.1 Grammar

According to Hani (2010), there is a "need to pay attention to educational techniques in teaching English grammar for the sake of aiding in the delivery and transmission of knowledge to the student". So, students' low level of English grammar necessitates the search for new educational means to improve their level. Since grammar is such an important part of learning English, we realize the need to replace traditional methods with innovative and appealing technical means and methods in teaching English grammar (Dostert, 2009).

1.6.2 Cooperative Learning

According to Johnson and Johnson (1989), cooperative learning has two main features. One is that it depends on teamwork elements like working together, talking face-to-face, taking responsibility, using group skills, and reviewing how the group did. The other is that it's very flexible — you can use it with any subject because lessons can be broken down into cooperative activities.

1.6.3 Achievement

Hamdan (1991) explains that achievement is what students learn and understand from teaching. It focuses on what students learn in class and how they learn it in other circumstances.

1.5.4 High Achievers

High achievers are students who score in the top 25% compared to everyone else on the test.

1.6.5 Low Achievers

Low achievers are students who score in the lowest 25% compared to others on the test.

1.6.6 Strategy

According to Longman (2001), strategy refers to a deliberate sequence of actions designed to accomplish a specific objective. More broadly, it encompasses both the art and science of organizing and directing resources to ensure their most efficient and effective application. The concept itself originates from the Greek term denoting generalship, or the leadership of an army.

1.6.7 Language Learning

According to Hismanoglu (2000), language learning means using steps and routines that help students get, store, remember, and use information.

2. SECTION TWO

2.1 Jigsaw Strategy

The Jigsaw Strategy is a way for students to learn together (i.e cooperative learning technique) in which students are assigned different segments of a topic, become “experts” in their segment, and then teach it to members of their home group (Aronson, 1978). Students depend on one another to complete a full understanding of the lesson, making the learning process collaborative and interactive.

2.2 Aims of the Jigsaw Strategy

The major goals are to encourage positive interdependence, get students more involved, help them communicate better, and make them more responsible for their own learning (Slavin, 2014). It also wants to bring people together and cut down on competitiveness in the classroom (Aronson & Patnoe, 2011).

2.3 Advantages

Academic Advantages

- Improves understanding and encourages more in-depth study (Slavin, 2014).
- Makes people more motivated and involved (Johnson, Johnson, & Smith, 2013).

Social Advantages

- Enhances collaboration, empathy, and social connections (Aronson & Patnoe, 2011).
- Increases students' confidence when they teach one other (Hedeem, 2003).

Pedagogical Advantages

- Lessens teacher-centered education and boosts active learning (Gillies, 2016).

2.4 Disadvantages

- Not everyone participating equally can make a group less productive (Hedeem, 2003).
- Students who don't understand their material hurt the overall group (Slavin, 2014).- Needs careful planning and supervision from the teacher (Gillies, 2016).
- Students who are shy or don't know much may have trouble without help (Johnson *et al.*, 2013).

2.5 Importance of Jigsaw Strategy

Aronson (1978) says that the Jigsaw Strategy is significant because it makes the classroom a place where everyone works together and their work is important. Each student is in charge of learning and sharing a part of the content. This makes them depend on each other and cuts down on harmful competition. This strategy helps students grasp the material better and also helps them work together, feel for each other, and support each other.

Abul Khair (2003) thinks that this way of doing things is crucial for these reasons:

1. This method works because tasks, sources, resources, the goal, and the reward all depend on each other in a beneficial way.
2. This method lets each individual in the group teach a part of the learning unit to the other persons in the group.
3. It makes each student work hard to learn a certain aspect of the content and then share what they learned and thought about it with their peers so that everyone can fully understand the subject.
4. You can adjust this plan such that the groups depend on each other in a favorable way.
5. This method lets pupils work together and motivates them to keep learning.
6. It gives students the freedom to say what they want to say when they play their parts, which helps them learn new languages and improve their written and artistic expression skills.

6. It forces the students to work together to meet the group goal, which is based on how well they can divide up the work. This makes each student contribute to the group's grade.
7. With this method, the students have to take part in the lessons, talk about them with their classmates, and pay close attention to what they have to say.
8. Each student has the chance to add to the learning process, and the students' minds are trained to become more like the teachers'.
9. With this strategy, students are always learning while they review a subtopic of the subject with an expert group and then teach it to their peers again in the home group.

As a result, this strategy helps students rely on each other while they are learning and gets around many of the problems they face, such as not doing well in school and being bored. The researcher thinks that the Jigsaw strategy is important because it makes the subject so fun to learn and full of gravity and thrill. Furthermore, it helps some students feel less shy and alone, builds love among them, and allows them to benefit from each other. The Jigsaw approach also gives students chances to work together and teaches them how to say what they want to say when they're talking and discussing in groups.

2.6 Teacher's Role in Jigsaw Strategy

Al-Deeb (2006) explains that in the Jigsaw strategy, teachers have many roles. They place students in groups, pick a topic, and then divide it up into portions for each student. Teachers give instructions, help solve problems as guides, and encourage everyone to join discussions, especially shy students. They also push students to look for information, remind them of instructions, prepare tests to check learning, and at the end, collect answers and share the group's results.

2.7 Students' Role in Jigsaw Strategy

Al-Deeb (2006) explains that in the Jigsaw strategy, students also have many roles. They receive a specific part of the subject to study, search for information, and organize it carefully. After that, students get together in their expert groups to talk about what they've learned and assist each other comprehend it better. Afterward, they return to their home groups, where they are responsible for teaching their section to their classmates. They listen attentively when peers present, give support and feedback, and answer questions to strengthen group learning. Finally, students follow the teacher's instructions throughout the process to ensure the success of the activity.

2.8 Grammar

Chomsky (1959) explains that students use sounds, visuals, or touch-based symbols to share meaning, following hidden rules of English that exist in the mind. These rules help link ideas to different interpretations. Richards, Platt, and Platt (1992) add that grammar covers different parts of language structure. They see grammar as the rules that explain how words and phrases fit together to make sentences.

Thornby (1994) and Mandlhazi (2001) say grammar is about learning and using rules that change words and put them together into sentences. Clark (2008) adds that sounds, forms of words, sentence structures, meanings, and vocabulary that makes it possible to understand and create sentences are regarded as the whole system of grammar.

2.8.1 Importance of Grammar in Learning and Language Teaching

Grammar teaching in (SLL) second language learning is often discussed, and experts have tried different ways of presenting it. Even with these modifications, norms are still crucial for retaining the spirit of the language and making it better. Azar (2007) thinks that grammar helps pupils learn how language works. Students can utilize language better if they grasp the rules for words, sounds, sentences, and meanings. Without grammar, people could only communicate with single words, sounds, or signs.

Grammar ties together the parts of language so students can make clear and well-formed sentences. Mart (2013), quoting Emery *et al.*, (1978), explains that the more learners know about how words and structures work, the better they can recognize and create correct sentences. This means that learning grammar helps students use language more effectively. In general, grammar is a tool for learning, not just a subject by itself.

2.8.2 Teaching Grammar Principles

The works of both Hedge (1998) and Thornbury (2001) provide us with helpful knowledge regarding the rules that we might utilize in the process of teaching language. Hedge (2000) believes that the language that is taught to students should assist them in learning in a variety of different ways. It is able to provide you with input that will assist you in recognizing output and the acceptable forms of English. Additionally, by presenting language structures in their appropriate context in written forms, it is able to demonstrate how these structures are employed in conversation. It can also give information about the different styles of language form either by showing examples or by teaching them directly.

In the following points, Thornbury (2001) sums up some general rules for teaching grammar:

1. The Rule of Context: Showing how to use language in real life.
2. Students are taught the Rule of Use-Grammar to help them understand and use language in real life better.
3. The Rule of Economy says that you should cut down on speaking time so that you can practice as much as possible.
4. The Rule of Relevance: It only teaches students the language rules they are having trouble with.
5. The Rule of Nurture: Teaching doesn't always make people learn.
6. The Rule of Appropriacy states that all other rules should be interpreted in accordance with the students' levels, requirements, interests, expectations, and preferred learning styles.

Ellis characterizes grammar teaching principles in a broad sense: any instructional approach that directs learners' attention to a specific grammatical form in a manner that facilitates either linguistic assimilation or processing for comprehension and production, thereby enabling their absorption, is regarded as teaching grammar (Ellis, 2006).

2.8.3 Traditional Approaches Used to Teach Grammar

There are two main traditional ways to teach grammar: deductive and inductive. Davison and Dowson (1998) explain that both have been important in teaching for many years. Teachers often use the deductive method with younger or lower-level students because it doesn't need much independent thinking. The inductive method, however, is used with older or advanced students since it involves more analysis, understanding, and discovery.

A) Deductive Method

Thornbury (1999) asserts that, within deductive method, the teacher introduces the rule at first then subsequently clarified through illustrative demonstrations, such as providing examples. Engagement of students in the manipulation of examples serves to enhance the learning process. Deductive approach has several benefits (advantages), including:

- It communicates rules explicitly, thereby saving time, and it is generally more straightforward to explain many principles initially rather than infer them through examples
- Numerous adult learners rely on cognitive processes in their educational pursuits and prefer the knowledge in language acquisition.
- It meets some of the rules of the method of instruction and learning by giving students chances to examine and compare while they are learning a language.
- It saves instructors both energy and time because it doesn't need much planning ahead of time.

B) Inductive Method

The inductive method, according to Thornbury (1999), allows students to first examine examples in order to determine the rule. Exploratory learning, improved cognitive processes, and memory's central role are all emphasized by this approach. There are a number of obvious advantages to using an inductive approach to learning, including:

- fostering higher-level cognitive abilities that aid memory and retrain learning
- making classes more learner-centered and providing students with greater freedom to learn
- forcing students to actively engage in the learning process rather than passively receiving information and subsequently displaying less interest and motivation to learn.
- It encourages students to take on problems and figure out how to solve them as they study. Collaborating in groups actually improves students' learning outcomes.

3. SECTION THREE

3.1 Research Design

The researcher used the experimental method, as it was most suitable for the purpose of the study, which sought to examine the effectiveness of Jigsaw strategy in teaching of grammar to fourth-grade students. To accomplish this objective, two groups were selected: an experimental group and a control group. The experimental group received instruction through the Jigsaw strategy, whereas the control group was taught using traditional methods.

3.2 Sample of the Study

The sample of the study who are participated are from Al-Yarubia School for Girls, where he serves as an English teacher. The study sample comprised seventy-two female students. From the four classes he was teaching, the researcher selected two groups: one to serve as the experimental group and the other as the control group. Each group had 36 students. To guarantee reliability and validity, the experiment was personally carried out by the researcher.

Results from the final exam of the 2024–2025 school year showed that the students were on par with one another in terms of their overall academic performance. In addition, they demonstrated equivalence in their English language achievement, based on the statistical treatment of their scores in the first-term examination of the 2025–2026 school year.

The age variable of the sample was also controlled prior to the implementation of the experimental procedures, ensuring comparability among the groups.

3.3 Variables of the Study

The independent variables of the study were the instructional approaches, specifically the jigsaw strategy and the traditional method. They also included the students' general ability of English language (i.e. high achievers and low achievers). However, the students' acquisition of English grammar served as the representation of the dependent variable.

3.4 Instrumentation

An achievement test as the primary research instrument was employed. This tool was designed to measure or evaluate the effectiveness of the Jigsaw strategy in teaching grammar. The following section provides a detailed description of the construction, administration, and purpose of this instrument.

3.4.1 Achievement Test

Both the pre- and post-experiment assessments of the participants' performance were based on an achievement exam that the researcher had developed.

3.4.1.1. The General Aims of the Test:

The test aimed at measuring English grammar learning among fourth preparatory school female students through the use of the jigsaw strategy. The parameters of the test that are given in Table (3.2) were the criteria that were adhered to when the design was conceptualized and constructed.

Table 3.2: Specifications

Bloom level Skill weight	Knowledge	Comprehension	Application	Analysis	Marks
	Q1 (A) 25 %	Q2 (B) 25 %	Q3 (C) 25 %	Q4 (D) 25%	
Present tenses active 25 %	2 items	2 items	2 items	2 items	8 Ms
Present tenses passive 25 %	2 items	2 items	2 items	2 items	8 Ms
Past tenses active 25 %	2 items	2 items	2 items	2 items	8 Ms
Past tenses passive 25 %	2 items	2 items	2 items	2 items	8Ms
Total 100%	8 items	8 items	8 items	8 items	32 Ms

3.4.1.2 Description of the Test Items

The achievement test consisted of four questions comprising a total of thirty-two items. Each question contained eight items, with each item allocated one mark, making the overall score for the test thirty-two marks.

The test was designed to assess eight grammar lessons: present simple active, present perfect active, present simple passive, present perfect passive, past simple active, past continuous active, past simple passive, and past continuous passive.

- Question 1 included eight multiple-choice items. Each item targeted a specific grammar structure: present simple active (A1), present perfect active (A3), present simple passive (A4), present perfect passive (A5), past simple active (A7), past continuous active (A6), past simple passive (A2), and past continuous passive (A8).
- Question 2 consisted of eight sentences, each containing a grammatical error that students were required to correct. The items examined present simple active (B8), present perfect active (B2), present simple passive (B3), present

perfect passive (B6), past simple active (B5), past continuous active (B4), past simple passive (B1), and past continuous passive (B7).

- Question 3 presented eight sentences, each accompanied by instructions in brackets specifying the required grammatical transformation. The items assessed present simple active (C4), present perfect active (C2), present simple passive (C7), present perfect passive (C8), past simple active (C1), past continuous active (C6), past simple passive (C5), and past continuous passive (C3).
- Question 4 contained eight sentences that students were asked to analyze correctly. The items focused on present simple active (D8), present perfect active (D6), present simple passive (D2), present perfect passive (D1), past simple active (D4), past continuous active (D3), past simple passive (D7), and past continuous passive (D5).

3.4.1.3 Test Items

Achievement items were divided into four areas, each of which was meant to measure a different part of pupils' grammatical skills:

- A. Knowledge: This area had eight questions that tested how well pupils remembered and recognized grammar principles. Students had to read sentences and pick the right answer from three choices.
- B. Comprehension: This area had eight questions that tested how well students could understand and explain grammatical structures. Each item included a statement with an underlined word, and the students had to fix it if it needed to be fixed.
- C. Application: This area had eight questions that tested how well students could use what they knew in real-life situations. Students were instructed to make new sentences using the terms in brackets to show that they understood how to use grammar correctly.
- D. Analysis: This domain had eight items that were meant to test higher-order thinking skills. To show that they knew and understood grammatical structures, students had to evaluate sentences.

3.4.1.4 Pilot Study

A pilot test was administered to thirty-eight students who shared similar characteristics with the participants in both the experimental and control groups. These students were enrolled at Al-Yarubia School for Girls, the same institution where the main study was conducted. The obtained results of pilot study are recorded and subjected to statistical analysis in order to examine the validity and reliability of the achievement test. Based on the outcomes of this analysis, several test items were revised and refined to ensure the accuracy and appropriateness of the instrument prior to its application in the main study.

4. SECTION FOUR

4.1 Analysis of Collected Data and Results

Analysis of First Research Question

RQ1: Are there significant differences at the level between mean scores of the experimental part learning English grammar through the jigsaw strategy and those learning via the traditional method?

The usefulness of the jigsaw technique in improving grammar learning skills among fourth graders is clearly demonstrated by the results of the independent samples t-test.

The experimental group surpassed the control group at all levels of Bloom's taxonomy, and the computed t-values exceeded the tabulated values. These findings necessitate the rejection of the initial null hypothesis. The collaborative aspects of jigsaw—peer teaching, group accountability, and deeper processing—led to better performance.

Analysis of Second Research Question

RQ2: Are there significant differences at the level in English grammar learning between mean scores of high achievers in the group of experimental and those in the control group?

Using the Mann–Whitney U test, significant differences were found in favor of the experimental group's high achievers. Effect sizes (η^2) ranged from moderate to high, indicating a meaningful impact. The second null hypothesis is therefore rejected. Jigsaw supported high achievers by enabling analytical thinking, explanation of content, and deeper engagement.

Analysis of Third Research Question

RQ3: Are there significant differences at the level in English grammar acquisition between the mean scores of poor achievers in the group of experimental and those in the control group?

Mann–Whitney results for low achievers also showed significant differences favoring the experimental group. Z-values were statistically significant, and effect sizes indicated moderate impact. The third null hypothesis is rejected. Jigsaw enabled low achievers to receive peer support, reduce anxiety, and learn in structured cooperative groups.

5. SECTION FIVE

5.1 CONCLUSION

Based on the statistical findings of the study, several conclusions can be drawn regarding the effectiveness of the Jigsaw strategy in teaching English grammar to tenth-grade students. The results revealed that the students did much better with grammar when they used the jigsaw strategy instead of the traditional way. On the post-test, the group in the experiment always did better than group in the control at all levels of Bloom's taxonomy.

Also, high-achieving kids did far better with the Jigsaw technique than students in the control group, which shows that it helped them. The strategy's collaborative nature helped them learn more and show better cognitive processing. Kids who were not doing well also made significant progress, which suggests that the Jigsaw technique is helpful for kids who are struggling. Being part of structured cooperative groups helps lower anxiety, boost engagement, and encourage learning from peers.

The Jigsaw technique also helped students participate more, stay motivated, and engage more, all of which were good for their grammar acquisition. The sense of responsibility and reliance on one another that organizations instilled in its members led to active participation and valuable contributions.

The results show that the Jigsaw strategy works as a cooperative learning method that helps students acquire English as a Foreign Language (EFL) grammar and grow socially and cognitively. The method benefits students at all levels of achievement and makes the classroom a positive and engaged place to study.

5.2 Recommendations

The study's findings lead to the following suggestions:

- It is recommended that English language teachers use the Jigsaw style for teaching grammar because it has been shown to work better than traditional teacher-centered methods. To improve the quality of grammar teaching, curriculum designers should include cooperative learning methods, especially the Jigsaw strategy, in English textbooks and teacher manuals.
- It is suggested that teacher training programs include hands-on workshops on cooperative learning practices so that teachers may learn how to set up and run group structures effectively.
- Schools should make it easier for teachers to use interactive and cooperative teaching methods by giving them the right classroom settings, flexible seating arrangements, and enough learning materials.
- Tests should include group work so that teachers can see how well students can use their grammar knowledge in a useful way.
- During Jigsaw activities, teachers should make sure that all group members have clear directions and structured help so that everyone may engage fully and make a meaningful contribution.

5.3 Suggestions for Further Studies

1. Using the Jigsaw technique to improve other English language abilities like speaking, reading, and vocabulary.
2. Examining how Jigsaw students feel about cooperative learning, with a focus on qualitative methodologies to gain a deeper understanding.

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