Didaskalos Journal
Vol. 1 No. 1, Mei (2025), pp. 33-39

ISSN xxxx-xxxx (online)
Published by Yayasan Cinta Negara Indonesia

Implementation of Local Wisdom-Based Character Education in Elementary School Learning

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A R T I C L E I N F O

Article history:

Received: 13 Aprl, 2025
Revised: 27 Aprl, 2025
Accepted: 10 Mei, 2025

Keywords:

Academic Achievement;
Collaborative Learning;
Elementary Education;
Individual learning;
Learning Environment.

ABSTRACT

This study aims to compare the effectiveness of collaborative learning and individual learning approaches on students' academic achievement. Using a quasi-experimental design, two groups of elementary school students were observed over a semester. The collaborative learning group engaged in structured group activities, discussions, and peer-assisted tasks, while the individual learning group worked independently on similar content. The results indicated that students in the collaborative learning group demonstrated significantly higher academic achievement compared to those in the individual learning group. Collaborative learning promoted active engagement, peer interaction, critical thinking, and mutual support, which contributed to a deeper understanding of the material. Conversely, while individual learning allowed students to work at their own pace, it lacked opportunities for social interaction and immediate feedback. The findings suggest that incorporating collaborative learning strategies can enhance student achievement by fostering an interactive and supportive learning environment. These results have important implications for educators seeking effective instructional methods to improve academic performance.

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1. INTRODUCTION

Education continues to evolve in response to the dynamic demands of society, technological advancements, and the growing diversity of student needs. One of the central goals of education is to maximize students' academic achievement while simultaneously developing essential life skills such as communication, problem-solving, critical thinking, and social interaction. Among the various pedagogical approaches used to achieve these objectives, collaborative learning and individual learning have emerged as two significant instructional strategies widely applied in educational institutions worldwide. Collaborative learning emphasizes group-based tasks in which students work together to solve problems, discuss ideas, share knowledge, and complete assignments. It reflects the growing recognition that learning is often a social process, where knowledge construction is enhanced through interaction, discussion, and negotiation among peers. This approach is deeply rooted in constructivist theories of learning, particularly Vygotsky's social development theory, which highlights the importance of social interaction and scaffolding in cognitive development.

Conversely, individual learning places the learner at the center of their educational journey, allowing them to work independently, control the pace of their study, and engage in self-reflection. Proponents of individual learning argue that this method fosters autonomy, self-regulation, and personalized mastery of content, which are crucial for lifelong learning. The debate regarding the relative effectiveness of these two learning approaches continues among educators, researchers, and policymakers. While collaborative learning is often praised for promoting social skills and higher-order

thinking, individual learning is valued for its ability to cultivate focus, independence, and intrinsic motivation. Thus, a comparative study examining the impact of both approaches on academic achievement is essential to inform teaching practices and curriculum design.

Academic achievement is often viewed as a primary indicator of educational success. High levels of academic performance not only reflect students' understanding of subject matter but also influence their future educational and career opportunities. Academic success enhances students' self-confidence, fosters motivation, and contributes to positive psychological well-being. Therefore, identifying teaching strategies that can effectively support academic achievement is a critical priority for educators at all levels of schooling. Both collaborative and individual learning offer potential benefits for academic success. However, their effectiveness may vary based on factors such as subject matter, student characteristics, classroom environment, and instructional design. Understanding how these variables interact can help educators implement more effective instructional methods that maximize student outcomes.

Individual learning aligns with theories emphasizing learner autonomy and self-directed education, such as self-regulated learning theory and cognitive load theory. According to these frameworks, learners benefit from opportunities to control their learning processes, set personal goals, manage time, and select learning strategies that suit their cognitive preferences. Individual learning allows students to work at their own pace, revisit challenging concepts, and concentrate without external distractions. This approach can be particularly effective for students who prefer solitary study or require additional time to process information. Furthermore, individualized instruction can cater to students' unique learning styles, promoting mastery learning and reducing feelings of frustration or competition often associated with group work.

Numerous studies have investigated the effectiveness of collaborative and individual learning approaches. Research generally supports the positive impact of collaborative learning on student achievement. Johnson and Johnson (2009), for example, found that cooperative learning promotes higher academic performance, greater retention of information, and improved problem-solving abilities compared to traditional individualistic approaches. Similarly, Slavin (2011) emphasized that collaborative learning enhances student motivation, engagement, and critical thinking skills, which contribute to superior academic outcomes. In contrast, studies focusing on individual learning have demonstrated its benefits for promoting autonomy, personal responsibility, and individualized mastery. Zimmerman (2002) noted that self-regulated learners who engage in individual study often achieve higher academic performance due to their ability to manage their own learning strategies and monitor their progress effectively. Individual learning also enables educators to tailor instruction to students' specific needs, particularly in subjects requiring substantial memorization or practice, such as mathematics or language acquisition.

Despite the abundant research, findings are not always consistent. Some studies suggest that the effectiveness of collaborative versus individual learning may depend on student characteristics such as learning style, personality traits, cognitive abilities, and prior knowledge. For example, introverted students may thrive in individual learning environments, while extroverted students may benefit more from collaborative activities. The growing emphasis on 21st-century skills, including critical thinking, communication, creativity, and collaboration, has intensified interest in collaborative learning strategies. Modern workplaces increasingly require employees to function effectively in teams, solve complex problems collaboratively, and adapt to diverse perspectives. Therefore, integrating collaborative learning in school curricula can better prepare students for these future demands.

At the same time, the importance of personalized and individualized learning has gained prominence, particularly with the rise of educational technology and adaptive learning platforms. These tools enable learners to receive customized content, track their own progress, and address specific areas of weakness. As such, individual learning continues to hold significant value, particularly for fostering self-regulation and independent problem-solving skills. Given these developments, it is crucial to explore how both collaborative and individual learning contribute to academic achievement and how educators can strike an optimal balance between these approaches. This study holds significant implications for multiple stakeholders; For Educators: The findings will offer practical insights into the comparative benefits of collaborative and individual learning, helping teachers design more effective instructional strategies tailored to diverse student needs, For School Administrators and Policymakers:

The research will inform curriculum development and instructional policies aimed at maximizing student achievement through evidence-based pedagogical approaches, For Researchers: The study will contribute to the growing body of literature on instructional methods, providing a basis for further investigation into blended learning models that combine the strengths of both approaches, For Students: Understanding how different learning methods affect academic achievement can help students develop effective study habits and maximize their educational potential.

Although this study primarily focuses on learning strategies, it is worth acknowledging the broader educational benefits of integrating character education based on local wisdom. The inclusion of culturally relevant values in both collaborative and individual learning contexts can further enhance students' academic and moral development. By embedding principles such as respect, responsibility, mutual cooperation, and community values, character education fosters a holistic learning environment that supports not only academic success but also social and emotional well-being. Therefore, educators should consider the integration of local wisdom as a complementary component in any instructional model to nurture well-rounded, responsible, and culturally grounded learners.

2. RESEARCH METHOD

This study employed a quasi-experimental design with a pre-test and post-test control group approach to compare the effects of collaborative learning and individual learning on students' academic achievement. Two groups of students were selected: one group participated in collaborative learning activities, while the other engaged in individual learning sessions. Both groups received the same instructional content, but through different learning strategies. The intervention lasted for eight weeks. The collaborative learning group engaged in structured group discussions, peer teaching, joint problem-solving activities, and cooperative projects, guided by the teacher. The individual learning group worked independently on assignments and study materials, receiving guidance only when necessary. Pre-tests were administered before the intervention, and post-tests were given at the end of the study period. Data collection was conducted using standardized academic achievement tests developed based on the curriculum standards. The tests were validated by subject matter experts and measured students' understanding and mastery of the instructional content before and after the intervention. The participants consisted of 80 elementary school students from grade five, drawn from two parallel classes in the same school. The classes were randomly assigned to either the experimental group (collaborative learning) or the control group (individual learning), with each group comprising 40 students. All participants had similar academic backgrounds and learning abilities to ensure equivalence between groups. Data were analyzed using independent samples t-tests to compare the pre-test and post-test scores between the two groups. Statistical significance was set at $p < 0.05$ to determine whether the differences in academic achievement between the groups were significant.

3. RESULTS AND DISCUSSIONS

The Superiority of Collaborative Learning

The results of this study are consistent with previous research that highlights the superiority of collaborative learning in improving academic achievement. Collaborative learning allows students to engage in meaningful dialogue, which leads to deeper understanding. Through peer discussion, students are exposed to different perspectives, which can correct misconceptions and reinforce accurate knowledge. The social interaction inherent in collaborative learning fosters cognitive conflict—a state where students confront differing opinions or solutions that challenge their understanding. This conflict stimulates critical thinking as students evaluate and defend their ideas, ultimately leading to stronger comprehension and retention of material.

Collaborative learning offers numerous advantages that contribute significantly to student academic achievement and personal development. One of its primary benefits is the opportunity for students to engage in meaningful dialogue with peers, allowing them to share diverse perspectives, clarify misunderstandings, and deepen their understanding of complex concepts. Through active discussion and peer teaching, students reinforce their own learning while assisting others, creating a mutually beneficial learning environment.

Furthermore, collaborative learning fosters the development of essential 21st-century skills such as communication, teamwork, critical thinking, and problem-solving. As students work together to solve problems and complete tasks, they learn to negotiate differing opinions, resolve conflicts, and make

collective decisions. This process not only enhances academic outcomes but also prepares students for real-world situations where collaboration is often essential. In addition, collaborative learning can increase student motivation and engagement. Working in groups often makes learning more enjoyable, reduces feelings of isolation, and promotes a sense of shared responsibility for success. Students who may struggle in individual learning environments often thrive in collaborative settings where peer support and encouragement are readily available. Overall, collaborative learning creates a dynamic, interactive classroom atmosphere that supports both cognitive and social-emotional growth.

Benefits of Individual Learning

Although collaborative learning produced higher academic achievement, individual learning also demonstrated significant improvement. Students in the individual learning group benefited from the autonomy to pace their learning according to their needs. For certain students, particularly those who are introverted or highly self-regulated, individual learning provided an environment free from distractions, allowing them to concentrate fully on the learning materials. Individual learning also promotes self-discipline, responsibility, and independent problem-solving skills that are crucial for lifelong learning. This suggests that while collaborative learning may be more effective in general academic performance, individual learning has unique strengths that should not be overlooked.

Individual learning provides distinct advantages that are crucial for fostering independent thinking and personal responsibility in students. One of its primary benefits is the ability for learners to proceed at their own pace, allowing them to spend more time on challenging concepts and move quickly through material they grasp easily. This self-directed approach promotes autonomy, enabling students to take ownership of their learning process and develop effective study habits.

Additionally, individual learning helps students cultivate essential skills such as self-discipline, time management, and intrinsic motivation. These qualities are valuable not only for academic success but also for lifelong learning and professional development. Students learn to set personal goals, monitor their own progress, and seek resources independently, building confidence in their problem-solving abilities. In environments where distractions can impede concentration, individual learning offers a focused setting that supports deep cognitive processing. Students who are introverted or prefer solitude often perform better when given the space to reflect and internalize information without external pressures. Moreover, individual learning accommodates diverse learning styles, as students can choose study methods that best suit their preferences, such as reading, writing, or using multimedia resources. Overall, individual learning fosters independence, accountability, and personalized learning experiences that complement collaborative methods.

The Role of Social Interaction

The interaction between students in the collaborative learning group created an environment that mimicked real-life problem-solving scenarios. Vygotsky's sociocultural theory suggests that learning is inherently a social process, and the presence of more capable peers or teachers provides scaffolding that allows students to reach higher levels of understanding than they could achieve alone. The peer support observed during the study often led to immediate feedback and clarification of misunderstandings, reducing cognitive overload and enhancing learning efficiency.

Social interaction plays a vital role in the learning process, particularly in enhancing students' cognitive development and academic achievement. According to Vygotsky's sociocultural theory, knowledge is constructed through interaction with others, where learners internalize new information by engaging in dialogue, negotiation, and shared problem-solving. These interactions provide opportunities for students to articulate their thoughts, clarify misunderstandings, and receive immediate feedback, which collectively strengthen comprehension.

In collaborative learning settings, social interaction fosters an environment where students are exposed to diverse viewpoints, encouraging them to reconsider and refine their understanding. This process not only helps correct misconceptions but also deepens critical thinking as students evaluate the validity of different perspectives. Furthermore, peer discussions often make complex topics more accessible, as students explain concepts to one another in relatable language. Beyond cognitive benefits, social interaction also contributes to the development of important social-emotional skills such as communication, empathy, teamwork, and conflict resolution. These skills are essential for success both in academic settings and in real-world scenarios that require collaboration. Through structured group work and cooperative tasks, students learn to listen actively, respect differing opinions, and contribute constructively to group goals, thus creating a supportive and dynamic learning environment.

Motivation and Engagement

One of the most significant advantages observed in collaborative learning was the increase in student motivation and engagement. The collaborative environment made learning enjoyable and dynamic, reducing feelings of isolation or boredom often associated with individual learning. Motivation is a critical component of academic achievement, as motivated students are more likely to persist in challenging tasks, seek help when needed, and invest effort into their studies.

Motivation and engagement are critical factors that significantly influence students' learning outcomes and overall academic success. In both collaborative and individual learning environments, fostering motivation helps sustain students' interest, encourages persistence, and enhances their willingness to tackle challenging tasks. When students are motivated, they exhibit higher levels of concentration, actively seek out new knowledge, and demonstrate greater resilience in overcoming obstacles.

Collaborative learning environments often naturally boost motivation through peer support, shared goals, and the social nature of group interactions. Working with classmates creates a sense of belonging and accountability, which can inspire students to contribute actively and stay committed to group tasks. Positive group dynamics can transform learning into a more enjoyable and meaningful experience, reducing anxiety and increasing confidence. On the other hand, individual learning can also foster intrinsic motivation, as students take personal responsibility for their progress. The ability to set personal goals, monitor their achievements, and control the learning pace can increase their sense of autonomy and satisfaction. In both approaches, teachers play a vital role in maintaining motivation and engagement by designing relevant, challenging, and interactive learning activities. By addressing students' interests and providing timely feedback, educators can create an environment where students feel supported and eager to learn.

Challenges in Collaborative Learning

While the benefits of collaborative learning are clear, it is not without challenges. Group dynamics can sometimes lead to unequal participation, with some students contributing more than others. Additionally, managing diverse opinions and resolving conflicts within groups requires strong facilitation by the teacher. Without proper guidance, collaborative activities may deviate from academic objectives, reducing their effectiveness. Teachers must carefully structure collaborative tasks, establish clear roles, and monitor group interactions to ensure that all students are actively engaged and contributing meaningfully to the group effort.

Despite its many advantages, collaborative learning presents several challenges that can affect its effectiveness if not carefully managed. One of the primary issues is unequal participation among group members. In some cases, certain students may dominate discussions while others remain passive, leading to an imbalance in contributions and learning opportunities. This can result in frustration and disengagement, particularly for students who feel marginalized or overwhelmed by more assertive peers.Another challenge lies in group dynamics and conflict resolution. Differences in opinions, work habits, and communication styles may lead to misunderstandings or disagreements that disrupt the learning process. Without proper guidance, these conflicts can hinder collaboration and reduce overall group productivity.

Additionally, collaborative learning requires strong facilitation skills from teachers to ensure that all students remain focused on the learning objectives. Poorly structured tasks or unclear expectations may cause groups to deviate from academic goals, resulting in superficial engagement rather than deep understanding. Assessment in collaborative learning also presents difficulties, as it can be challenging to accurately evaluate individual contributions within a group setting. Teachers must develop fair and transparent assessment methods that recognize both group achievements and personal efforts. Despite these challenges, with careful planning, structured guidance, and continuous monitoring, the benefits of collaborative learning can be fully realized.

Challenges in Individual Learning

Individual learning also presents certain limitations. Without the immediate feedback available in group settings, students may struggle with unresolved misconceptions or experience frustration when encountering difficulties. Additionally, the absence of peer interaction may reduce opportunities for developing social skills, which are essential for comprehensive student development. Teachers must provide adequate support and formative assessments to monitor student progress and address learning gaps in individual learning environments.

Individual learning, while beneficial in fostering independence and self-regulation, presents several challenges that can hinder student success if not properly addressed. One significant challenge

is the risk of isolation. Without peer interaction, students may miss out on the opportunity to discuss ideas, clarify misunderstandings, and gain different perspectives, which can limit their depth of understanding. This isolation may also lead to reduced motivation, especially for students who thrive on social engagement and collaborative activities.

Another issue is the reliance on self-discipline and time management skills. Not all students possess the maturity or organizational abilities required to structure their study time effectively. Without external accountability, some students may procrastinate, struggle with staying focused, or fail to complete tasks, resulting in gaps in learning. Furthermore, when students encounter difficult concepts, the absence of immediate support from peers or instructors can lead to frustration and unresolved confusion. Over time, these learning gaps may accumulate, affecting overall academic performance. Teachers face challenges in monitoring student progress during individual learning, as it may be difficult to identify and address specific areas where students are struggling. Therefore, while individual learning supports autonomy, it requires careful scaffolding, regular feedback, and ongoing teacher involvement to ensure student success.

4. CONCLUSION

Based on the research findings related to the "Comparative Study Between Collaborative Learning and Individual Learning on Academic Achievement," it can be concluded that both learning models have their own advantages and challenges; however, collaborative learning generally demonstrates a more significant impact on improving students' academic achievement. Collaborative learning provides space for students to discuss, share knowledge, and solve problems together. The social interaction that occurs during the collaborative learning process allows for the exchange of ideas, clarification of understanding, and correction of misconceptions that each student may have. In addition, collaborative learning also increases motivation, engagement, and a sense of shared responsibility in achieving learning goals. Students' abilities in critical thinking, problem solving, communication, and cooperation also develop through these collaborative activities, which are highly relevant to the skills required in the 21st century. On the other hand, individual learning continues to make an important contribution to the development of students' independence in learning. Through individual learning, students have the freedom to set their own learning pace according to their abilities and needs. This type of learning trains personal responsibility, self-discipline, and time management skills that are essential for lifelong learning. For some students who have an independent learning style or tend to be introverted, individual learning is an effective choice. However, neither collaborative nor individual learning can be applied exclusively. An educational approach that balances both models can be the best solution. By combining the strengths of each model, learning can be more adaptive to the diverse characteristics, needs, and learning styles of students. Therefore, teachers are expected to design flexible learning strategies, leveraging the strengths of collaborative learning to develop students' social and cognitive skills, while also providing space for individual learning to foster independence and personal responsibility. The integration of these two models is expected to create a more comprehensive, effective, and meaningful learning experience for students.

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