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RESEARCH TITLE

The Effect of the Jigsaw Cooperative Learning Strategy on Reading Comprehension among Fifth-Grade EFL Learners: A Quasi-Experimental Study in an Arab Elementary Context in the Triangle Area

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Abstract

This study examined the effect of the Jigsaw cooperative learning strategy on reading comprehension among fifth-grade EFL learners in an Arab elementary school in the Triangle Area. A quasi-experimental pretest–posttest control group design was employed with a sample of 57 fifth-grade students. Participants were assigned to an experimental group taught using the Jigsaw strategy and a control group taught through traditional instruction. A researcher-developed reading comprehension test was administered as both a pretest and a posttest.

Data were analyzed using Analysis of Covariance (ANCOVA) to control for potential pretest differences between the groups. Descriptive findings indicated that the experimental group achieved higher posttest scores and greater mean improvement in reading comprehension compared with the control group. However, the ANCOVA results showed that the difference between the groups did not reach statistical significance, and the observed effect size was small.

Despite the absence of statistical significance, the findings suggest that the Jigsaw strategy may contribute to reading comprehension development by enhancing learner engagement, peer interaction, and shared responsibility for learning. The study emphasizes the importance of interpreting instructional effectiveness beyond statistical significance alone and highlights the need for further research with longer intervention periods and mixed-methods designs.

Key Words: Jigsaw strategy; cooperative learning; reading comprehension; EFL; primary education.

عنوان البحث

أثر استراتيجية التعلّم التعاوني جيغسو في الفهم القرائي لدى متعلّمي اللغة الإنجليزية كلغة أجنبية في الصف الخامس: دراسة شبه تجريبية في سياق مدرسي عربي ابتدائي بمنطقة المثلث

المستخلص

هدفت هذه الدراسة إلى تقصّي أثر استراتيجية التعلم التعاوني (الجكسو) في تنمية مهارة فهم المقروء لدى طلبة الصف الخامس من متعلمي اللغة الإنجليزية كلغة أجنبية في مدرسة ابتدائية عربية بمنطقة المثلث. اعتمدت الدراسة تصميمًا شبه تجريبي من نوع القياس القبلي–البعدي مع مجموعة ضابطة، حيث بلغت عينة الدراسة (57) طالبًا وطالبة، وُزِّعوا إلى مجموعة تجريبية دُرِّست باستخدام استراتيجية الجكسو، ومجموعة ضابطة دُرِّست بالطريقة التقليدية. وتم استخدام اختبار لفهم المقروء من إعداد الباحثة طُبِّق قبليًا وبعديًا على المجموعتين.

حُلِّلت البيانات باستخدام تحليل التباين المصاحب (ANCOVA) لضبط الفروق القبلية بين المجموعتين. وأظهرت النتائج الوصفية تفوقًا نسبيًا للمجموعة التجريبية في متوسطات الدرجات ومستوى التحسن في فهم المقروء مقارنة بالمجموعة الضابطة. إلا أن نتائج تحليل التباين المصاحب أظهرت أن الفروق بين المجموعتين لم تصل إلى مستوى الدلالة الإحصائية، كما كان حجم الأثر صغيرًا.

وعلى الرغم من عدم تحقق الدلالة الإحصائية، تشير النتائج إلى أن استراتيجية الجكسو قد تسهم في تنمية فهم المقروء من خلال تعزيز التفاعل الصفي والمشاركة النشطة وتحمل المسؤولية المشتركة بين الطلبة. كما تؤكد الدراسة أهمية تفسير فاعلية الاستراتيجيات التعليمية بما يتجاوز الدلالة الإحصائية فقط، وتوصي بإجراء دراسات مستقبلية تستخدم فترات تطبيق أطول وتصاميم بحثية تجمع بين المناهج الكمية والنوعية.

الكلمات المفتاحية: استراتيجية الجكسو؛ التعلم التعاوني؛ فهم المقروء؛ اللغة الإنجليزية كلغة أجنبية؛ التعليم الابتدائي.

Introduction

Reading comprehension is widely recognized as a fundamental component of English as a Foreign Language (EFL) learning and a key predictor of academic success across school subjects. In elementary EFL contexts, reading comprehension plays a particularly important role as learners gradually transition from "learning to read" to "reading to learn." At this stage, the ability to construct meaning from written texts becomes essential for both language development and academic progress. However, many young EFL learners encounter difficulties in reading comprehension due to limited vocabulary knowledge, restricted exposure to English outside the classroom, and insufficient opportunities to engage actively with texts. In many classrooms, reading instruction continues to rely on teacher-centered practices such as lecturing and individual exercises, which often provide limited opportunities for active engagement or collaborative learning.

To address these challenges, cooperative learning strategies have received increasing attention in language education. Cooperative learning emphasizes structured collaboration among students to achieve shared learning goals and has been shown to support both academic achievement and social interaction (Johnson & Johnson, 1989). One widely used cooperative learning approach is the Jigsaw strategy, originally developed by Aronson (1978), in which students work in small groups and each member becomes responsible for learning and teaching a specific part of the content. Through expert-group discussions and peer teaching, students collaboratively construct understanding of the learning material.

The Jigsaw strategy is grounded in social constructivist theories of learning. According to Vygotsky's (1978) sociocultural theory, learning occurs through social interaction and collaborative problem-solving within the learner's zone of proximal development. Likewise, social interdependence theory suggests that tasks requiring mutual dependence among learners can enhance academic outcomes (Johnson & Johnson, 1989). By promoting positive interdependence and peer interaction, the Jigsaw strategy operationalizes these theoretical principles in classroom practice.

Previous research has reported positive effects of Jigsaw-based instruction in various EFL contexts. For example, Abed (2019), Namaziandost et al. (2020), and Adib and Hakimi (2025) found that learners taught through the Jigsaw strategy achieved higher reading comprehension outcomes compared with those receiving traditional instruction. Cooperative learning has also been associated with improvements in student motivation, engagement, and self-efficacy (Namaziandost et al., 2019; Wang et al., 2023).

Nevertheless, research findings are not entirely consistent. Some studies have reported modest or mixed effects depending on contextual factors such as instructional duration, group organization, and teacher implementation (Stanczak et al., 2022; Vives et al., 2024). Moreover, empirical research examining the use of the Jigsaw strategy in Arab elementary EFL classrooms remains relatively limited.

In elementary schools in the Triangle Area, many Arab students learning English as foreign language experience difficulties in reading comprehension, and classroom instruction often provides limited opportunities for collaborative reading activities. Investigating the effectiveness of the Jigsaw cooperative learning strategy in this context may therefore provide valuable insights for improving reading instruction among young EFL learners.

Research Gap

Despite the growing body of research supporting the pedagogical value of cooperative learning strategies, particularly the Jigsaw technique, several gaps remain in the literature.

Although many studies report positive effects of Jigsaw-based instruction on reading comprehension in EFL contexts (Elsayed, 2022; Namaziandost et al., 2020; Abu Sayma, 2024), much of this research has focused on secondary or university learners. Consequently, empirical evidence regarding the effectiveness of the Jigsaw strategy among elementary-level EFL learners remains limited.

Moreover, recent synthesis and meta-analytic studies indicate that the effectiveness of the Jigsaw strategy may vary depending on contextual factors such as instructional duration, learner characteristics, and the quality of cooperative learning implementation (Vives et al., 2024; Jiang et al., 2023). These findings suggest that the impact of Jigsaw cannot be assumed to be universal and should be examined within specific educational contexts.

In Arab elementary EFL classrooms, particularly in contexts where teacher-centered instruction remains prevalent, relatively few studies have employed quasi-experimental designs that control for students' initial reading comprehension levels. Therefore, further research is needed to examine the effectiveness of the Jigsaw cooperative learning strategy in improving reading comprehension among elementary EFL learners in underrepresented contexts such as Arab schools in the Triangle Area.

Problem Statement

Reading comprehension remains a significant challenge in elementary EFL classrooms, particularly in contexts where learners have limited exposure to English outside school. Although English curricula emphasize the development of reading skills, classroom instruction often relies on teacher-centered practices that offer limited opportunities for interaction and collaborative meaning construction. Consequently, many elementary EFL learners struggle to engage deeply with texts and develop higher-level comprehension skills.

Cooperative learning strategies, particularly the Jigsaw technique, have been proposed as instructional approaches that may enhance reading comprehension by promoting peer interaction and active engagement with texts. However, previous research has produced mixed findings, and empirical evidence examining the effectiveness of the Jigsaw strategy among elementary EFL learners in Arab educational contexts remains limited, especially in studies using quasi-experimental designs that control for students' initial reading comprehension levels.

In Arab elementary schools in the Triangle Area, many fifth-grade students continue to experience difficulties in reading comprehension in English, and traditional instructional practices often result in limited engagement with texts. Therefore, empirical investigation is needed to determine whether implementing the Jigsaw cooperative learning strategy can improve reading comprehension among fifth-grade EFL learners compared with traditional instructional methods.

Research main Question

In light of the identified instructional challenges and research gaps, the present study addresses the following research question:

Does the use of the Jigsaw cooperative learning strategy significantly improve reading comprehension among fifth-grade EFL learners compared with traditional instruction when controlling for pretest reading comprehension scores?

Research Hypotheses

To address the research question, the following hypotheses were formulated:

Null Hypothesis (H_0):

There is no statistically significant difference in posttest reading comprehension scores between fifth-grade EFL learners taught using the Jigsaw cooperative learning strategy and those taught using traditional instruction after controlling for pretest scores.

Alternative Hypothesis (H_1):

There is a statistically significant difference in posttest reading comprehension scores between fifth-grade EFL learners taught using the Jigsaw cooperative learning strategy and those taught using traditional instruction after controlling for pretest scores.

Research Objectives

The study aims to achieve the following objectives:

1. To examine the effect of the Jigsaw cooperative learning strategy on the reading comprehension achievement of fifth-grade EFL learners in an Arab elementary school context.
2. To compare reading comprehension improvement between students taught using the Jigsaw strategy (experimental group) and those taught through traditional instruction (control group).
3. To provide empirical evidence regarding the effectiveness of the Jigsaw strategy for improving reading comprehension in elementary EFL classrooms and to offer practical implications for teachers and curriculum planners.

Significance of the Study

The significance of the present study lies in its theoretical, pedagogical, methodological, and contextual contributions to the field of English as a Foreign Language (EFL) education, particularly regarding cooperative learning and reading comprehension at the elementary level.

From a theoretical perspective, the study contributes to the literature on cooperative learning by examining the effectiveness of the Jigsaw strategy in an elementary EFL context. Reading comprehension is widely recognized as a key skill for academic success; however, many EFL learners experience difficulties due to limited vocabulary, restricted language exposure, and insufficient reading strategies. By exploring how peer interaction and collaborative learning influence comprehension development, the study provides insights into how social interaction and shared responsibility can support deeper text understanding among young language learners.

From a pedagogical perspective, the study offers practical implications for EFL teachers seeking to improve reading comprehension instruction. Traditional teacher-centered methods often limit opportunities for student interaction and active engagement with texts. In contrast, the Jigsaw strategy promotes structured collaboration, peer teaching, and shared accountability, which may enhance learner participation and comprehension. The findings may therefore assist teachers in integrating cooperative learning strategies into elementary reading instruction.

From a methodological perspective, the study demonstrates the value of conducting classroom-based quasi-experimental research in authentic educational settings. By employing a pretest–posttest design and controlling for initial reading comprehension levels through

Analysis of Covariance (ANCOVA), the study provides a rigorous approach to evaluating instructional effectiveness and highlights the importance of considering both statistical and pedagogical outcomes.

From a contextual perspective, the study contributes locally grounded evidence to the limited research on cooperative learning in Arab elementary EFL contexts, particularly in the Triangle Area. By examining the implementation of the Jigsaw strategy within this setting, the study offers insights that may inform curriculum development, instructional practices, and teacher training aimed at improving reading comprehension instruction.

Overall, the study contributes to a deeper understanding of how cooperative learning strategies can support reading comprehension development among elementary EFL learners and underscores the value of interactive, learner-centered instructional approaches in language education.

Delimitations of the Study

The present study was delimited by several factors defining its scope. First, it focused on fifth-grade EFL learners in an Arab elementary school in the Triangle Area; therefore, the findings are context-specific and not intended to be generalized beyond similar learners and educational settings.

Second, the study examined the effect of a single instructional strategy—the Jigsaw cooperative learning strategy—compared with traditional teacher-centered instruction. Accordingly, the findings reflect the impact of this specific strategy rather than cooperative learning as a broader framework.

Third, the study investigated reading comprehension as the sole dependent variable. Other language skills, including listening, speaking, writing, and vocabulary development, were not examined.

Fourth, the instructional intervention was conducted within the time frame available in the regular school schedule; thus, the findings reflect the outcomes of a relatively short-term classroom intervention.

Finally, the study used a quasi-experimental design with intact classroom groups rather than random assignment. Although statistical controls were applied to account for potential pre-existing differences, this approach was adopted to maintain the authenticity of the classroom environment.

Methodology

Research Design

This study employed a quasi-experimental pretest–posttest control group design to examine the effect of the Jigsaw cooperative learning strategy on reading comprehension among fifth-grade EFL learners. Two intact fifth-grade classes participated in the study: one served as the experimental group and received instruction using the Jigsaw strategy, while the other served as the control group and received traditional teacher-centered reading instruction.

The design is considered quasi-experimental because participants were not randomly assigned to groups; instead, the classes already existed as intact instructional groups within the school. Nevertheless, the use of a pretest and posttest together with a control group allowed the study to measure learning gains and compare the effectiveness of the two instructional approaches.

The independent variable was the instructional method (Jigsaw cooperative learning versus traditional instruction), whereas the dependent variable was students' reading comprehension

achievement measured by posttest scores. Pretest scores were treated as a covariate in the statistical analysis to control for initial differences in reading ability. To reduce potential threats to internal validity, both groups studied the same reading materials during the same instructional period, and the same teacher taught both classes.

Participants

The participants consisted of 57 fifth-grade students aged approximately 10–11 years enrolled in a public Arab elementary school in the Triangle Area, a predominantly Arabic-speaking region where English is taught as a foreign language.

The sample included two intact classes: the experimental group (31 students) and the control group (26 students). According to school records and teacher reports, the two classes were comparable in demographic characteristics, academic level, and exposure to English. All students had studied English since the third grade and had minimal exposure to English outside the school curriculum.

Before the intervention, all students completed a reading comprehension pretest to establish baseline equivalence between the two groups. The results indicated no statistically significant differences in initial reading comprehension levels. Ethical procedures were followed throughout the study, and parental consent was obtained before students participated.

Instrument

The primary data collection instrument was a researcher-developed reading comprehension test designed for fifth-grade EFL learners and aligned with the fifth-grade English curriculum.

The test consisted of two reading passages (150–200 words each) followed by comprehension questions assessing literal comprehension, inferential understanding, and vocabulary in context. In addition, one short open-ended item required students to provide a brief explanation or summary of the text. The test consisted of 20 items, including one short open-ended item that was scored using a rubric. The total possible score on the test was 30. Objective items were scored with one point each, while the open-ended item was evaluated using a rubric that allowed multiple points.

The same test was administered as both the pretest and posttest, with minor changes in the order of questions to reduce memorization effects.to ensure comparability, although the order of questions in the posttest was slightly modified to reduce potential memorization effects.

Validity

Content and face validity were established through expert review. The instrument was evaluated by three experienced EFL teachers and one curriculum specialist who assessed the clarity, appropriateness, and alignment of the test items with the reading comprehension skills expected at the fifth-grade level. Minor revisions were made based on their feedback.

Reliability

Reliability was examined through a pilot study conducted with a comparable group of fifth-grade students from another school in the same district. The pilot results indicated good internal consistency (Cronbach's $\alpha = 0.85$; KR-20 ≈ 0.80), suggesting acceptable reliability for educational research.

To ensure scoring consistency for the open-ended item, a second English teacher independently scored a sample of responses using a predefined rubric. Inter-rater agreement exceeded 90 percent.

Procedure

The study was conducted over a six-week period during the second semester of the academic year. Both groups studied the same reading units from the official curriculum, but different instructional methods were applied.

During the first week, students in both groups completed the reading comprehension pretest under standardized conditions. The experimental group was then taught using the Jigsaw cooperative learning strategy, in which students first worked in expert groups to understand specific text segments and then returned to their home groups to teach the material to their peers. Group members subsequently collaborated to answer comprehension questions integrating information from all segments, followed by a whole-class review conducted by the teacher.

In contrast, the control group received traditional teacher-centered instruction, which included vocabulary explanation, reading passages aloud or silently, teacher-led comprehension questions, and individual written responses. Both groups covered the same reading materials and received equal instructional time. At the end of the six-week intervention, students in both groups completed the posttest under conditions similar to the pretest.

Data Analysis

Data were analyzed using SPSS (Version 28). Descriptive statistics, including means and standard deviations, were calculated for the pretest and posttest scores of both groups. An independent-samples t-test was first conducted to confirm baseline equivalence between groups.

The primary statistical analysis employed was Analysis of Covariance (ANCOVA), which compared posttest scores between the experimental and control groups while controlling for pretest performance. Prior to conducting ANCOVA, assumptions were examined, including linearity, homogeneity of regression slopes, homogeneity of variance (Levene's test), and normality of residuals. All assumptions were satisfied.

The ANCOVA model included posttest score as the dependent variable, instructional method as the independent variable, and pretest score as the covariate. Effect size measures, including partial eta squared (η^2) and Cohen's d, were also calculated to estimate the magnitude of differences between groups. All statistical analyses were conducted using a significance level of $\alpha = 0.05$.

Results

Descriptive Statistics

The purpose of the statistical analysis was to determine whether the Jigsaw cooperative learning strategy produced a statistically significant improvement in students' reading comprehension compared with traditional instruction while controlling for pretest performance.

Table 1 presents the descriptive statistics for the reading comprehension scores of the experimental and control groups on the pretest and posttest. Both groups showed similar mean scores on the pretest, indicating that their initial reading comprehension levels were comparable before the intervention. After the six-week instructional period, both groups demonstrated improvement in reading comprehension; however, the experimental group taught using the Jigsaw strategy showed a slightly larger gain.

Table 1. Pretest and Posttest Descriptive Statistics for Experimental and Control Groups

Group	N	Pretest Mean (SD)	Posttest Mean (SD)
Experimental (Jigsaw)	31	15.5 (4.1)	22.3 (4.0)
Control (Traditional)	26	15.0 (3.8)	19.8 (3.5)

As shown in Table 1, the experimental group's mean score increased from 15.5 (SD = 4.1) on the pretest to 22.3 (SD = 4.0) on the posttest, representing an average gain of approximately 6.8 points. In comparison, the control group's mean score increased from 15.0 (SD = 3.8) to 19.8 (SD = 3.5), reflecting an average gain of approximately 4.8 points. Thus, the experimental group demonstrated greater improvement in raw scores than the control group. In addition, the experimental group achieved a higher mean posttest score (22.3) compared with the control group (19.8), suggesting a descriptive trend favoring the Jigsaw strategy. Nevertheless, the variability within the score distributions, indicated by the standard deviations, required further statistical analysis to determine whether this difference was statistically significant.

ANCOVA Results

To determine whether the difference in posttest reading comprehension scores between the two groups was statistically significant after controlling for pretest performance, a one-way Analysis of Covariance (ANCOVA) was conducted. In this analysis, the posttest score served as the dependent variable, instructional method (Jigsaw versus traditional instruction) served as the independent variable, and the pretest score was included as a covariate.

Preliminary assumption testing indicated that the conditions required for ANCOVA were satisfied. The assumption of homogeneity of regression slopes was met, indicating that the relationship between pretest and posttest scores was similar for both groups. In addition, Levene's test for equality of variances was not statistically significant, $F(1,55) = 0.77$, $p = .383$, confirming that the variance of posttest scores was comparable across groups.

The ANCOVA results indicated that the instructional method did not produce a statistically significant effect on posttest reading comprehension scores after controlling for pretest performance, $F(1,54) = 2.10$, $p = .153$. This finding suggests that the difference between the experimental and control groups did not reach the conventional level of statistical significance.

Table 2. ANCOVA Results for Posttest Reading Comprehension

Source	df	F	p	Partial η^2
Pretest (Covariate)	1, 54	85.70	< .001	—
Group (Instructional Method)	1, 54	2.10	.153	.037

Although the experimental group obtained a higher adjusted mean score on the posttest, the difference was not statistically significant. Therefore, the null hypothesis (H_0) was not rejected.

Effect Size

In addition to statistical significance, the magnitude of the difference between the groups was examined using partial eta squared (η^2). The ANCOVA analysis produced a partial η^2 value of .037, which represents a small effect size according to commonly accepted benchmarks in educational research (Cohen, 1988). From a descriptive perspective, the difference in gain scores suggests that the experimental group improved more than the control group. The experimental group's average gain was 6.8 points, compared with 4.8 points for the control group. However, due to score variability and the relatively small sample size, this difference did not reach statistical significance in the ANCOVA analysis.

Discussion

The purpose of this study was to examine whether implementing the Jigsaw cooperative learning strategy would significantly improve fifth-grade EFL students' reading comprehension compared with traditional teacher-centered instruction. The results indicated that students in both groups achieved higher mean scores on the posttest compared with the pretest. While the experimental group demonstrated slightly greater improvement in descriptive terms, the ANCOVA analysis showed that the difference between the two groups was not statistically significant.

At a general level, the results suggest that both instructional approaches supported short-term improvement in students' reading comprehension. The control group also demonstrated notable gains between the pretest and posttest, indicating that traditional teacher-guided instruction including vocabulary explanation, text reading, and comprehension exercises remained effective for developing basic reading skills. Although the experimental group showed a slightly higher mean gain, the difference did not reach statistical significance. This outcome may partly be explained by the relatively small sample size (57 students), which may have limited the statistical power to detect modest instructional effects.

The findings differ somewhat from previous studies reporting significant improvements in reading comprehension through the Jigsaw strategy (Abed, 2019; Adib & Hakimi, 2025; Namaziandost et al., 2020). However, several factors may explain this discrepancy. First, the duration of the intervention was relatively short. While many studies demonstrating stronger effects implemented cooperative learning over a full semester, the present intervention lasted only six weeks, which may not have been sufficient for students to fully develop effective cooperative learning routines.

Second, the assessment method may have influenced the results. The reading comprehension test measured individual understanding of short passages, whereas cooperative learning strategies may also promote higher-order comprehension, collaborative reasoning, and deeper processing of texts' outcomes that may not be fully reflected in traditional assessments.

Third, the developmental level of the learners may have played a role. While the Jigsaw strategy has produced strong results among older students, younger learners may require more structured guidance and time to develop effective peer-teaching skills. Some variability in group participation was observed during the intervention, as not all students consistently assumed active roles within their expert groups.

These findings are consistent with research suggesting that the impact of the Jigsaw strategy can be context-dependent. For example, Stanczak et al. (2022) and Vives et al. (2024) highlight that the effectiveness of cooperative learning strategies may vary depending on implementation conditions, instructional duration, and classroom organization.

Several additional factors may explain the modest impact observed. First, students and teachers were relatively new to cooperative learning practices, meaning that part of the instructional time was devoted to developing collaborative routines. Second, the reading materials used during the intervention may not have been sufficiently complex to require extensive peer discussion, which is often where cooperative learning demonstrates its strongest effects. Third, the assessment may not have been sensitive enough to capture subtle differences in deeper comprehension.

Despite the absence of statistically significant differences, the findings offer important pedagogical insights. The results demonstrate that the Jigsaw strategy did not hinder learning outcomes; students in the experimental group performed at least as well as those receiving traditional instruction while demonstrating slightly greater improvement. In addition, classroom observations suggested that cooperative learning promoted greater student engagement, discussion, and participation during reading activities.

From a theoretical perspective, the findings provide partial support for social constructivist perspectives on learning. Consistent with Vygotsky's (1978) emphasis on learning through social interaction, students working in Jigsaw groups engaged in explaining ideas and negotiating meaning with peers. However, the results also emphasize that effective cooperative learning requires clear structure and accountability. According to social interdependence theory (Johnson & Johnson, 1989), well-defined roles and individual responsibility are essential for maximizing the effectiveness of cooperative learning strategies.

Several limitations should be acknowledged. The study involved only two classes from a single school, which limits the generalizability of the findings. In addition, the quasi-experimental design did not include random assignment of individual students. The study also relied on a single post-intervention test and did not measure other outcomes such as motivation, engagement, or collaborative skills, which may represent additional benefits of cooperative learning.

Within the context of Arab elementary schools in the Triangle Area, the study contributes to a relatively limited body of research on cooperative learning in EFL classrooms. The findings suggest that young learners in this context respond positively to collaborative learning activities, although stronger academic effects may require longer implementation periods and structured support. Language factors may also influence cooperative learning dynamics, as students occasionally relied on Arabic to clarify meaning during group discussions.

In conclusion, although the Jigsaw strategy did not produce statistically significant improvements in reading comprehension compared with traditional instruction, the results indicate a modest positive trend in favor of the cooperative approach. The findings suggest that Jigsaw represents a viable instructional strategy that can promote active learning and student engagement in elementary EFL classrooms, particularly when implemented over longer periods and supported by well-structured cooperative learning procedures.

Limitations of the Study

Despite the contributions of the present study, several limitations should be acknowledged. First, the study was conducted with a relatively small sample of fifth-grade EFL learners from a single Arab elementary school in the Triangle Area, which may limit the generalizability of the findings to other educational contexts. Second, the instructional intervention was implemented over a limited instructional period, which may not have been sufficient for the full pedagogical impact of the Jigsaw strategy to become evident in measurable reading

comprehension outcomes. Finally, the study relied on a researcher-developed reading comprehension test, and although efforts were made to ensure its validity and reliability, future research may benefit from employing standardized assessment instruments.

Conclusion and Recommendations

This study examined the effect of the Jigsaw cooperative learning strategy on the reading comprehension of fifth-grade EFL learners in an Arab elementary school context in the Triangle Area. Using a quasi-experimental pretest–posttest control group design, the study compared an experimental group taught through Jigsaw-based instruction with a control group receiving traditional teacher-centered instruction over a six-week intervention period. The findings indicated that both groups improved in reading comprehension; however, although the experimental group demonstrated slightly greater gains, the difference between the two groups was not statistically significant.

These results suggest that the Jigsaw strategy did not clearly outperform traditional instruction in terms of standardized reading comprehension scores under the conditions of this short-term intervention. Nevertheless, the absence of statistical significance does not imply that the strategy lacks instructional value. The descriptive trend in favor of the experimental group, together with classroom observations, indicates that Jigsaw may contribute positively to student engagement, participation, and shared responsibility during reading activities.

The study contributes to the literature by providing empirical evidence from an underrepresented context; Arab elementary EFL classrooms in the Triangle Area, and by highlighting the importance of evaluating instructional approaches not only through statistical outcomes but also through their broader pedagogical impact. Cooperative learning strategies such as Jigsaw may support meaningful classroom interaction, collaborative learning, and student autonomy, even when immediate gains in test performance are modest.

Based on these findings, several recommendations can be proposed. First, teachers are encouraged to integrate the Jigsaw strategy as part of a balanced instructional approach rather than as a replacement for traditional methods. Combining cooperative learning with explicit teacher guidance may be particularly beneficial in elementary reading classrooms, where students still require structured support.

Second, successful implementation of cooperative learning requires appropriate scaffolding. Teachers should provide clear guidance on group roles, discussion strategies, and collaborative responsibilities to ensure productive interaction among students. The use of structured tools such as graphic organizers, role assignments, and guiding questions may further enhance the effectiveness of Jigsaw-based activities.

At the institutional level, curriculum planners and school leaders should support the integration of cooperative learning by providing professional development opportunities and instructional resources. Such support can help teachers effectively manage collaborative activities and incorporate them within existing curricular frameworks.

Future research should explore the impact of the Jigsaw strategy over longer instructional periods and with larger samples drawn from multiple schools. Longitudinal studies and mixed-methods designs may provide a more comprehensive understanding of how cooperative learning influences both academic outcomes and broader aspects of student development. In addition, future investigations may examine the use of Jigsaw in developing other language skills such as speaking, writing, and vocabulary learning.

In summary, the findings suggest that the Jigsaw cooperative learning strategy represents a feasible and pedagogically valuable approach for elementary EFL classrooms. Although its

short-term effect on reading comprehension scores was not statistically significant, the strategy shows potential for enhancing student engagement and collaborative learning. With longer implementation periods and structured support, Jigsaw may become an effective component of reading instruction for young EFL learners.

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