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The Effectiveness of the Jigsaw Cooperative Learning Method in Improving Students' Arabic Learning

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Abstract

This study examines the effectiveness of the Jigsaw cooperative learning method in improving Arabic learning outcomes among Paket B students in a nonformal education program. The research was motivated by the relatively low level of achievement in Arabic learning, which was largely associated with teacher-centered instruction and limited student engagement during classroom activities. The research employed a pre-experimental one-group pretest–posttest design involving 24 students as research participants. The learning material was taken from *Muhadatsah – Arabiyah Bayna Yadaik* Jilid 1A, Bab 7 (*Ad-Dirasah*), while learning outcomes were measured using a 10-item multiple-choice test administered before and after the treatment. The instructional intervention was implemented through the Jigsaw model, emphasizing expert-group collaboration, peer explanation, responsibility sharing, and collective presentation. Data were analyzed descriptively through comparison of pretest and posttest scores and gain-score interpretation. The results indicate a substantial increase in students' Arabic learning achievement after the implementation of the Jigsaw method, showing that cooperative interaction significantly enhances comprehension, learning participation, and students' confidence in using Arabic expressions. The study strengthens empirical evidence on the relevance of cooperative learning for nonformal education contexts and highlights the potential of the Jigsaw model as an alternative pedagogical strategy to support meaningful and collaborative Arabic learning.

INTRODUCTION

Arabic language learning in nonformal education settings has strategic significance, particularly in strengthening students' religious literacy, communicative competence, and engagement with Islamic textual traditions (Fatem, 2025; Howell et al., 2025; Riyadi, 2025). However, learning activities in Paket B programs are often confronted with pedagogical challenges such as heterogeneous learner backgrounds, limited instructional variation, and the dominance of teacher-centered approaches (Rustiyana, 2025). These conditions tend to place students in a passive learning position, which affects comprehension, participation, and overall academic performance.

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Preliminary observations in a nonformal education setting revealed that a considerable number of students had not yet achieved the minimum mastery criteria in Arabic learning. Students experienced difficulties in understanding vocabulary, responding to conversational expressions, and engaging actively in learning tasks. This situation indicates the need for an instructional model that promotes interaction, collaboration, and learner autonomy rather than reliance on traditional lecture-based teaching.

From the perspective of constructivist and socio-interactionist learning theories, learning is viewed as a process of meaning-making shaped through dialogue, collaboration, and shared experience (Han et al., 2025; Ligozat & Almqvist, 2018). Cooperative learning is one pedagogical orientation that aligns closely with these theoretical foundations. It encourages students to work interdependently, exchange perspectives, and assume responsibility for both individual and collective learning success (Johnson & Johnson, 2008; Scager et al., 2016).

The Jigsaw cooperative learning method is distinguished by its division of students into expert and home groups, where each learner becomes responsible for mastering a particular subtopic and teaching it to peers (Hasanah et al., 2025). This structure fosters cognitive engagement, social accountability, and interactive knowledge construction. Previous research in various instructional contexts has demonstrated that Jigsaw can improve student achievement, motivation, and communication skills (Alfaruqy, 2021; Cochon Drouet et al., 2023; Huang et al., 2013; Wang et al., 2023). However, empirical investigations focusing specifically on its application in Arabic language learning within Paket B nonformal education programs remain limited. Based on this empirical gap, the present study aims to analyze the effectiveness of the Jigsaw cooperative learning method in improving Arabic learning outcomes among Paket B students. The study is expected to contribute theoretically by reinforcing the relevance of cooperative learning in Arabic language education and practically by offering pedagogical insights for educators working in nonformal learning environments.

METHODS

This study applied a quantitative pre-experimental approach using a One-Group Pretest–Posttest Design. The design enabled systematic comparison of students' academic performance before and after instructional treatment, thereby providing empirical evidence of learning improvement attributable to the Jigsaw method (Albshkar et al., 2025; Aryasutha et al., 2025; Damri et al., 2023; Engkizar et al., 2023; 2018; Hertiavi et al., 2010; Kartika & Arifudin, 2025; Kassymova et al., 2025; Mahardika et al., 2024; Rahmi et al., 2025; Tadol et al., 2025; Veradegita et al., 2021).

The participants consisted of 24 Paket B students enrolled in a nonformal Arabic language learning program. The learners represented diverse educational and social backgrounds, reflecting the general characteristics of participants in nonformal education. The learning environment was designed to be community-oriented and value-based, providing a supportive context for the implementation of collaborative learning activities. The instructional material was drawn from *Muhadatsah – Arabiyah Bayna Yadaik Jilid 1A, Bab 7 (Ad-Dirasah),* focusing on thematic conversations and functional vocabulary. Learning outcomes were measured using a 20-item multiple-choice test (options A–D) designed to assess comprehension, vocabulary mastery, recognition of conversational meaning, and contextual understanding. The same instrument was used for both pretest and posttest to ensure measurement consistency.

Implementation Procedure, the learning treatment consisted of several stages: Pretest administration to identify students' baseline achievement and initial

comprehension level. Formation of expert groups, in which students collaboratively discussed assigned subtopics, clarified vocabulary meaning, and constructed shared understanding. Transition into home groups, where each student explained their expert-group topic to peers, functioning as peer-teacher and knowledge contributor. Group consolidation and class presentation, reinforcing accountability and collective learning outcomes. Posttest administration to measure performance improvement after exposure to the Jigsaw-based instructional process.

Throughout the intervention, the teacher acted as a facilitator, guiding interaction, monitoring collaboration dynamics, and providing reinforcement when necessary. The data were analyzed descriptively by comparing pretest and posttest scores to identify shifts in students' achievement levels. Gain-score interpretation was applied to determine the magnitude of improvement and categorize the level of instructional effectiveness. The interpretation emphasized both cognitive progress and learning-behavior indicators such as participation, interaction, and confidence in responding to learning tasks.

RESULT AND DISCUSSION

The findings revealed a significant improvement in students' Arabic learning outcomes following the implementation of the Jigsaw learning model. Posttest scores showed a marked increase compared to pretest results, and most students who previously performed below the minimum mastery level successfully reached or exceeded the required achievement threshold after treatment. Gain-score analysis indicated that the level of improvement fell within an effective category, demonstrating the positive pedagogical influence of the Jigsaw method.

In addition to numerical score improvement, qualitative observation during learning activities indicated increased student participation, more active involvement in group discussions, and greater confidence in responding to questions and performing learning tasks. Students demonstrated clearer understanding of vocabulary items, improved pronunciation of dialogic expressions, and stronger comprehension of thematic conversation content.

Table 1. Results of the N-Gain Analysis

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Variance
NGain_Score	24	,67	1,00	,8616	,12900	,017
NGain_PERSEN	24	67	100	86,16	12,900	166,422
Valid N (listwise)	24					

Based on the analysis presented in the table above, the mean N-Gain score is 0.8616, which is classified as high ($0.70 < g \leq 1.00$). This finding indicates that the implementation of the Jigsaw learning method leads to an effective improvement in students' learning outcomes. The minimum score of 0.64 and the maximum score of 1.00 further suggest that the majority of students experienced a relatively consistent level of improvement.

The improvement in learning outcomes indicates that the Jigsaw cooperative learning structure effectively supports cognitive and social dimensions of learning. Through peer explanation, students were encouraged to articulate understanding in their own words, which facilitated deeper processing of information and long-term retention. The collaborative nature of the model promoted interdependence, responsibility sharing, and constructive interaction among group members.

From a theoretical perspective, these findings align with the principles of constructivist and collaborative learning theory, which emphasize that knowledge is not merely transmitted by the teacher but actively constructed through interaction and negotiation of meaning (Lathifah, 2022; Su'udi1 & Mahmudi, 2025; Zanah &

Annaningtyas, 2024). In the context of language learning, the Jigsaw method is particularly relevant because language acquisition inherently involves communication, interpretation, and dialogic exchange.

The results also demonstrate the potential of cooperative learning to address challenges commonly found in nonformal education environments, including low motivation, inconsistent participation, and limited classroom interaction. The Jigsaw model fosters a sense of belonging and collective identity among learners, which is especially beneficial for adult and heterogeneous learning groups (Dat, 2016; Nalls & Wickerd, 2023).

Nevertheless, several pedagogical considerations emerged during implementation. Differences in participation levels occasionally required teacher intervention to balance group contribution, and some students initially exhibited hesitation in taking responsibility as peer presenters. These challenges suggest that successful implementation of the Jigsaw method requires clear guidance, structured facilitation, and gradual adaptation of learner roles.

Furthermore, the findings highlight the importance of adapting cooperative learning models to the specific needs of nonformal education contexts. Unlike formal schooling, nonformal settings often involve learners with diverse ages, prior knowledge, and motivations. The Jigsaw method provides a flexible framework that accommodates this diversity by allowing each learner to contribute meaningfully according to their strengths, while still ensuring collective progress toward shared learning goals.

Another implication of this study is the potential for teacher professional development. Implementing Jigsaw requires teachers to shift from a directive role to that of a facilitator, which may initially pose challenges. However, with adequate training and reflective practice, teachers can develop the skills necessary to manage group dynamics, encourage equitable participation, and integrate interactive media that enrich the cooperative learning process (Ardani & Lolita, 2025; Calkins & Rivnay, 2021; Rahmi et al., 2025).

The study also underscores the relevance of cooperative learning in fostering lifelong learning competencies. Skills such as collaboration, communication, and problem-solving are not only beneficial for mastering Arabic but also essential for learners' broader personal and professional development. By engaging in peer teaching and group accountability, students cultivate habits of active learning and mutual support that extend beyond the classroom.

Finally, future research could explore the scalability of the Jigsaw method across different subjects and educational levels within nonformal institutions. Comparative studies between Jigsaw and other cooperative learning strategies, such as Think-Pair-Share or Team-Based Learning, would provide deeper insights into the most effective approaches for diverse learner populations. Such investigations would strengthen the evidence base for cooperative learning as a transformative pedagogy in nonformal education.

CONCLUSION

This study concludes that the Jigsaw cooperative learning method is effective in improving Arabic learning outcomes among Paket B students in a nonformal education setting. The method enhances students' cognitive comprehension, participation, motivation, and collaborative learning engagement, making it a relevant and promising instructional strategy for Arabic education in nonformal learning contexts. The findings encourage educators to integrate cooperative learning approaches into Arabic teaching practices as an alternative to teacher-centered instruction. Future research may expand the scope of analysis by comparing the Jigsaw model with other cooperative learning strategies, examining long-term

learning retention, or integrating digital-based collaborative tools to further strengthen learning effectiveness.

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