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PEDAGOGICAL INTERACTIONS IN ELEMENTARY SOCIAL STUDIES LEARNING: A SCOPING REVIEW

Guslinda[1], Mitha Dwi Anggriani[2], Mahmud Alpusari[3]
[1]Fakultas Keguruan dan Ilmu Pendidikan, Universitas Riau
[1]guslinda@lecturer.unri.ac.id, [2]mitha.dwi@lecturer.unri.ac.id*
[3]mahmud.alpusari@lecturer.unri.ac.id*

Abstrak

Literature reviews play an important role in identifying, analyzing, and synthesizing the development of knowledge within a particular field of study. This article aims to present a literature review on pedagogical interaction in elementary Social Studies education by identifying (1) research objectives, (2) key findings, (3) forms of pedagogical interaction, and (4) the dimensions of pedagogical interaction examined in the literature. This study employed a Scoping Review methodology following the PRISMA Extension for Scoping Reviews (PRISMA-ScR) guidelines. The literature search was conducted using Publish or Perish across the Scopus, Google Scholar, and SINTA databases for articles published between 2021 and 2026. A total of 20 articles that met the inclusion criteria were analyzed using a descriptive thematic approach. The findings indicate that research on pedagogical interaction has evolved from teacher-centered communication toward a multidimensional, collaborative, reflective, and technology-supported learning ecosystem. Four major forms of pedagogical interaction were identified: teacher student interaction, student student interaction, student technology interaction, and student community interaction. In addition, four core dimensions of pedagogical interaction emerged from the literature: engagement, pedagogical dialogue, co-construction of knowledge, and reflection. These findings provide a conceptual foundation for the development of a Pedagogical Interaction Model to strengthen Social Studies instruction in elementary teacher education.

Kata Kunci: *pedagogical interaction*, *teacher - student interaction*, *classroom interaction*, *social studies education*, *elementary school*

1. Introduction

Social Studies education in Elementary School Teacher Education (PGSD) programs plays a strategic role in preparing prospective teachers to design, implement, and evaluate Social Studies instruction professionally in accordance with the demands of 21st-century education (Geng et al., 2024; González-Pérez & Ramírez-Montoya, 2022). Social Studies instruction in higher education is intended not only to equip pre-service teachers with a solid understanding of concepts in the social sciences, history, geography, economics, and citizenship, but also to develop their pedagogical competence so that they can facilitate elementary school students in becoming critical thinkers, socially aware citizens, responsible decision-makers, and active participants in society (Syapriya, 2017; Oktaviyanti & Novitasari, 2019). In line with the rapid advancement of digital technology, the increasing complexity of social issues,

cultural diversity, and global dynamics, prospective elementary school teachers are expected to be capable of designing learning experiences that go beyond the mere transmission of content knowledge. Instead, they should foster higher-order thinking skills, communication, collaboration, problem-solving abilities, and civic literacy through meaningful learning experiences (Shrader & Louw, 2021).

To meet these demands, prospective teachers must possess not only a strong mastery of subject matter and instructional models but also the ability to establish high-quality pedagogical interactions throughout the teaching and learning process. Pedagogical interaction refers to a reciprocal process of educational communication between teachers and students that facilitates knowledge construction, collaboration, the development of thinking skills, and the cultivation of attitudes, values, and character (Kim & Wilkinson, 2019). According to Alexander (2001), pedagogical interaction is a dialogic process that brings together teachers, students, learning content, and culture within a learning environment that enables the meaningful construction of knowledge. Therefore, the success of learning is determined not only by instructional strategies but also by the quality of the relationships and interactions established throughout the learning process. From the perspective of contemporary pedagogy, interaction is viewed as a dialogic, collaborative, reflective, and constructive process that provides learners with opportunities to construct knowledge through discussion, exploration, argumentation, and reflection on their learning experiences (Tao & Chen, 2023).

For prospective elementary school teachers, the ability to establish effective pedagogical interactions is an essential competency, as the nature of Social Studies instruction differs from that of other subject areas. Social Studies education is not solely oriented toward the acquisition of facts and concepts but also aims to develop students' ability to understand social phenomena, appreciate diversity, think critically about societal issues, and make responsible decisions (Banks, 1990). Therefore, prospective teachers need to be capable of designing learning experiences that encourage students to engage in dialogue, construct arguments, collaborate, ask questions, evaluate multiple perspectives, and reflect on the social issues they encounter in their daily lives (Budirahayu & Saud, 2023). Consequently, the quality of pedagogical interactions established by teachers is a critical factor influencing the effectiveness of Social Studies learning in elementary schools.

Previous studies have shown that Social Studies instruction, both in teacher education programs and in elementary schools, remains predominantly teacher-centered. Learning interactions are generally limited to content delivery, simple question-and-answer sessions, and assignment-based activities, resulting in relatively limited opportunities for pre-service teachers and students to construct knowledge through dialogue, collaboration, argumentation, and reflection. This condition reduces the active engagement of pre-service teachers in developing the pedagogical competencies required to facilitate meaningful Social Studies learning when they enter the teaching profession (Mercer, 1996; Laird-Gentle et al., 2023).

However, over the past decade, research on pedagogical interaction has grown substantially. Numerous studies have explored topics such as teacher–student interaction, dialogic teaching, classroom interaction, teacher feedback, student engagement, collaborative learning, scaffolding, and student agency (Ibrahim et al., 2023; Bali et al., 2024; Liu et al., 2025). Nevertheless, the existing

body of research remains fragmented, employing diverse terminologies, theoretical perspectives, and research contexts. Most studies have focused on general education, science education, mathematics, language education, or higher education more broadly, whereas studies specifically examining the characteristics of pedagogical interactions in elementary Social Studies education for preparing prospective elementary school teachers remain limited. As a result, there is still no comprehensive conceptual synthesis of the dimensions of pedagogical interaction, the theoretical frameworks underpinning it, the characteristics of effective pedagogical interaction, and their implications for the development of Social Studies instruction in pre-service teacher education.

This condition highlights an important research gap that needs to be addressed. On the one hand, research on innovative instructional models in Social Studies education has expanded rapidly. On the other hand, the pedagogical interaction mechanisms that underpin the successful implementation of these instructional models have not been systematically mapped. In fact, without a comprehensive understanding of the characteristics of pedagogical interaction, the development of instructional models tends to emphasize procedural aspects and instructional syntax while overlooking the pedagogical processes that foster dialogue, collaboration, reflection, and knowledge construction. Therefore, there is a need for a study that systematically maps the development of research on pedagogical interaction in elementary Social Studies education by identifying its characteristics, dimensions, theoretical foundations, research methodologies, key findings, and existing research gaps, thereby providing a foundation for the development of more comprehensive pedagogical models.

Based on this context, the present study employs a scoping review approach to map and synthesize existing research on pedagogical interactions in elementary Social Studies education that is relevant to the preparation of prospective elementary school teachers. This approach provides a comprehensive overview of research trends, theoretical foundations, dimensions of pedagogical interaction, interaction characteristics, research methodologies, the impact of pedagogical interaction on learning, and the research gaps that require further investigation.

The purpose of this article is to contribute to the advancement of Social Studies pedagogy in elementary education by establishing a strong conceptual foundation for the development of the Pedagogical Interaction Model, a model designed to strengthen the pedagogical competence of prospective elementary school teachers in facilitating Social Studies learning through dialogic, collaborative, reflective, and student-centered knowledge construction. Accordingly, this article serves as a conceptual bridge between the synthesis of previous research findings and the development of the Pedagogical Interaction Model as an instructional innovation for Social Studies teacher education. Specifically, this study seeks to address the following research questions:

1. What are the objectives of the studies included in the literature review?
2. What are the main findings reported in the reviewed literature?
3. What characteristics of pedagogical interaction are identified in the literature?
4. What dimensions (or elements) of pedagogical interaction are identified in the reviewed studies?

2. Methodology

This study employed a scoping review methodology to map the development of

research on pedagogical interactions in elementary Social Studies education. This approach was selected because it enables the comprehensive identification, examination, and synthesis of existing scientific evidence while revealing research trends, study characteristics, and research gaps. The review was conducted in accordance with the PRISMA Extension for Scoping Reviews (PRISMA-ScR) guidelines (Tricco et al., 2026). According to Peters et al. (2020), a scoping review aims to map the available evidence, identify the characteristics of existing studies, summarize key concepts, and highlight research gaps. The review process involved a systematic and transparent literature search, article selection following the PRISMA-ScR framework, data extraction based on the research objectives, and descriptive and thematic synthesis to identify the key components that provide the conceptual foundation for the development of subsequent instructional models.

The articles included in this review were retrieved from the Scopus, Google Scholar, and SINTA databases and were published between 2021 and 2026. The literature search was conducted using Publish or Perish (PoP) version 8 with the following keywords: *pedagogical interaction*, *teacher–student interaction*, *classroom interaction*, *social studies education*, *elementary school*, *interaksi pedagogi*, and *pembelajaran IPS SD*.

The selection of articles was based on the following inclusion criteria: (1) publication in accredited national journals or reputable international journals; (2) a focus on pedagogical interaction in Social Studies instruction at the elementary school level; (3) availability of the full-text article; (4) publication in either Indonesian or English; and (5) publication between 2021 and 2026. Conference proceedings, books, theses, dissertations, duplicate articles, and studies that did not align with the focus of this review were excluded from the selection process.

The article selection process followed the PRISMA-ScR framework, which consists of four stages: identification, screening, eligibility, and inclusion. Articles that met the inclusion criteria were then subjected to data extraction based on the following information: authors, year of publication, research objectives, research methods, theoretical frameworks, study characteristics, dimensions of pedagogical interaction, and key findings. The extracted data were subsequently analyzed using a descriptive thematic approach to map research trends, study characteristics, dimensions of pedagogical interaction, and existing research gaps that could inform recommendations for future research. The PRISMA flow diagram illustrating the article selection process from the initial 200 retrieved articles to the 20 articles included in the final review is presented in Figure 1.

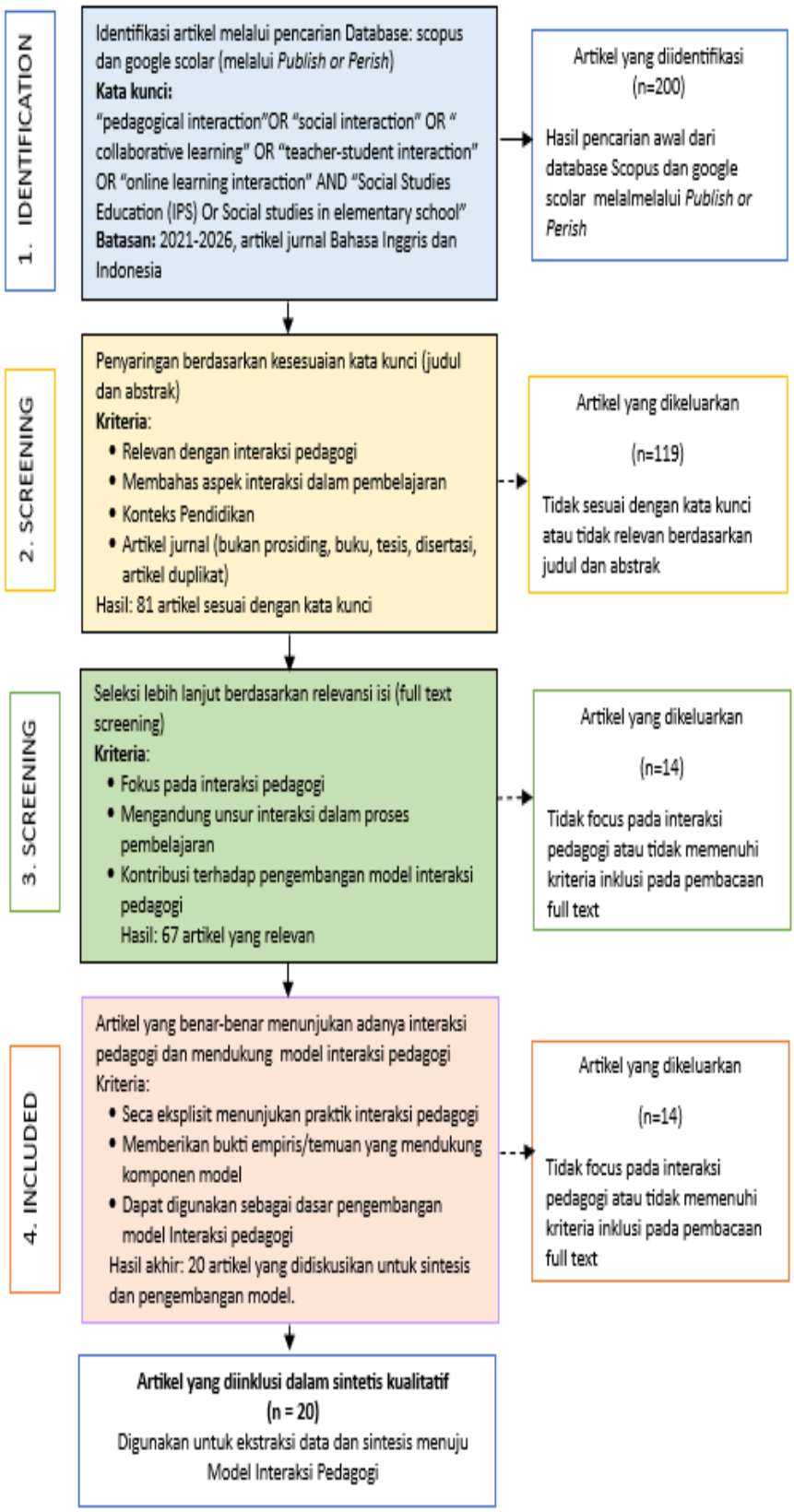

Figure 1. Selection Process for Pedagogical Interaction Articles

3. Result and Discussion

Based on the literature selection process following the PRISMA-ScR guidelines, 20 articles met the inclusion criteria and were included for in-depth analysis. These articles were published in reputable national and international journals and addressed various aspects of pedagogical interaction within educational contexts. The analysis involved systematic data extraction and synthesis to provide a comprehensive overview of the development of research on pedagogical interaction.

The findings of the literature synthesis are presented according to four main areas aligned with the objectives of this review. First, the review identifies the research objectives of studies related to pedagogical interaction. Second, it examines the key findings reported in each study to determine the contributions of pedagogical interaction to teaching and learning processes and outcomes. Third, it analyzes the characteristics of the existing research, including research approaches, learning contexts, study participants, and prevailing methodological trends. Fourth, it identifies the dimensions of pedagogical interaction most frequently discussed in the literature, providing a conceptual foundation for the development of a Pedagogical Interaction Model for Social Studies instruction in elementary schools.

3.1 Research Objectives of the Reviewed Studies

The synthesis of the 20 reviewed articles indicates that the research objectives are closely associated with the development of pedagogical interaction as a key factor in enhancing the quality of teaching and learning. Overall, the focus of research has evolved beyond viewing teacher–student interaction merely as a means of content delivery toward strengthening pedagogical interactions that promote active engagement, collaboration, reflection, and the transformation of learning experiences.

Most of the reviewed studies aimed to improve the quality of the learning process by strengthening interactions between teachers and students as well as among students themselves. These interactions are regarded as essential for enhancing student participation, communication, and engagement throughout the learning process (Bali et al., 2024). In addition, several studies sought to develop instructional strategies that reinforce pedagogical interaction, including the implementation of Lesson Study (LS) and the integration of Augmented Reality (AR), both of which were designed to create more interactive, collaborative, and student-centered learning environments (N. Zhang et al., 2022).

Other studies focused on strengthening the social dimension of learning through collaborative learning and the development of social presence. These studies demonstrated that social presence plays a crucial role in fostering meaningful communication, increasing participation, and enhancing student engagement, particularly in online learning environments (Harati et al., 2025). In line with advances in digital technology, several studies also aimed to optimize the use of Learning Management Systems (LMSs), Artificial Intelligence (AI), Virtual Reality (VR), educational robots, and social media as tools for expanding pedagogical interactions and creating more adaptive, collaborative, and personalized learning experiences (Young et al., 2023).

In addition, several studies focused on fostering higher-order thinking skills through pedagogical interaction. These objectives included developing students' reflective thinking, self-regulation, critical thinking, problem-solving abilities, and the transformation of learning experiences through

authentic interactions with teachers, peers, digital technologies, and the broader community (Guan et al., 2025; Zhao & Jin, 2025).

Overall, the synthesis of the reviewed literature reveals a significant shift in the research orientation of pedagogical interaction. Whereas earlier studies primarily emphasized communication between teachers and students, recent research conceptualizes pedagogical interaction as a multidimensional process that integrates collaboration, dialogue, reflection, learning transformation, and the effective use of digital technologies. This shift highlights the growing recognition of pedagogical interaction as a fundamental foundation for creating active, meaningful, and student-centered learning environments.

3.2 Main Findings of the Literature Synthesis

The synthesis of the 20 reviewed articles demonstrates that pedagogical interaction makes a significant contribution to improving both the quality of the learning process and learning outcomes. The findings indicate that pedagogical interaction is no longer understood merely as communication between teachers and students but has evolved into a multidimensional process involving interactions among students, interactions with technology, and interactions with the broader learning environment.

The most prominent finding across the reviewed studies is that pedagogical interaction enhances student engagement and learning outcomes. Numerous studies have shown that high-quality social interactions contribute to increased student participation, motivation, and academic achievement (Bali et al., 2024; Ibrahim et al., 2023; Sousa-Vieira et al., 2023). These findings suggest that the quality of pedagogical interaction is one of the key determinants of effective teaching and learning.

In addition to enhancing teacher–student, student–student, and student–learning media interactions, several studies emphasize the importance of social presence in fostering meaningful communication within learning environments, particularly in online learning. Social presence enables learners to feel connected to both instructors and peers, thereby facilitating more effective discussion, collaboration, and knowledge exchange (Harati et al., 2025; Young et al., 2023). Thus, pedagogical interaction depends not only on the frequency of communication but also on the quality of the social relationships established throughout the learning process.

The advancement of digital technology has also emerged as a major theme in the literature. Several studies indicate that the integration of Artificial Intelligence (AI), educational robots, Virtual Reality (VR), and digital learning platforms has expanded the forms of pedagogical interaction. AI is no longer viewed merely as a medium for delivering information but has evolved into a learning partner that supports collaboration, self-regulation, reflection, and social-emotional learning (Guan et al., 2025; Li et al., 2025; Koyuturk et al., 2023; Aure & Cuenca, 2024; Rachelle, 2022; Tarakli et al., 2025). These findings reflect a paradigm shift from viewing technology as an instructional tool to recognizing it as an integral component of the pedagogical interaction ecosystem.

The reviewed literature also demonstrates that pedagogical interaction contributes significantly to the development of 21st-century skills. Collaborative learning, social learning, and project-based learning have been shown to enhance students' critical thinking, collaboration, problem-solving, and self-regulation skills (Hamadi et al., 2022; Hwang et al., 2022; Buchem & Leiba, 2022; Liu et al., 2025). Beyond cognitive outcomes, several studies have found that authentic

interactions with communities and real-world learning environments can transform learners' ways of thinking, broaden their perspectives, and enrich their learning experiences (Zhao & Jin, 2025).

Nevertheless, several studies have also identified challenges in the implementation of pedagogical interaction. Communication barriers between teachers and students in online learning environments, as well as teachers' pedagogical competence, were found to significantly influence the quality of pedagogical interaction (Vo, 2023; Mensonen et al., 2024). Furthermore, Paradowski et al. (2022) reported that the quality of interaction has a greater impact on learning than the quantity of interactions. This finding highlights that the effectiveness of pedagogical interaction depends not merely on the frequency of communication but on the meaningfulness of dialogue, collaboration, and the relationships established throughout the learning process.

Overall, the literature synthesis demonstrates that pedagogical interaction is a strategic factor in creating effective learning environments. It contributes to enhanced student engagement, improved communication, collaboration, self-regulation, critical thinking, social learning, and the transformation of learning experiences. At the same time, advances in digital technology have expanded the scope of pedagogical interaction through the integration of Artificial Intelligence (AI), Virtual Reality (VR), educational robots, and online learning platforms. These findings reinforce the view that pedagogical interaction is a multidimensional construct and provide a strong conceptual foundation for the development of the Pedagogical Interaction Model.

3.3 Visible forms of interaction

The synthesis of the 20 reviewed articles reveals that pedagogical interaction is a multidimensional construct involving multiple actors within the learning process. Analysis of the interaction patterns identified across the studies revealed four major forms of pedagogical interaction: (1) teacher–student interaction, (2) student–student interaction, (3) student–technology interaction, and (4) student–community interaction.

Teacher–student interaction was the most frequently reported form of pedagogical interaction in the reviewed literature. This form of interaction was identified in the studies conducted by Ibrahim et al. (2023), Bali et al. (2026), Harati et al. (2025), J. Zhang et al. (2025), Vo (2023), Mensonen et al. (2024), and Young et al. (2023). These findings indicate that the relationship between teachers and students serves as the primary foundation for effective learning through feedback, guidance, communication, and the development of social presence. Teacher–student interaction contributes significantly to enhancing student participation, motivation, communication quality, and learning outcomes.

The synthesis further indicates that student–student interaction is another dominant form of pedagogical interaction. This finding is supported by the studies of Ibrahim et al. (2023), Harati et al. (2025), Liu et al. (2025), Li et al. (2025), Hamadi et al. (2022), Sousa-Vieira et al. (2023), Hwang et al. (2022), Paradowski et al. (2022), Young et al. (2023), and Buchem and Leiba (2022). Ten of the reviewed articles highlight peer collaboration as a fundamental component of effective learning. This form of interaction is fostered through cooperative learning, social learning, project-based learning, technology-enhanced learning, and collaborative discussions. The synthesis demonstrates that student–student interaction enhances critical thinking,

communication, teamwork, knowledge construction, and students' social skills.

In addition to peer interaction, the literature synthesis also reveals the growing importance of student–technology interaction. Technologies such as Learning Management Systems (LMSs), Artificial Intelligence (AI), Virtual Reality (VR), educational robots, social media, gamification, and virtual simulations are increasingly utilized as learning environments that support communication, independent learning, and self-regulation. This form of interaction was identified primarily in the studies by Liu et al. (2025), Guan et al. (2025), Li et al. (2025), Koyuturk et al. (2023), Hamadi et al. (2022), Sousa-Vieira et al. (2023), Hwang et al. (2022), Vo (2023), Mensonen et al. (2024), Zhao and Jin (2025), Paradowski et al. (2022), Aure and Cuenca (2024), Young et al. (2023), Rachelle (2022), and Tarakli et al. (2025). These findings suggest that digital technologies contribute significantly to the development of self-regulation by facilitating learning activities within technology-mediated environments.

One of the most notable developments in recent years is the emergence of student–Artificial Intelligence (AI) and student–robot interaction. The analysis indicates that AI and educational robots no longer function merely as instructional tools but have evolved into learning partners. AI is increasingly utilized to support reflection, self-regulation, collaborative learning, social-emotional learning, and the provision of adaptive feedback. Similarly, educational robots facilitate interactive learning experiences that promote conceptual understanding and encourage more active student engagement. These findings indicate a paradigm shift from viewing technology as a supporting tool to recognizing AI as an integral component of the pedagogical interaction ecosystem.

Furthermore, one study identified student–community interaction through a service-learning approach. This form of interaction enables students to gain authentic learning experiences through direct engagement with the community, thereby broadening their perspectives, enhancing social responsibility, and fostering the transformation of learning experiences (Tarakli et al., 2025). A graphical representation of these findings is presented in Figure 2.

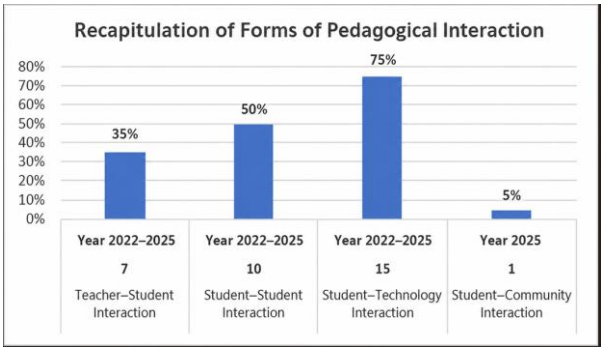

Figure 2. Recapitulation of form of pedagogical interaction

Overall, the synthesis demonstrates that pedagogical interaction has evolved from the traditional teacher student relationship into a more complex learning ecosystem. Interaction now extends beyond the classroom to encompass collaboration among students, professional learning communities, digital technologies, Artificial Intelligence (AI), educational robots, and the broader community as valuable sources of learning. This evolution highlights that pedagogical interaction in 21st century learning is inherently multidimensional, collaborative, adaptive, and technology supported. These findings provide a strong conceptual foundation for the development of the Pedagogical Interaction Model, which integrates multiple forms of interaction to promote learning that is more meaningful, participatory, reflective, and transformative.

The findings also reveal a paradigm shift in pedagogical interaction within educational settings. Whereas pedagogical interaction was traditionally dominated by teacher student interaction, the literature published between 2022 and 2025 indicates that student technology interaction has become the most frequently reported form of interaction, accounting for approximately 75% of the reviewed studies. This trend suggests that technologies, including Learning Management Systems (LMSs), Artificial Intelligence (AI), Virtual Reality (VR), educational robots, social media, and other digital platforms, are no longer viewed merely as tools for delivering instructional content but as integral components of the pedagogical interaction ecosystem that support communication, collaboration, reflection, and personalized learning. Meanwhile, student student interaction continues to play a central role in fostering collaborative learning, while teacher student interaction remains the foundation for providing guidance, facilitating dialogue, and delivering constructive feedback. Finally, student community interaction demonstrates that pedagogical interaction can also extend beyond the classroom, enabling authentic learning experiences through engagement with the wider community.

Table. Synthesis of the Dimensions of Pedagogical Interaction

No	Dimension of Pedagogical Interaction	Description	Supporting Studies
1	Engagement	Active participation of learners throughout the learning process.	Ibrahim et al. (2023); Bali et al. (2024); Mensonen et al. (2024); Muda et al. (2023); Sousa-Vieira et al. (2023)
2	Pedagogical Dialogue	Two-way communication, feedback, discussion, and the development of social presence.	Bali et al. (2024); Harati et al. (2025); Zhang et al. (2022); Vo (2023); Muda et al. (2023)
3	Collaboration / Co-construction of Knowledge	Knowledge construction through collaboration between teachers and learners as well as among learners.	Hamadi et al. (2022); Hwang et al. (2022); Li et al. (2025); Buchem & Leiba (2022); Paradowski et al. (2022)
4	Reflection	Self-evaluation, self-regulation, and reflective learning.	Liu et al. (2025); Guan et al. (2025); Aure & Cuenca (2024); Tarakli et al. (2025)

The first dimension is engagement, which refers to students' active participation throughout the learning process. The synthesis indicates that effective pedagogical interaction encourages students to actively participate in discussions, learning activities, and task completion. High levels of engagement have been shown to enhance students' motivation, participation, and learning outcomes (Ibrahim et al., 2023; Bali et al., 2024; Mensonen et al., 2024; Young et al., 2023; Sousa Vieira et al., 2023). These findings suggest that engagement is a fundamental prerequisite for establishing high quality pedagogical interaction.

The second dimension is pedagogical dialogue. Pedagogical dialogue is characterized by two way communication between teachers and students as well as among students through discussion, feedback, questioning, and the development of social presence within the learning environment. Several studies have demonstrated that meaningful dialogue fosters more interactive learning relationships, increases student participation, and strengthens the process of knowledge construction (Bali et al., 2024; Harati et al., 2025; Zhang et al., 2022; Vo, 2023; Young et al., 2023). Therefore, dialogue functions not only as a means of communication but also as a central mechanism for developing shared understanding.

The third dimension is collaboration or co construction of knowledge. The synthesis reveals that pedagogical interaction develops through collaboration among students as well as between students and teachers in the joint construction of knowledge. Collaborative learning, cooperative learning, project based learning, and social learning provide learners with opportunities to exchange ideas, engage in discussion, solve problems, and develop deeper conceptual understanding (Hamadi et al., 2022; Hwang et al., 2022; Li et al., 2025; Buchem & Leiba, 2022; Paradowski et al., 2022). These findings confirm that effective learning is the result of social interaction that enables the co construction of knowledge.

The fourth dimension is reflection. Reflection refers to the process through which learners evaluate their learning experiences, develop self awareness, and enhance their ability to regulate their own learning (self regulation). The literature indicates that reflective activities, particularly those supported by digital technologies and Artificial Intelligence (AI), help learners better understand their thinking processes, improve self regulation, and deepen their conceptual understanding (Liu et al., 2025; Guan et al., 2025; Aure & Cuenca, 2024; Tarakli et al., 2025). Reflection is therefore considered an essential dimension for creating meaningful and sustainable learning experiences.

Overall, the synthesis demonstrates that pedagogical interaction should not be understood merely as communication between teachers and students. Rather, it represents a learning process built upon active engagement, meaningful dialogue, collaborative knowledge construction, and reflection on learning experiences. These four dimensions complement one another and collectively form the conceptual foundation of effective pedagogical interaction.

4. Conclusion

This scoping review provides a comprehensive synthesis of the development of research on pedagogical interaction by analyzing 20 studies published between 2021 and 2026. The findings indicate that pedagogical interaction has evolved from a teacher-centered communication process into a multidimensional learning ecosystem that integrates collaboration, dialogue, reflection, knowledge co-construction, and technology-supported learning. The review identified four dominant forms of pedagogical interaction, namely teacher student interaction, student student interaction, student technology interaction, and student community interaction, with student technology interaction emerging as the most prominent trend in recent studies. This finding reflects a paradigm shift in which digital technologies, particularly Artificial Intelligence, Virtual Reality, educational robots, and digital learning platforms, are increasingly recognized as integral components of pedagogical interaction rather than merely instructional tools. The synthesis also identified four essential dimensions of effective pedagogical interaction: engagement, pedagogical dialogue, co-construction of knowledge, and reflection. These dimensions consistently appeared across different educational contexts and collectively contribute to enhancing student engagement, communication, collaboration, critical thinking, self-regulation, and meaningful learning experiences. The findings further suggest that the effectiveness of pedagogical interaction is determined not by the frequency of interaction but by the quality of dialogue, collaboration, and reflective learning experiences.

This review contributes to the literature by providing a comprehensive conceptual framework of pedagogical interaction that can serve as a foundation for the development of a

Pedagogical Interaction Model for elementary Social Studies education. The proposed framework offers theoretical guidance for designing more dialogic, collaborative, reflective, and technology-supported learning environments in pre-service teacher education. Future research should focus on developing and empirically validating the proposed model in elementary teacher education programs to examine its effectiveness in strengthening prospective teachers' pedagogical competence and improving learning outcomes.

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4. Kesimpulan

Dalam kesimpulan tidak boleh ada referensi. Kesimpulan berisi fakta yang didapatkan, cukup menjawab permasalahan atau tujuan penelitian (jangan merupakan pembahasan lagi); Nyatakan kemungkinan aplikasi, implikasi dan spekulasi yang sesuai. Jika diperlukan, berikan saran untuk penelitian selanjutnya. Nyatakan simpulan dalam kalimat berbentuk paragraf,

Ucapan Terimakasih [jika ada]

Sebutkan nama pemberi dana dan pemberi fasilitas yang membantu.

Daftar Rujukan

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