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LITERATURE REVIEW: ANALYSIS OF THE COOPERATIVE LEARNING MODEL TYPE JIGSAW ON THE DEVELOPMENT OF ELEMENTARY SCHOOL STUDENTS' COLLABORATION SKILLS

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ABSTRACT

This study aims to analyze the Cooperative Learning Model of the Jigsaw type in relation to the development of collaboration skills among elementary school students. The background of this research is based on the importance of collaboration skills as one of the 21st-century competencies that need to be developed in the elementary education learning process. Every student needs to possess these skills to respond to the demands of educational roles in a rapidly changing era. The research method used is library research, which aims to obtain relevant data related to the research topic. The data collection technique used in this study is documentation, by gathering data from various sources such as records, journals, books, papers, and articles. The results of the study indicate that the Jigsaw type of Cooperative Learning Model emphasizes teamwork among group members through an equitable distribution of learning responsibilities, ensuring that each student actively participates in understanding and presenting the material to their peers. Therefore, it can be concluded that the Jigsaw Cooperative Learning Model has a positive and significant influence on the development of collaboration skills among elementary school students.

Keywords: collaboration skills, elementary school, jigsaw,

A. INTRODUCTION

Education is an essential foundation for preparing, creating, and developing the quality of human resources. Through the educational process, various abilities possessed by an individual can be optimally enhanced, including proficiency in spiritual matters, knowledge, attitudes, skills, emotions, and social relationships (Syafii, 2023). Along with advancements in education in the 21st century, students are required to adapt to increasingly complex globalization changes. To face these challenges, students need to master various relevant skills to actively and productively participate in modern life. Mastery of skills in the 21st century consists of four main competencies referred to as the 4Cs, including creative thinking, critical thinking and problem-solving, communication skills, and collaboration skills. One of the important skills that needs to be developed is collaboration skills.

According to Barokah & Untung (2024), collaboration skills refer to the interaction between students (at least two people) who share responsibilities and roles to build a common understanding of an issue and its solution. As stated by Khoirunnisa

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and Sudibyo (2023), collaboration is also an attitude of respecting group members who are composed heterogeneously, with active involvement when discussing a decision in order to achieve a common goal. In the context of learning, collaboration is a process that requires students to actively build healthy social interactions. Through group work, students learn to foster mutual trust, respect their peers' opinions, and enhance their ability to make decisions collectively. These skills are essential, not only for academic achievement but also for social life and future careers.

Given the importance of the role of collaboration in supporting students' readiness to face 21st-century challenges, elementary schools as early education institutions need to pay special attention to the development of these skills. The learning strategies implemented by teachers are an important component that must be carefully designed to ensure that learning objectives can be achieved efficiently and effectively (Ramdani et al., 2023). The implementation of an appropriate learning approach can create a learning environment that provides opportunities for students to actively engage, collaborate, and contribute within groups.

Collaborative-based learning activities can provide a more meaningful learning experience, because students not only receive information, but also interact, discuss, and build knowledge together. Based on this, schools and teachers have an important responsibility to select and implement effective learning models in fostering and developing collaboration skills from an early age as a foundation for students' future readiness.

However, in reality, the teaching and learning process in many Indonesian primary schools is still dominated by a teacher-centered learning approach and focuses solely on cognitive academic outcomes. Research by Rozali et al. (2022) shows that teacher-oriented learning causes various problems, such as low student active participation, minimal educational interaction, and limited opportunities for students to think critically and work collaboratively.

This situation results in a lack of meaningful learning and a decline in the quality of learning outcomes. In addition, the use of innovative learning models is still very limited at the elementary school level, so it has not been able to encourage students to participate actively and collaboratively. In fact, according to Lestari and Kurnia (2023), innovative learning models offer adaptive, collaborative, and responsive strategies to increase student participation, develop access to various learning resources, and sharpen critical thinking, creativity, and collaboration skills.

The findings indicate that the Jigsaw learning model not only encourages students' active learning, but also suggests that the Jigsaw type of cooperative learning can be an effective solution in enhancing collaboration skills at the elementary school level. This model begins with the formation of heterogeneous home groups, where each member is responsible for mastering a specific topic within the expert group. After mastering the topic, they return to their original group to explain and exchange information with friends who are studying other topics (Anitra, 2021). Through this mechanism, students have the opportunity to collaborate, share roles, and take responsibility for the group's outcomes. In addition, the interactions within the group

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help foster mutual respect, strengthen the sense of togetherness, and enhance the ability to collaborate in achieving shared learning objectives.

This study aims to analyze and comprehensively discuss the results of previous research examining the application of the Jigsaw cooperative learning model to improve collaboration skills among elementary school students. Through this in-depth review, it is hoped that the study will provide a more comprehensive understanding of the role of the Jigsaw model in developing collaborative skills, while also serving as a reference for educators in designing more meaningful classroom learning experiences for all elementary school students.

B. RESEARCH METHOD

The method applied in this study is a literature review, which is a comprehensive process of searching, reading, understanding, and analyzing various literature and research results that are relevant to the study being conducted (Amruddin, 2022). Therefore, in the process of preparing the literature review, the researcher first conducted a search of various scientific sources through several online journal portals. The literature search was carried out using keywords related to the focus of the study, resulting in 15 scientific articles that have the potential to be analyzed further. All of the articles were then carefully read to ensure their compliance with the established inclusion criteria, namely being in Indonesian, accessible in full text for free, relevant to the research objectives, and published in the last five years, from 2021 to 2025.

Primary schools need to implement learning models that are suitable for developing students' collaboration skills. One of these models is the jigsaw cooperative learning model. Presented below is Table 1, which contains a summary of previous research on the implementation of the jigsaw model in improving collaboration skills of primary school students, including the title, author, and research results.

C. RESEARCH RESULTS AND DISCUSSION

Primary schools need to implement learning models that are suitable for developing students' collaboration skills. One of these models is the jigsaw cooperative learning model. Presented below is Table 1, which contains a summary of previous research on the implementation of the jigsaw model in improving collaboration skills of primary school students, including the title, author, and research results.

Table 1. Results of previous studies

No.	Author & Year Research	Title Research	Results
1.	Raditya Gading & Agustiana (2023)	Jigsaw-Type Cooperative Learning Model Assisted by PowerPoint Media to Improve Collaboration Skills and Science Learning Outcomes of	The analysis results show that all significance values are below 0.05, therefore H0 is rejected. The Jigsaw Type Cooperative Learning model assisted by PowerPoint media has

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		Fifth Grade Elementary School Students	a positive effect on students' collaboration skills and science learning outcomes in grade V elementary school.
2.	Alfinatusya'diyah, Nuryani & Prostanti (2024)	Improving Collaboration Skills Through Jigsaw Cooperative Learning in Fifth Grade Elementary School	In the pre-cycle, an average of 48.92% was obtained, then there was an increase in Cycle I and Cycle II with average scores of 70.08% and 88.44%. Data from the response questionnaire showed an increase of 18.36%.
3.	Wulandari & Zakiah (2025)	Improving Collaboration Skills of Fourth Grade Elementary School Students in Pancasila Education Through the Jigsaw Type Cooperative Learning Model	The assessment results of students' collaboration skills in Cycle I were 60.12% or 17 students, while there was an increase in Cycle II to 81.96% or 23 students.
4.	Cakrabuwana Aditama & Attalina (2025)	Improving Collaboration Skills Through Jigsaw Learning in Fifth Grade Elementary School Students.	The research results showed a significant improvement in students' collaboration skills. The average score before the intervention (pre-cycle) was 67, which increased to 85 in Cycle I, with a percentage increase of 27%.
5.	Depila Mulyasari & Riyanti (2023)	Improving Collaboration Skills Through Jigsaw Learning in Fifth Grade Elementary School Students. The Use of the Jigsaw-Type Cooperative Learning Model to Enhance Cooperation Among Third Grade Students	The result of this study shows an improvement in student collaboration. In cycle 1, the result was 81.2% with a “Good” category, and in cycle 2, the result was 89.3% with a “Very Good” category. Thus, cooperative learning of the jigsaw type can improve student collaboration in the third

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		at SDN 096 Sarijadi Selatan, Bandung.	grade of elementary school.
6.	Maryono, (2025)	Implementation of the Jigsaw Type Cooperative Learning Model in Science Lessons in Fifth Grade of Elementary School.	The research results show that the implementation of the Jigsaw model can increase student engagement in learning and improve the average learning outcomes from 67.5 in the pre-cycle to 82.3 in cycle II. The Jigsaw type of cooperative learning model has been proven effective in improving elementary school students' science learning outcomes.
7.	Afsan Arsil & Destrinelli (2024)	The Application of the Jigsaw-Type Cooperative Model Assisted by the Wordwall Application to Increase Student Participation in IPAS Learning for Fourth Grade Elementary School Students.	In the first cycle, it was found that student activity was only classified as "adequate" with a percentage of just 60.26%, and after improvements were made in the second cycle, it increased to a "good" classification with a percentage of 84.73%.

Based on an analysis of various literature and previous research, it was found that the implementation of the Jigsaw-type cooperative learning model contributes positively to the development of students' collaboration skills at the elementary education level. For example, a study by Wulandari & Zakiah (2025) revealed a significant increase in students' collaboration skills after applying the Jigsaw-type cooperative learning model. Various collaboration indicators, including productive work, respecting others, compromising, and shared responsibility, also showed improvement, reaching a good category. The research results indicate that the application of the Jigsaw-type cooperative learning model successfully developed the collaboration skills of fourth-grade students at SDN Karang Tengah 14 in Pancasila Education learning. Assessment data shows that in cycle I, students' collaboration skills reached 60.12% with 17 students achieving the criteria, whereas in cycle II there was an increase to 81.96% with 23 students meeting the criteria. These findings indicate that the Jigsaw model is able to foster students' social and interpersonal skills through clear role distribution and intensive interaction among group members.

Research by Alfinatusya'diyah et al. (2024) revealed a significant increase in students' collaboration skills. This is evident from the student response questionnaires,

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which showed an average score of 70.08% with a high category in cycle I, then rose to 80.44% with a very high category in cycle II. Jigsaw cooperative learning effectively enhances collaboration, positive interaction, and relationships among students through diverse groups.

Similar research by Raditya et al. (2023) also reinforces these findings by showing that the Jigsaw type cooperative learning model can be integrated with digital learning media, such as PowerPoint, to enhance the effectiveness of learning activities. The use of such media allows for the integration of visuals, text, and videos, enriching the students' learning experience. The results of the study prove that the implementation of the Jigsaw model can optimize student interaction through full responsibility in delivering material to their groupmates.

These results are in line with Vygotsky's social constructivist theory, which emphasizes learning through social interaction. This theory is noteworthy because it views knowledge as situational and collaborative, distributed between individuals and their environment (objects, tools, books, communities). This indicates that knowledge can be optimally acquired through interaction in shared activities. (Dewi & Fauziati, 2021).

Although various studies have shown positive results, research conducted by Cakrabuwana et al. (2025) revealed that the implementation of the Jigsaw model in the field still faces a number of challenges. Some teachers do not fully understand the steps for systematically implementing this model, resulting in suboptimal student collaboration. Therefore, teachers need ongoing guidance to develop their pedagogical competence in applying cooperative learning models. As noted by Rizkasari et al. (2022), the success of education at the elementary school level is determined by teachers' ability to educate students. Students' level of understanding is closely related to the pedagogical competence possessed by teachers. In addition, support from the school through the provision of facilities and professional teacher training programs is an important factor in ensuring that the implementation of the Jigsaw model is effective, sustainable, and has a real impact on the development of students' collaboration skills.

D. CONCLUSION

Overall, all the research reviewed in this literature study shows that the use of the jigsaw cooperative learning model consistently improves students' cooperation skills at the elementary school level. These findings confirm that the jigsaw model can be an effective alternative learning strategy for developing collaboration skills in elementary school students. This model emphasizes student cooperation through balanced sharing of learning responsibilities, where each member actively participates in understanding and conveying the material to their group.

Nevertheless, the study results also indicate that the implementation of the Jigsaw model still faces several challenges, particularly related to teachers' readiness to apply the learning steps systematically and classroom time management. Therefore, guidance and professional training for teachers, as well as institutional support from schools, are needed to ensure the sustainability of implementing this learning model.

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