

Academic Achievement in the Digital Age: Examining Gadget Use, Peer Support, and Teacher Competence

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Abstract

This study aimed to explore the role of gadget use, peer support, and teacher competence in students' academic achievement at SDN 14 Moramo, South Konawe Regency, Southeast Sulawesi. A qualitative research approach was employed in this study. Participants were selected using purposive sampling, involving students from grades four to six as key informants and teachers and the school principal as supporting informants. Data were collected through semi-structured interviews, classroom observations, and documentation, and analyzed using an interactive data analysis model. The findings showed that gadget use supported learning by providing access to digital resources but could reduce concentration when used excessively for entertainment. Peer support improved motivation, confidence, and participation through collaborative learning activities, although it could become a distraction when uncontrolled. Teacher competence supported learning effectiveness through instructional strategies, classroom management, and continuous guidance. The study concludes that gadget use, peer support, and teacher competence collectively shape students' learning experiences and academic achievement in elementary education.

Keywords

academic achievement; gadget use; peer support; teacher competence

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1. INTRODUCTION

Despite the important role of these factors, educational quality and students' academic performance continue to face significant challenges. The results of the Programme for International Student Assessment (PISA) 2022 showed that Indonesia's achievement in reading, mathematics, and science remained below the OECD average (PISA, 2023). Likewise, the Ministry of Education reported that literacy and numeracy outcomes among elementary school students still require substantial improvement (Kemendikbudristek, 2024). In the digital era, gadget use has become increasingly common among elementary students and has the potential to support academic achievement through access to educational resources; however, excessive use for entertainment may reduce concentration and learning discipline. Peer support also plays an important role in shaping students' motivation, engagement, and participation in learning activities, while inadequate peer interaction may hinder collaborative learning experiences. Furthermore, teacher competence determines the effectiveness of instructional practices, technology integration, and classroom management that influence students' academic outcomes (Dumaguing & Yango, 2023; Putri et al., 2024; Yuliawati et al., 2025). Preliminary



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observations at SDN 14 Moramo revealed that gadget use among students was relatively high, but only a small proportion utilized digital devices for educational purposes. Supportive peer interactions in learning activities were still limited, and several students experienced difficulties understanding lessons because of differences in teaching approaches and the use of learning media. These conditions indicate that gadget use, peer support, and teacher competence remain important issues that require further investigation to explain variations in elementary students' academic achievement.

Academic achievement is an important indicator in evaluating the success of educational processes and students' learning outcomes. In general, academic achievement reflects the results obtained by students after participating in learning activities over a certain period, commonly expressed through grades, academic indexes, or rankings (Nada et al., 2024). Academic achievement is influenced not only by intellectual abilities but also by internal factors such as motivation, interests, and psychological conditions, as well as external factors including family support, learning environments, and educational practices. Good academic achievement often indicates students' readiness for higher levels of education and future career opportunities (Lutfiyah & Ramli, 2025). Education itself serves as a planned process designed to develop students' knowledge, skills, personality, and potential so that they can function effectively within society (Harahap & Albina, 2025; Rezeki et al., 2024). In elementary education, these developmental processes become especially important because this stage forms the foundation for students' future academic, social, and emotional growth (Karimah et al., 2025; Masfufah & Salito, 2025).

The rapid development of digital technology has transformed learning environments at the elementary school level, making gadget use an inseparable part of students' daily activities. In Indonesia, the penetration of internet users reached more than 79% of the population in 2024, with children and adolescents becoming one of the most active user groups (APJII, 2024). The availability of smartphones and digital applications provides opportunities for students to access educational resources, instructional videos, and interactive learning materials beyond classroom settings. Nevertheless, excessive gadget use for entertainment purposes may reduce study time, weaken concentration, and negatively influence academic performance. Previous studies reported that uncontrolled gadget use among elementary students is associated with lower learning discipline and decreased academic engagement (Fadhila et al., 2025; S. Rahmah et al., 2025). These contrasting findings indicate that gadget use has a dual role in education and raise an important academic question regarding the extent to which gadgets function as learning supports or become determinants of academic achievement among elementary school students in the digital era (Wagino et al., 2024).

Besides technological factors, peer support constitutes an essential social dimension influencing students' learning experiences and academic performance. Elementary school students spend considerable time interacting with classmates, making peer relationships important sources of academic assistance, motivation, and emotional support. Positive peer interactions encourage collaborative learning, increase confidence, and strengthen students' willingness to participate in classroom activities. Conversely, negative peer influence may lead to distractions, reduced motivation, and lower academic involvement. Empirical evidence has demonstrated that supportive peer environments contribute significantly to students' learning engagement and academic outcomes (Rahmawati et al., 2024; Umar et al., 2025). However, most existing studies have focused on peer influence as an isolated variable, leaving unanswered questions regarding how peer support shapes academic achievement when combined with other educational factors within elementary school settings.

Teacher competence also remains a fundamental determinant of educational quality and students' academic success. Competent teachers are expected to integrate technology effectively, facilitate constructive peer interaction, and create learning environments that support students' cognitive and social development. The 2024 Education Report released by the Ministry of Education highlighted that improvements in literacy and numeracy achievements among Indonesian elementary students continue to require strengthened instructional quality and innovative teaching practices (Kemendikbudristek, 2024). Although previous studies have separately examined gadget use, peer support, and teacher

competence, limited research has explored the interaction among these three factors in explaining variations in elementary students' academic achievement, particularly in semi-rural educational contexts (Handayani et al., 2026). Therefore, investigating how teacher competence mediates educational technology use and peer relationships becomes essential for understanding the complex factors that collectively influence academic achievement in elementary education.

Previous studies have highlighted the important roles of technology use, peer interaction, and teacher competence in improving students' academic achievement. Nurhati & Yanti (2022) found that appropriate gadget use positively affected elementary students' learning achievement by facilitating access to educational resources. Rahmawati & Fauziah (2024) reported that supportive peer relationships enhanced students' motivation, participation, and academic performance. Boka et al. (2024) demonstrated that teachers' professional competence significantly contributed to students' learning outcomes through effective instructional practices. Fadhila et al. (2025) revealed that excessive gadget use negatively influenced students' concentration and learning discipline, while Umar et al. (2025) emphasized that learning motivation and positive peer encouragement strengthened academic achievement. Collectively, these studies indicate that gadget use, peer support, and teacher competence are important factors influencing elementary students' academic performance.

Despite these findings, previous research has generally examined gadget use, peer support, and teacher competence separately and predominantly employed quantitative approaches. Limited studies have explored the integrated influence of these three factors on academic achievement in elementary schools, particularly within semi-rural contexts. Furthermore, little attention has been given to the perspectives of students, teachers, and school principals regarding how technology use, social interaction, and instructional competence collectively shape learning outcomes. Therefore, this study seeks to fill this gap through a qualitative exploration of the roles of gadget use, peer support, and teacher competence in students' academic achievement at SDN 14 Moramo.

Within elementary educational environments, several factors contribute to students' academic achievement, including gadget use, peer support, and teacher competence. Technological development has made gadgets an inseparable part of students' daily activities (Mdhlalose & Mlambo, 2023). Appropriate gadget use can support learning processes through access to information and digital learning resources, whereas excessive and uncontrolled use may negatively affect students' concentration and learning performance (Rahmah et al., 2025). In addition, peer relationships significantly influence students' motivation and learning behavior. Positive peer support may increase learning enthusiasm, confidence, and academic performance, while negative peer influences can reduce students' interest and participation in learning activities (Umar et al., 2025). This perspective is consistent with social constructivist theory, which emphasizes that knowledge is developed through social interaction, collaboration, and shared learning experiences among individuals (Schunk, 2020). Furthermore, teacher competence plays an essential role in creating effective learning environments. Teachers with strong pedagogical, professional, social, and personal competencies are more capable of delivering effective instruction and encouraging active student participation, thereby contributing positively to academic achievement (Alfath et al., 2022). In line with the Regulation of the Minister of Education, Culture, Research, and Technology Number 16 of 2022, teachers are expected to implement student-centered learning processes and effectively utilize educational technology to support students' academic development.

Therefore, this study aims to explore the roles of gadget use, peer support, and teacher competence in shaping elementary students' academic achievement at SDN 14 Moramo, South Konawe Regency, Southeast Sulawesi. Theoretically, this study contributes to the development of educational literature by providing an integrated understanding of how technological factors, social interactions, and teacher competencies collectively influence students' academic outcomes within elementary education. Practically, the findings are expected to serve as references for teachers in optimizing technology-based learning and classroom management, for parents in supervising children's gadget use and fostering

positive peer relationships, and for schools in strengthening teacher competence to improve students' academic achievement and overall learning quality.

2. METHODS

This study employed a descriptive qualitative approach to examine *The Role of Gadget Use, Peer Support, and Teacher Competence in Elementary Students' Academic Achievement* at SDN 14 Moramo, South Konawe Regency, Southeast Sulawesi. The research data consisted of verbal information, behaviors, and activities related to students' learning experiences, while the data sources included fourth-, fifth-, and sixth-grade students as the main informants, as well as teachers and the school principal as supporting informants. Participants were selected using purposive sampling based on their involvement in learning activities and their ability to provide relevant information regarding gadget use, peer interactions, teacher competence, and academic achievement.

Data collection techniques included interviews, observations, and documentation. Interviews were conducted to explore participants' perceptions and experiences regarding the use of gadgets for learning, the influence of peer support on learning engagement, and the role of teacher competence in improving academic achievement. Observations focused on classroom learning activities, teacher-student interactions, peer collaboration, and the utilization of learning media and digital devices during instructional processes. Documentation involved collecting school records, photographs of learning activities, and other supporting documents relevant to the research objectives. The data were analyzed using the interactive model, consisting of data collection, data condensation, data display, and conclusion drawing or verification (Miles et al., 2020). To ensure the trustworthiness of the findings, source triangulation and method triangulation were employed throughout the research process.

3. FINDINGS AND DISCUSSIONS

Finding

The findings of this study are presented based on data obtained through interviews, observations, and documentation involving students, teachers, and the school principal at SDN 14 Moramo. The analysis focuses on three major aspects that contribute to students' academic achievement, namely gadget use, peer support, and teacher competence. These findings describe participants' experiences, perceptions, and learning practices in their natural educational setting. To facilitate understanding, the results are organized into several themes and supported by interview excerpts, observational evidence, and relevant documentation before being further interpreted in the discussion section.

The Role of Gadget Use in Students' Academic Achievement

Table 1. Patterns of Gadget Use and Their Contribution to Students' Academic Achievement

Theme	Description
Gadget as a learning medium	Students use Google, YouTube, and other digital resources to search for learning materials, complete assignments, and improve understanding of classroom lessons
Gadget as a learning distraction	Excessive use of gadgets for games and entertainment reduces study time, concentration, and learning discipline

Table 1 illustrates two dominant patterns of gadget use among fourth-, fifth-, and sixth-grade students at SDN 14 Moramo. While gadgets served as supplementary learning resources that supported academic activities, they also functioned as potential distractions when predominantly used for entertainment purposes.

The findings indicate that many students at SDN 14 Moramo employed gadgets to search for additional explanations related to classroom materials and school assignments. Digital platforms, particularly Google and YouTube, were frequently utilized outside school hours to obtain information that was not fully understood during classroom instruction. Teachers observed that students who used gadgets for educational purposes demonstrated better engagement in completing assignments and showed improved understanding of lesson content. These conditions suggest that gadget use contributed to academic achievement through enhanced access to learning resources, improved task completion, and stronger comprehension of instructional materials.

Classroom observations revealed that students responded positively to technology-supported instruction. During lessons involving LCD presentations and visual learning media, students appeared more attentive, actively participated in discussions, and demonstrated greater enthusiasm toward learning activities. Most students were able to follow teachers' instructions, contribute to group work, and complete assigned tasks effectively. These observations indicate that technology integration supported students' classroom participation and learning engagement, which constituted important indicators of academic achievement in this study.



Figure 1. Learning Activities Utilizing Digital and Visual Instructional Media

Documentation of learning activities further confirmed the use of digital and visual instructional media as part of classroom practices at SDN 14 Moramo. The documented activities illustrated students' active involvement during technology-assisted lessons and reflected teachers' efforts to create engaging learning environments that facilitated understanding and participation. The integration of digital resources into classroom instruction strengthened students' opportunities to access information and interact more actively with learning materials.

Despite these benefits, the findings also demonstrated that gadget use could hinder academic performance when dominated by entertainment activities. Several students devoted considerable time to gaming and non-academic digital content, which reduced the time available for studying and completing school responsibilities. Teachers and school administrators reported that excessive gadget use frequently affected students' concentration, discipline, and readiness to participate in classroom learning. Such conditions were reflected in delays in task completion and inconsistencies in maintaining learning routines outside school hours.

Observational findings supported these results by showing that some students still required additional encouragement to work independently and occasionally lost focus during individual assignments. Variations in learning discipline and responsibility suggested that the academic benefits of gadget use depended largely on supervision from teachers and parents, as well as students' ability to regulate their own technology use. In the context of SDN 14 Moramo, guidance from both school and family environments remained essential to ensure that digital devices supported rather than disrupted

learning activities.

Overall, gadget use contributed to students' academic achievement through several indicators, including improved understanding of lesson materials, more effective completion of assignments, active classroom participation, and increased engagement in learning activities. However, these positive outcomes were achieved only when gadget use was directed toward educational purposes and accompanied by appropriate supervision. Uncontrolled use for entertainment, by contrast, reduced concentration and learning discipline, thereby limiting students' academic development.

The Role of Peer Support in Students' Academic Achievement

Table 2. Forms of Peer Support and Their Contribution to Students' Academic Achievement

Theme	Description
Academic support	Students help one another through group discussions, collaborative learning activities, and explanations of lesson materials.
Emotional support	Peer interactions foster motivation, confidence, and a sense of comfort during learning activities, although they may occasionally become sources of distraction.

Table 2 demonstrates that peer support contributed to students' academic achievement through both academic and emotional dimensions. Among students at SDN 14 Moramo, collaborative learning practices and positive social relationships created opportunities for knowledge sharing, mutual assistance, and increased participation in classroom activities.

The findings revealed that students frequently participated in group learning activities both at school and at home, particularly when completing assignments and preparing for classroom tasks. Students commonly relied on their peers to explain difficult concepts, exchange information, and provide assistance in solving academic problems. Teachers also observed that students with stronger academic abilities often supported classmates who experienced learning difficulties. These interactions enabled students to improve their understanding of lesson materials, complete assignments more effectively, and participate more confidently in learning activities, which represented important indicators of academic achievement in this study.

Observational data further showed that collaborative learning activities encouraged active student participation during classroom instruction. Students engaged in discussions, shared ideas, compared answers, and worked together to accomplish group assignments. The learning atmosphere became more dynamic when teachers facilitated small-group activities, allowing students to communicate openly and assist one another in understanding instructional content. Such interactions contributed to greater learning engagement and strengthened students' involvement in academic tasks.



Figure 2. Collaborative Learning Activities and Student Interactions

Documentation of classroom activities confirmed the presence of cooperative learning practices and active peer interactions among students at SDN 14 Moramo. The documented learning processes illustrated students working collectively, discussing lesson materials, and supporting one another during academic activities. These collaborative experiences fostered a sense of shared responsibility and encouraged students to remain actively involved in classroom learning.

In addition to academic assistance, peer relationships also provided emotional support that influenced students' motivation and confidence. Positive interactions with classmates created a comfortable learning environment in which students felt encouraged to ask questions, express opinions, and participate in discussions. Students who received support from their peers appeared more enthusiastic about learning activities and demonstrated greater confidence when completing assignments and responding to teachers' questions.

Nevertheless, the findings also indicated that peer influence was not always beneficial. In certain situations, social interactions among students diverted attention away from learning tasks, particularly when conversations and play activities occurred outside instructional contexts. Some students occasionally depended on their classmates to complete assignments rather than working independently, resulting in variations in learning responsibility and self-directed study habits. These conditions suggest that the academic benefits of peer support depend on students' ability to maintain constructive and goal-oriented social interactions.

Overall, peer support contributed to students' academic achievement through several indicators, including improved understanding of lesson materials, increased participation in group discussions, more effective task completion, enhanced motivation, and stronger classroom engagement. Within the context of SDN 14 Moramo, collaborative learning and positive peer relationships played important roles in supporting students' academic development, although appropriate guidance remained necessary to ensure that social interactions continued to facilitate rather than hinder learning activities.

The Role of Teacher Competence in Students' Academic Achievement

Table 3. Dimensions of Teacher Competence and Their Contribution to Students' Academic Achievement

Theme	Description
Instructional strategies	Teachers apply diverse teaching methods, provide clear explanations, and encourage active student participation during learning activities.
Student guidance and support	Teachers offer individual assistance, repeat explanations when necessary, and provide motivation and feedback to students experiencing learning difficulties.

Table 3 demonstrates that teacher competence contributed significantly to students' academic achievement through effective instructional strategies and continuous learning support. At SDN 14 Moramo, teachers played essential roles in facilitating students' understanding, encouraging classroom participation, and maintaining positive learning environments that supported academic development.

The findings revealed that teachers implemented various instructional approaches, including discussions, question-and-answer sessions, demonstrations, and collaborative learning activities to accommodate students' diverse learning needs. Students perceived that lesson materials were delivered clearly and systematically, enabling them to understand concepts more effectively and complete academic tasks with greater confidence. School administrators also emphasized that instructional activities were designed to encourage active participation and to create learning experiences that matched students' characteristics and abilities. These practices contributed to students' comprehension of lesson materials, participation in classroom activities, and successful completion of assignments.

Classroom observations further indicated that teachers at SDN 14 Moramo effectively managed instructional processes and maintained students' attention throughout learning activities. Teachers actively guided discussions, provided clear instructions, and encouraged students to participate in collaborative tasks. The use of LCD presentations and visual learning media increased students' enthusiasm and facilitated their understanding of instructional content. Students demonstrated active engagement by responding to questions, participating in discussions, and interacting positively with both teachers and classmates during lessons.

Documentation of classroom activities confirmed the implementation of varied teaching strategies and active teacher–student interactions as integral components of the learning process. The documented practices illustrated teachers' efforts to integrate visual and digital instructional media while simultaneously providing guidance and encouragement to students. These activities created an engaging classroom atmosphere that supported students' learning participation and academic development.

In addition to instructional strategies, teacher competence was reflected in the individualized support provided to students during classroom activities. Teachers continuously monitored students' progress, identified learning difficulties through daily interactions, and repeated explanations when concepts were not fully understood. Students who required additional assistance received direct guidance and feedback, enabling them to participate more confidently and complete learning tasks successfully. Such practices strengthened students' motivation and fostered positive attitudes toward learning.

Observational findings also showed that teachers maintained supportive communication with students and provided encouragement throughout instructional activities. Most students appeared comfortable seeking clarification and asking questions when difficulties arose. Although several students still required additional assistance to complete tasks independently, teachers consistently offered guidance and motivation to ensure that all students remained actively engaged in the learning process. These efforts contributed to the development of students' responsibility, participation, and understanding of lesson materials.

Overall, teacher competence contributed to students' academic achievement through several indicators, including improved comprehension of instructional content, active participation in classroom activities, effective task completion, increased learning motivation, and stronger engagement during lessons. Within the context of SDN 14 Moramo, teachers' instructional skills, use of learning media, and continuous academic support played important roles in creating learning environments that facilitated students' academic success.

Discussion

Gadget Use and Students' Academic Achievement

The findings demonstrate that gadget use has a dual effect on students' academic achievement, functioning both as a learning facilitator and as a potential source of distraction. On the positive side, gadgets enable students to access a variety of digital learning resources, including educational videos, online materials, and search engines such as Google and YouTube. These resources provide opportunities for students to extend learning beyond classroom instruction and support independent study habits. However, excessive use of gadgets for entertainment purposes may reduce concentration, discipline, and learning motivation. Therefore, the educational contribution of gadgets depends largely on the purpose and intensity of their use.

The use of gadgets for academic activities reflects the growing integration of digital technology into elementary education. Students increasingly rely on online information to clarify concepts that are not fully understood during classroom instruction. This condition encourages greater learning autonomy, as students actively seek additional explanations and learning materials independently. The

availability of digital resources also allows students to revisit lessons repeatedly, thereby strengthening their understanding and retention of knowledge. Consequently, gadgets can serve as effective tools for promoting self-directed learning among elementary school students (Rahmah et al., 2025; Sabri et al., 2024).

Nevertheless, the findings indicate that students' self-regulation remains a crucial factor in determining whether gadget use contributes positively or negatively to academic achievement. Many students still prioritize online games and entertainment applications over educational activities, resulting in reduced study time and lower academic discipline. At the elementary level, students are still developing the capacity to manage impulses and allocate time appropriately. Without adequate supervision, gadget use may shift from supporting learning to becoming a significant source of distraction. This highlights the importance of parental involvement and teacher guidance in directing students toward productive digital practices (Alam et al., 2025; Nurhati & Yanti, 2022).

The situation observed at SDN 14 Moramo further illustrates this dual role of gadgets in students' daily lives. Classroom observations showed that students were more engaged and enthusiastic when digital media were incorporated into instructional activities. Visual materials and educational videos helped students understand abstract concepts more effectively and encouraged active participation during lessons. However, outside formal learning contexts, several students reported spending more time on entertainment-related activities, which negatively affected their concentration and task completion. These findings suggest that the impact of gadgets is highly contextual and dependent on patterns of use within both school and home environments.

The present findings are consistent with previous studies indicating that gadgets can enhance academic achievement when utilized appropriately for educational purposes. Lamanila et al. (2022) found that the intensity and direction of gadget use significantly influence students' learning outcomes, with academic-oriented use producing more positive effects. Similarly, Fadhila et al. (2025) reported that excessive gadget use for entertainment reduces students' motivation and concentration, ultimately affecting academic performance. Additional evidence from Ashifa et al. (2022) also demonstrated that digital devices may contribute positively to elementary students' learning when integrated into educational activities but may generate negative consequences when used without proper control. These studies reinforce the notion that technology itself is value-neutral, and its educational impact depends on how it is utilized.

From a theoretical perspective, the findings can be interpreted through Vygotsky's constructivist framework, which emphasizes that learning occurs through interaction with the environment and the use of mediating tools. In this context, gadgets function as educational tools that enable students to access information, explore new concepts, and construct knowledge actively rather than passively receiving information from teachers alone. Digital platforms such as Google and YouTube expand students' opportunities to engage with diverse learning resources and support independent inquiry. Therefore, gadget use may strengthen learning processes when accompanied by appropriate guidance and meaningful educational activities (Harmain et al., 2022; Vygotsky, 1978).

The findings are also supported by Piaget's theory of cognitive development, which states that elementary school students are generally in the concrete operational stage. At this developmental level, children understand concepts more effectively through visual, contextual, and concrete representations. Gadgets provide multimedia elements such as images, animations, and videos that make abstract learning materials easier to comprehend. This explains why students at SDN 14 Moramo demonstrated higher engagement and understanding when technology-based media were incorporated into classroom instruction. Overall, gadget use contributes positively to academic achievement when it is directed toward educational objectives, supervised by adults, and integrated with pedagogical practices that support students' cognitive development (Karimah et al., 2025; Murni, 2023).

Peer Support and Students' Academic Achievement

The findings indicate that peer support contributes significantly to students' academic achievement through academic assistance, emotional encouragement, and social interaction within the learning environment. Students frequently engage in collaborative learning activities, including group discussions, peer tutoring, and joint problem-solving. These interactions create opportunities for students to exchange ideas and clarify concepts using language that is more accessible and relatable to their developmental level. Consequently, peer support becomes an important component in strengthening students' understanding and participation in classroom learning (Rahmaniah et al., 2022; Wurdaningrum et al., 2025).

From an academic perspective, peer relationships facilitate the sharing of knowledge and learning experiences among students. Higher-achieving students often assist classmates who encounter difficulties in understanding instructional materials, thereby creating an informal tutoring process within the classroom. Such interactions enable students to revisit concepts through alternative explanations and reinforce previously learned information. Collaborative learning also encourages active engagement and reduces students' dependence on teacher-centered instruction. Similar findings were reported by Rahmawati et al. (2024), who emphasized that peer relationships contribute positively to learning outcomes when supported by constructive school and family environments.

Beyond academic assistance, peer support provides substantial emotional benefits that influence learning motivation and self-confidence. Students who receive encouragement and acceptance from their classmates tend to participate more actively during lessons and demonstrate greater willingness to ask questions or express opinions. Positive peer interactions create a comfortable learning atmosphere that reduces anxiety and strengthens students' sense of belonging within the classroom community. Emotional support from peers therefore functions as an important motivational factor that enhances students' persistence in academic activities (Rezeki et al., 2024; Umar et al., 2025).

The observations conducted at SDN 14 Moramo revealed that students were generally more enthusiastic and communicative during group-based learning activities than during individual assignments. Group discussions encouraged active participation and enabled students to learn through shared experiences and mutual assistance. Nevertheless, several groups occasionally engaged in conversations unrelated to instructional objectives, reducing learning efficiency and classroom focus. This finding suggests that peer interaction possesses both supportive and disruptive potential depending on how learning activities are organized and supervised.

The present findings are consistent with previous studies highlighting the importance of peer relationships in academic development. Wurdaningrum et al. (2025) demonstrated that positive peer support increases motivation and mathematics achievement among elementary school students. Likewise, Rahmaniah et al. (2022) found that peer influence contributes significantly to achievement motivation and learning outcomes by fostering collaborative learning habits. Rahmawati et al. (2024) further argued that peer environments operate alongside family and school factors as part of an integrated educational ecosystem that shapes students' academic success. Collectively, these studies reinforce the conclusion that peer support constitutes a vital external factor affecting students' learning experiences.

Theoretically, these findings can be explained through Vygotsky's concept of the *Zone of Proximal Development*, which emphasizes that learning occurs most effectively when students receive assistance from more capable individuals, including classmates (Vygotsky, 1978). In this study, peer interactions function as forms of social scaffolding that help students accomplish tasks and understand concepts that might be difficult to master independently. Through collaborative discussions and cooperative learning activities, students construct knowledge collectively and gradually develop higher cognitive abilities. This perspective supports the observation that peer explanations often facilitate understanding more effectively than individual learning processes.

In addition to Vygotsky's perspective, Bandura's Social Learning Theory provides further

explanation regarding the influence of peer relationships on academic achievement. According to Bandura (1977), students learn through observation, imitation, and modeling of behaviors demonstrated by individuals within their social environment. Positive academic behaviors, such as diligence, active participation, and collaborative problem-solving, may spread among peer groups and contribute to improved learning outcomes. Conversely, negative behaviors, including off-task conversations and lack of concentration, may also be imitated and reduce academic engagement. Therefore, the educational impact of peer support depends not only on the presence of social interaction itself but also on the quality and direction of that interaction.

Overall, peer support contributes substantially to students' academic achievement by fostering collaborative learning, strengthening emotional well-being, and enhancing motivation to participate in educational activities. However, the benefits of peer relationships can only be fully realized when classroom interactions are appropriately structured and guided by teachers. Effective classroom management enables positive peer influences to flourish while minimizing distractions that may interfere with learning processes. Consequently, peer support should be viewed as both an academic and social resource that requires intentional facilitation within elementary education.

Teacher Competence and Students' Academic Achievement

Teacher competence emerged as a fundamental factor influencing students' academic achievement because it determines how learning activities are designed, implemented, and evaluated (Nisah et al., 2023). The findings showed that teachers employed various instructional strategies, including discussion, questioning, demonstrations, and collaborative activities, which increased students' participation and understanding of lesson content. Students appeared more engaged when teachers utilized interactive methods rather than relying solely on conventional lecturing. This indicates that pedagogical competence contributes directly to creating meaningful learning experiences and improving academic performance.

Furthermore, teachers provided instructional scaffolding through repeated explanations, corrective feedback, and individualized assistance for students experiencing learning difficulties. Such support enabled learners with diverse academic abilities to remain actively involved in classroom activities and gradually develop a better understanding of the material. These findings reinforce the importance of differentiated instruction in elementary education, where students possess varying cognitive characteristics and learning needs. Continuous guidance from teachers also strengthened students' confidence and encouraged persistence in completing academic tasks.

The present findings are consistent with previous studies emphasizing that teacher competence significantly influences learning outcomes. Alfath et al. (2022) reported that pedagogical and professional competencies are essential for improving instructional quality and responding to educational changes. Similarly, Boka et al. (2024) found that teachers' professional competence positively affects students' academic achievement through effective classroom practices. Wibowo et al. (2024) further highlighted that teachers' abilities to provide learning variations and prepare instructional modules contribute to more engaging and successful learning experiences. These studies collectively indicate that competent teachers create learning environments that support both academic development and student participation.

From a theoretical perspective, the findings support Shulman's *Pedagogical Content Knowledge* framework, which explains that effective teaching depends on the integration of subject-matter mastery and pedagogical skills. Teachers are required not only to understand content but also to transform that knowledge into forms that are accessible and meaningful for learners. In elementary education, this competence becomes increasingly important because students are still developing foundational cognitive abilities and require concrete, interactive, and supportive learning experiences. Therefore, teacher competence functions as the central mechanism that connects instructional quality, classroom interaction, and students' academic achievement, ultimately shaping more effective and inclusive

educational outcomes (Fitrianto & Farisi, 2025; Shulman, 1987).

4. CONCLUSION

This study demonstrates that gadget use, peer support, and teacher competence represent important dimensions that shape elementary students' academic achievement at SDN 14 Moramo. The educational value of these factors depends on how technology is utilized, how social relationships support learning, and how teachers facilitate instructional processes within the classroom. Academic achievement is therefore understood as a multidimensional outcome influenced by digital, social, and pedagogical environments that collectively support students' learning experiences.

This article contributes to the growing discourse on elementary education by providing contextual evidence from SDN 14 Moramo regarding the roles of educational technology, peer interaction, and teacher competence in supporting students' academic development. The findings highlight the importance of strengthening collaboration among schools, teachers, and families to foster productive learning environments and encourage the responsible use of technology, positive peer relationships, and continuous professional development for teachers as essential foundations for improving students' academic outcomes.

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