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Developing Pedagogical Communication Competence for Pre-Service Preschool Teachers in Vietnam in the Digital Era: A Qualitative Synthesis and Practice-Oriented Framework

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Abstract: *In the context of the digital era, the rapid development of artificial intelligence (AI) has profoundly transformed learning, teaching, and educational management (Ministry of Education and Training, 2021; Government of Vietnam, 2020). These transformations place urgent demands on pre-service teachers—the future teaching workforce—to develop adaptive competencies not only in technological knowledge and skills but also in emotional intelligence (Ministry of Education and Training, 2018). Research by Mayer and Salovey (1990, 1997) affirms that emotional intelligence is the ability to recognize, understand, and regulate emotions, playing a crucial role in academic and professional performance. Goleman (1995, 1998) further emphasizes that emotional intelligence contributes more to workplace success than IQ. Using a qualitative research approach, this paper analyzes the theoretical foundations, structure, and roles of emotional intelligence, while identifying its significant impact on teacher education in Vietnam during the digital era. The findings indicate that emotional intelligence is essential for managing emotions, developing pedagogical communication skills, adapting to digital learning environments, enhancing teaching quality, and fostering future professional qualities among pre-service teachers (Bar-On, 2006; Gross, 2015). Based on these findings, the paper proposes several solutions aimed at developing a future teaching workforce with strong professional competence, pedagogical skills, and emotional intelligence to meet the demands of Vietnam's educational reform in the digital age.*

Keywords: pedagogical communication, pre-service preschool teachers, teaching practicum, self-efficacy, digital era, Vietnam

1. Introduction

The rapid expansion of artificial intelligence (AI) and digital technologies is restructuring the educational ecosystem in a "multi-channel" and "datafied" direction, thereby reshaping the organization of teaching and learning, assessment, school governance, and the forms of interaction among teachers, learners, and families. In this context, the role of teachers is no longer confined to the transmission of knowledge; it increasingly includes organizing, guiding, and creating safe and positive learning environments within an interactional space that is progressively mediated by technology. Accordingly, the digital transformation orientations of the education sector and the requirements for teachers' professional competence create a dual developmental pressure: (i) digital competence to "work with technology," and (ii) interactional–social–emotional competence to "work with people through technology."

In early childhood education, this requirement becomes particularly important because teacher communication is not merely intended to convey activity content, but also directly shapes classroom climate, children's sense of psychological safety, their level of cooperation, and their linguistic–emotional–social development. This article emphasizes that pedagogical communication competence is a core component of teachers' professional competence and is multidimensional: beyond spoken language, it also encompasses relational, emotional, cognitive, and behavioral dimensions. It requires the ability to understand learners, select appropriate interactional strategies, and adjust communicative behavior in response to diverse and complex situations.

Conceptually, pedagogical communication can be understood as the process of contact and exchange between teachers and learners through verbal and non-verbal means to effectively carry out educational tasks. On that basis, pedagogical communication competence in early childhood education should be viewed as a composite of capabilities: (1) establishing positive relationships with children; (2) expressing, guiding, questioning, and responding in ways appropriate to children's developmental levels; (3) effectively using communicative means (voice, facial expressions, eye contact, gestures, and positive language); (4) handling difficult situations and regulating emotions when children are uncooperative; and (5) communicating professionally with mentor teachers, colleagues, parents, and the community. This structure is consistent with the study's conceptual argument and is also "operationalized" into specific groups of measurement items in the survey instrument (Section B: relationship-building skills; information exchange; use of communicative means; Section F: difficulties and support needs). In preschool teacher education, pedagogical practice and teaching practicum constitute a crucial "point of contact" for transforming knowledge into competence. Communication skills are formed through observation and practice at university and further strengthened during the practicum period in preschool settings, where student teachers interact directly with children aged 5–6 in a professional educational environment. Practicum thus functions as a "professional laboratory," where authentic interactions (with children, mentor teachers, and parents) generate rich experiential data enabling student teachers to adjust communication styles, develop professional identity, and strengthen situation-handling capacity.

However, evidence from the survey instrument indicates that student teachers in practicum often face considerable communicative challenges: nervousness or anxiety when interacting with children; difficulty controlling emotions when children are uncooperative; difficulty finding appropriate ways of speaking to gain children's cooperation; hesitation when expressing disagreement with mentor teachers; and lack of confidence when discussing children's issues with parents. At the same time, student teachers express clear needs for further support in handling difficult situations, opportunities for practice-based skill development, increased course time and situation-based scenarios, and instructional materials. These indicators suggest that pedagogical communication competence does not naturally "increase linearly" over the course of practicum; rather, it requires intentionally designed training, guided support, and feedback–reflection mechanisms to prevent student teachers from merely "accumulating experience" without transforming it into sustainable competence.

From practical experience and empirical evidence, pedagogical communication competence during practicum is shaped by a constellation of factors that are both individual and contextual. The empirical study identifies at least four "pillars" that exert significant influence on communication skills in practicum: (i) understanding of the psychological characteristics of children aged 5–6 (supporting the selection of appropriate expressions, tone, and communicative behaviors); (ii) self-efficacy or confidence in one's competence (fostering

proactive communication and persistence in handling situations); (iii) teacher education programs and pre-practicum preparation (subject-specific courses, micro-teaching, and instructor feedback); and (iv) practicum environment and conditions (opportunities to lead classroom activities, class size, pedagogical climate, support from mentor teachers, and physical facilities).

In the digital era, these pillars must be situated within a new contextual framework: pedagogical communication no longer takes place solely face-to-face but is extended through digital platforms and applications, multi-channel messaging systems, and expectations of rapid response. This expansion increases interaction frequency and density, while placing new demands on "digital communication culture," psychological safety, and self-regulation within highly stimulating environments. Research (VuThuyHoan, 2025) indicates that digital transformation in education increases requirements for adaptive competence, pedagogical skills, and social–emotional capacities to sustain interaction quality in high-speed, multi-channel feedback environments. Applied to early childhood education, pedagogical communication competence must be developed as a "hybrid" competence: ensuring humanistic, empathetic, and patient interaction with young children, while meeting professional communication standards across digital channels connecting school–family–community contexts.

Although prior studies have clarified factors influencing student teachers' communication skills in practicum (mainly quantitative) and developed survey instruments detailing competence structure and difficulties, a significant gap remains (Vu-Thuy, H, 2025): the absence of an integrative model that transforms empirical findings (influencing factors, competence structure, support needs) into a practice-oriented development framework embedded in teacher education via a "learn–practice–reflect" cycle aligned with digital transformation. Thus, the issue is not only "which factors are important," but "how to design training" so that pedagogical communication competence becomes teachable, learnable, and assessable, and can be sustainably transferred from university micro-teaching to authentic practicum interaction.

Based on these considerations, the present article adopts a qualitative approach grounded in document analysis and synthesis, combined with a competence development orientation in teacher education, with three objectives: (1) to systematize theoretical foundations and structural components of pedagogical communication competence in early childhood education; (2) to synthesize Vietnamese-context evidence from prior empirical research and the survey instrument's measurement structure to identify key pillars and bottlenecks; and (3) to propose a practice-oriented development framework for early childhood teacher education in the digital era, emphasizing course design, micro-teaching organization, mentoring/feedback mechanisms during practicum, and multi-source evidence-based assessment. Through this approach, the article seeks a dual contribution: a logically coherent, operationalizable integrative model and feasible training design recommendations for teacher education institutions and practicum sites.

2. Research Methods

The study was conducted using a qualitative approach, employing document analysis and qualitative synthesis in combination with a competence development perspective in teacher education, with the aim of constructing a practice-oriented framework for the development of pedagogical communication competence among pre-service preschool teachers in Vietnam

within the context of the digital era. This approach follows the methodological structure of the AJBS model article: it is grounded in secondary data, analyzes theoretical foundations and conceptual structures, contextualizes findings within the Vietnamese setting, and subsequently models them into a set of operational solutions and recommendations applicable to teacher education programs.

2.1. Data Sources and Scope of Synthesis

This study utilizes secondary data to develop an integrated theoretical model serving the renewal of teacher education. The scope of synthesis is organized into three principal layers of content.

The first layer comprises the theoretical foundation, in which pedagogical communication competence is conceptualized as a core component of teachers' professional competence, closely associated with the capacity to understand learners, select appropriate interactional strategies, and adjust communicative behavior in diverse and complex instructional situations. The second layer concerns the level of practical manifestation, focusing on communication with children aged 5–6 through establishing positive relationships, providing clear instructional guidance, appropriately employing verbal and non-verbal communication, engaging in active listening, offering emotionally responsive feedback, and handling difficult classroom situations.

The third layer addresses the enabling conditions for competence development, including understanding of child psychology, self-efficacy or confidence in one's own competence, the influence of teacher education programs, and the impact of the practicum environment. These layers of content align with the recognition that practicum represents a "stage of applying theoretical knowledge to practice," while also enabling a shift from merely describing communicative manifestations to analyzing the mechanisms underlying competence development.

Regarding limitations, the study does not collect new primary data; rather, it analyzes and cross-examines existing materials to construct a practice-oriented development framework for pre-service preschool teachers. Consequently, the scope of synthesis does not aim to statistically test causal relationships; instead, it focuses on identifying recurrent pillars across the body of evidence, thereby generalizing them into a competence framework and a set of solutions aligned with the context of digital education.

2.2. Analytical–Synthesis Procedure and Coding Strategy

The analytical process in this study was conducted in accordance with the principle of "analysis–synthesis of relevant documents," in which the "comparative method is applied" and "modeling and generalization methods" are employed within a coherent and unified logical sequence. Specifically, the study begins with the extraction of indicative manifestations of pedagogical communication competence, compares these manifestations with the previously identified influential pillars, and subsequently generalizes them into a development framework capable of being operationalized in preschool teacher education within the digital context.

At the initial stage, the preliminary coding scheme was developed from three core clusters of manifestations: "Skills in establishing relationships with children," "Skills in information exchange," and "Skills in using communicative means." From these three clusters, first-order codes were constructed based on observable behaviors, such as understanding children's psychological characteristics in specific situations; demonstrating goodwill and respect;

creating a sense of safety; articulating instructions clearly; guiding children step by step; adjusting tone of voice appropriately to age; using facial expressions, eye contact, and gestures to support communication; listening patiently; and employing positive language when reminding or correcting behavior. In parallel, another branch of codes was developed from commonly reported difficulties in professional practice, including anxiety when interacting with children; difficulty regulating emotions when children are uncooperative; difficulty finding appropriate ways of speaking to gain children's cooperation; hesitation when expressing differing opinions to mentor teachers; and lack of confidence when communicating with parents.

In the subsequent stage, these codes were positioned in relation to the axes of influence in order to identify the mechanisms underlying competence development. Practicum is regarded as a "stage of applying theoretical knowledge to practice"; therefore, communicative manifestations were not interpreted as isolated skills, but rather as outcomes of the interaction among understanding of the psychological characteristics of children aged 5–6, the preparation provided by teacher education programs, the conditions and support at practicum sites, and the internal resources of the student teacher. In particular, the finding that "self-efficacy emerged as the strongest predictive factor" led to the treatment of codes related to confidence, proactivity, persistence in handling situations, and avoidance of communication withdrawal as the central axis of the entire analytical process.

In the final stage, the comparative results were generalized through the application of "modeling and generalization methods" to construct a practice-oriented development framework. This framework is organized according to the "learn–do–reflect cycle," meaning that learners are first equipped with foundational knowledge and skill preparation, then engage in practice through simulated and authentic professional situations, and finally reflect on behavioral evidence in order to adjust and refine their communication competence. Following this logic, the outcome of the analysis does not stop at describing the current situation or listing influential factors; instead, it moves toward a structured intervention model that can be integrated into coursework, practicum, and progress assessment mechanisms, consistent with the requirement to develop "multi-faceted assessment mechanisms for progress" in teacher education.

2.3. Ensuring Reliability and Analytical Rigor

The reliability of the analytical process was ensured primarily through the principle of being "multi-faceted, evidenced, and progress-oriented," meaning that conclusions were retained only when they were triangulated across multiple dimensions and could be traced back to "observable behaviors" rather than remaining at the level of general assertions. Following this logic, the coding system was not constructed from abstract descriptions, but was anchored directly in specific manifestations such as "articulating instructions clearly and understandably to children," "guiding children step by step," "adjusting tone of voice," "using gestures, facial expressions, and eye contact to support communication with children," and "employing positive and friendly language when reminding or correcting children's behavior." This approach enhances the verifiability of the proposed framework, as each component is linked to behaviors that can be identified, described, and assessed within the practicum context.

Analytical rigor was further strengthened through cross-comparison among the different layers of content. On the one hand, the influential pillars had been clearly identified: "knowledge of child psychology, preschool teacher education programs at university, practicum environment and conditions, and self-efficacy all have positive and significant effects on communication

skills," with "self-efficacy emerging as the strongest predictive factor." On the other hand, the structure of the instrument extended beyond measurement scales to allow deeper interpretation through prompts such as identifying "the most important factors," describing "difficult communication situations," and proposing "what suggestions could help the university/practicum site provide better support." The convergence of these three streams of information—competence manifestations, mechanisms of influence, and support needs—created a form of content triangulation, thereby reducing the risk of arbitrary interpretation and strengthening the robustness of the integrative model.

In addition, the study maintained a clear analytical trail from initial manifestations to the components of the development framework, consistent with the requirement to construct assessment based on "diverse sources of evidence," such as "self-assessment forms, peer feedback, and teaching video clips," to describe "observable behavior," and to generate a "learning trace" for "progress assessment." This means that the practice-oriented development framework was not derived from fragmented reasoning, but from a continuous process of alignment among communicative behaviors, influencing factors, and the "learn–do–reflect" cycle. As a result, the study's output preserves academic rigor in qualitative synthesis while simultaneously offering practical applicability for implementation in preschool teacher education and practicum contexts.

2.4. Research Ethics

From an ethical standpoint, this study is grounded in a dataset that was originally collected under clearly articulated commitments to participant protection. Individuals who provided information were informed that the data would be "used solely for scientific research purposes," "kept confidential," and "would not affect academic results" or their practicum and internship processes. Furthermore, in the related research design, participants were identified as having participated "entirely voluntarily," and identifying information was "coded to ensure confidentiality." These principles provide the foundation for the present article to continue using the data in a manner that respects participants, avoids academic or professional disadvantage, and does not extend data use beyond the academic scope for which it was originally collected.

Because this article adopts an analytical–synthesis approach, in which "secondary data were collected and analyzed," no new surveys, interviews, or observations were conducted. As such, the direct ethical risk to human participants is minimal. The ethical focus of the study therefore does not concern intervention with participants, but rather the manner of data reuse: analysis is conducted only at an aggregated level; individual identities are not traced; no details that could enable re-identification are disclosed; and findings are used exclusively for the purpose of "professional development and improvement of teacher education programs." This approach is consistent with the orientation of transforming research data into scientific evidence to inform the renewal of teacher education, rather than using it to evaluate or rank individuals.

In the digital context, ethical considerations also extend to the secure processing, storage, and presentation of data. Reference materials emphasize that digital competence must be accompanied by "safety" and "ethics," and that clear policies on confidentiality and data storage are required for reflective and learning-related data. Accordingly, in this article, all evidence is presented at a generalized level to support analysis of competence structure and the proposal of a development framework; no private information, sensitive data, or situational examples that could reveal individual participants or specific training institutions are included. On this basis, the study adheres to three core principles: respecting the voluntary nature of the

original data, ensuring confidentiality throughout the re-analysis process, and using findings exclusively to enhance the quality of preschool teacher education in the digital era.

3. Theoretical Framework and Literature Review

3.1. Concept and Structure of Pedagogical Communication Competence in Early Childhood Education

In teacher education, pedagogical communication should not be understood as an isolated speaking skill, but rather as a complex professional competence associated with the purposeful use of verbal and non-verbal means to establish educational relationships, organize learning activities, and regulate classroom interaction. At the early childhood level, this structure becomes even more distinctive because interaction between teachers and children occurs continuously through spoken language, tone of voice, eye contact, facial expressions, gestures, interpersonal distance, emotional feedback, and the use of educational tools and instructional materials within specific situations. From this perspective, the pedagogical communication competence of preschool teachers can be viewed as the capacity to effectively coordinate spoken language, communicative behaviors and gestures, and educational tools in order to create a positive, safe, and developmentally supportive learning environment for children (Aziz et al., 2024; Vu-Thuy, H et al., 2025).

Research in early childhood education further indicates that communication with young children is not merely a process of "transmitting instructions," but rather a process of constructing meaning from the child's perspective, requiring teachers to understand developmental pace, language ability, emotional state, and the specific interactional context of each child (Jonsson & Williams, 2013; Koch et al., 2011). Accordingly, in this study, pedagogical communication competence is conceptualized as a structure comprising at least three interrelated layers: (i) the competence to establish positive relationships with children; (ii) the competence to exchange information, provide guidance, and offer appropriate feedback; and (iii) the competence to effectively use verbal and non-verbal communicative means within early childhood educational contexts. This understanding aligns with the broader view of teachers' professional competence as an integration of knowledge, skills, and the capacity to act effectively in authentic situations (Sheridan et al., 2011; Vu-Thuy, H et al., 2025).

From a theoretical standpoint, it is necessary to distinguish between "communication skills" in a general sense and "pedagogical communication competence" in a professional sense. Communication skills in general may be manifested across various social contexts; in contrast, pedagogical communication is inherently tied to educational purposes, professional ethics, the development of learners, and the responsibility to regulate relationships within the classroom environment. For preschool teachers, this distinction is particularly significant, as the quality of communication directly influences children's sense of safety, cooperation, language development, emotional regulation, and social skills (Aziz et al., 2024; Rizzuto et al., 2024). Therefore, discussions on developing pedagogical communication competence for pre-service preschool teachers must approach it as a core professional competence, rather than as a peripheral "soft skill."

3.2. The Role of Pedagogical Communication Competence in Preschool Teacher Education and Teaching Practicum

A consistent line of research suggests that the pedagogical competence of future teachers cannot be fully developed through theoretical coursework alone, but must instead be cultivated through a sequence of observation, practice, feedback, and professional practicum experiences.

Practicum is therefore regarded as a "pivotal" stage in teacher education: it is the context in which student teachers confront authentic professional situations, test the knowledge they have acquired, and gradually transform pedagogical understanding into stable professional behaviors (Nancy, 2007; Kiggundu, 2007; Darling-Hammond, 2006; Loc, 2014). In the context of preschool teacher education in Vietnam, this role becomes even more pronounced, as practicum represents the first environment in which student teachers are required to communicate directly, continuously, and responsibly with children, mentor teachers, and parents within a professional educational setting.

At the early childhood level, pedagogical communication not only supports the organization of care and educational activities, but also functions as a means of shaping the classroom's psychological climate. Recent research indicates that effective communication by preschool teachers is directly associated with children's cognitive, emotional, and social development; it also contributes to enhanced language acquisition, emotional regulation, and self-confidence within the learning environment (Aziz et al., 2024; Rizzuto et al., 2024). Conversely, if teachers are not adequately prepared in non-verbal communication, emotional responsiveness, and play-based interactional forms, the quality of classroom interaction tends to decline (Montoya-Fernández et al., 2024). This suggests that pedagogical communication is not merely a condition for "being able to teach," but is also a prerequisite for creating a positive developmental environment for preschool children.

Within the preparation of future teachers, pedagogical communication competence is closely intertwined with the formation of professional identity. Research in teacher education highlights that classroom experience, exposure to authentic interaction, and professional feedback play a critical role in the development of sustainable pedagogical competence (Kiggundu, 2007; Hemmerich et al., 2015). For pre-service preschool teachers, this implies that communication competence cannot be assessed solely through the ability to articulate theoretical knowledge about communication; rather, it must be evaluated through how student teachers listen to children, guide activities, respond to resistance or challenging behaviors, interact with colleagues, and engage with parents in specific practicum contexts. In other words, teaching practicum serves as a "professional laboratory" in which pedagogical communication is tested, refined, and gradually consolidated into practical competence.

3.3. Pillars Shaping the Pedagogical Communication Competence of Pre-Service Preschool Teachers

3.3.1. Understanding Child Psychological Development and the "Child's Perspective"

One of the foundational bases of pedagogical communication in early childhood education is an accurate understanding of children's developmental characteristics. Teachers are able to select appropriate expressions, levels of expectation, instructional pacing, and emotional responses only when they understand what children are thinking, what they are feeling, and the level at which they are capable of responding. Research in early childhood education emphasizes that preschool teacher education programs must prioritize knowledge of children's psychological development and the capacity to adjust communication in accordance with developmental characteristics (Koch et al., 2011; Sheridan et al., 2011). At the same time, communication with young children consistently requires teachers to strive to approach the "child's perspective," rather than imposing an adult perspective onto pedagogical interaction (Jonsson & Williams, 2013). From this viewpoint, understanding child psychology is not an isolated body of background knowledge; rather, it constitutes the cognitive precondition for effective pedagogical communication.

3.3.2. Self-Efficacy as a Motivational Driver of Communication

Another prominent pillar in the literature is self-efficacy. According to the self-efficacy framework, individuals act more effectively when they believe in their capacity to successfully perform a specific professional task (Gavora, 2010). In early childhood education, self-efficacy has been linked to the quality of teacher–child relationships and to teachers' confidence in handling interactional situations (Chung et al., 2005; Ata-Aktürk & Demircan, 2017). Teachers or student teachers with high levels of self-efficacy tend to feel more comfortable expressing ideas, responding emotionally, persistently guiding children, and maintaining a positive classroom atmosphere. In contrast, low self-efficacy is often associated with avoidance of interaction, anxiety, rigid responses, or inconsistency in communicative behavior.

Longitudinal studies in teacher education further indicate that self-efficacy is not fixed; rather, it can increase over time through progression within the training program, practical experience, and the pedagogical support received by student teachers (Baltaoglu et al., 2015; Yildirim, 2021). From this perspective, pedagogical communication is not solely the result of "knowing how to communicate," but also of believing that one is capable of communicating effectively in authentic professional contexts. This point is particularly significant for pre-service preschool teachers, as professional confidence often determines whether they initiate interaction with children, confidently handle difficult situations, and engage proactively with mentor teachers or parents. Consequently, self-efficacy should be regarded as a central variable in any framework for developing pedagogical communication competence.

3.3.3. Teacher Education Programs, Practicum, and the Mentoring

Beyond individual factors, numerous studies indicate that pedagogical communication competence is strongly influenced by the design of teacher education programs. Contemporary higher education is expected not only to foster academic achievement but also to develop essential soft skills and professional competences from an early stage (Iksan et al., 2012). In teacher education, long-term professional quality and effectiveness depend significantly on how university programs organize the formation of pedagogical skills (Podolsky et al., 2019). For preschool teachers, this implies that training programs must deliberately integrate knowledge of child development, communicative language use, pedagogical feedback, and professional interaction practices, rather than allowing communication competence to be "formed spontaneously" through individual experience (Koch et al., 2011; Sheridan et al., 2011; Jonsson & Williams, 2013).

On the practical side, the practicum environment and mentoring/feedback mechanisms constitute indispensable pillars. Mentor teachers at preschool institutions act as mediators who translate theoretical knowledge into applied communicative action through modeling, commenting, correcting, and guiding the handling of situations in interactions with children, parents, and colleagues (Yamauchi et al., 2012; Hemmerich et al., 2015). Such interactions help student teachers internalize professional communication standards, enhance situational adaptability, and learn through experience. In the Vietnamese context, where teacher education programs and training activities still face structural and implementation challenges (Hoang et al., 2023), designing a tightly integrated mechanism linking coursework, micro-teaching, practicum, and mentoring becomes a crucial condition for the sustainable development of pedagogical communication competence.

3.4. Pedagogical Communication Competence in the Digital Era: Theoretical Implications and Research Gaps

The context of digital transformation necessitates a reconceptualization of pedagogical communication competence for future teachers. According to current policy orientations, teachers require not only digital competence to operate technology, but also a strong social–emotional foundation in order to maintain the quality of interaction within an educational ecosystem that is increasingly multi-channel and data-rich (Ministry of Education and Training [MoET], 2021; Government of Vietnam, 2020). Research has demonstrated that in the digital era, competencies related to recognizing, understanding, and regulating emotions enable teachers to adapt to change, sustain pedagogical decision-making, support pedagogical communication, and function effectively within collaborative online environments (Salovey & Mayer, 1990; Mayer & Salovey, 1997; Mayer et al., 1999; Gross, 2015; Lopes et al., 2006). When this logic is applied to preschool teacher education, it becomes evident that pedagogical communication competence is no longer limited to face-to-face interaction; rather, it is evolving into a "hybrid" competence that integrates direct interaction with children, professional communication with parents and colleagues through digital platforms, and the capacity for self-regulation in contexts characterized by rapid, continuous, and high-pressure feedback.

Systematic reviews and meta-analyses on emotional intelligence further indicate that social–emotional competencies are not fixed traits; instead, they can be developed when training programs are competence-oriented, practice-rich, and supported by sustained feedback mechanisms over time (Hodzic et al., 2018; Mattingly & Kraiger, 2019). Moreover, meta-analytic evidence suggests that these competencies are associated with academic achievement and later professional effectiveness (MacCann et al., 2020). An important implication for pedagogical communication training is that components such as empathetic listening, decoding non-verbal signals, controlling impulsive reactions, responding effectively in difficult situations, and coordinating with families and schools can—and should—be designed as observable learning outcomes. These outcomes can be practiced through micro-teaching, video analysis, simulated scenarios, and guided reflection. This approach aligns with the "learn–do–reflect" logic for transforming what appears to be a "soft" competence into a teachable, learnable, and assessable construct.

However, from a research perspective, at least three notable gaps remain in the existing literature. First, studies on pedagogical communication in early childhood education often emphasize its importance or identify influencing factors, but have not fully integrated these elements into a comprehensive, practice-oriented development framework for pre-service preschool teachers. Second, much of the literature describes pedagogical communication within face-to-face contexts, whereas the digital environment requires consideration of digital communication culture, response norms, online psychological safety, and ethical interaction on technological platforms (MoET, 2018, 2021; Government of Vietnam, 2020). Third, there remains a lack of an approach that tightly links learning outcomes, coursework, practicum, and progress assessment based on observable behaviors. This gap constitutes the direct theoretical rationale for the present article: to develop an integrative framework that moves beyond identifying "which factors are important" toward designing training structures that enable pedagogical communication competence to be systematically developed, practiced, and assessed.

In summary, the literature review indicates that pedagogical communication competence among pre-service preschool teachers is a multidimensional professional competence shaped

simultaneously by understanding of child psychology, self-efficacy, teacher education programs, and the practicum–mentoring ecosystem, while also being strongly influenced by the context of digital transformation. The unresolved issue is not whether this competence is important, but rather how to translate it into a training structure that can be effectively implemented in practice. This serves as the starting point for proposing the practice-oriented development framework presented in the following section.

4. Results and Discussion

4.1. An Integrative Framework of the Pillars of Pedagogical Communication Competence in Preschool Teacher Education in the Digital Era

The qualitative synthesis of secondary data sources and the measurement instrument employed in this study indicates that the pedagogical communication competence (PSC) of pre-service preschool teachers during the practice–practicum stage constitutes a multidimensional competence. It is manifested through observable communicative behaviors in the classroom while simultaneously being shaped by a constellation of individual, programmatic, and practicum-contextual conditions, with self-efficacy/confidence playing a central role in "activating" and sustaining communicative action.

Notably, empirical evidence from the foundational data identifies four groups of factors—(PSY) psychological characteristics of preschool children, (SEC) self-efficacy, (IEC) practicum environment and conditions, and (TRP) teacher education programs—all of which exert positive effects on PSC; among these, SEC demonstrates the strongest influence, followed by IEC, TRP, and PSY.

These findings are consistent with international research emphasizing the role of self-efficacy/teaching efficacy in shaping the quality of teacher–child interaction and pedagogical relationships in early childhood education (Ata-Aktürk & Demircan, 2017; Chung et al., 2005). They also reinforce the view that PSC cannot be regarded as a set of "isolated skills," but rather as a competence co-constructed through formal training, practicum experiences, and the support of the preschool educational ecosystem (Grangeat & Gray, 2007; Hemmerich et al., 2015; Kiggundu, 2007).

In the context of digital transformation, pedagogical communication is further subjected to "multi-channel" pressures and digital safety requirements, as digital technologies and AI reshape interaction models and expectations placed upon teachers (Ministry of Education and Training [MoET], 2021; Government of Vietnam, 2020).

Accordingly, the integrative framework proposed here situates PSC within a two-layered system: (i) a layer of competence manifestations (what student teachers are able to do in pedagogical communication), and (ii) a layer of enabling pillars (the conditions that allow such competence to be formed, enacted, and sustainably developed), both embedded within the overarching contextual layer of digital transformation.

4.1.1. The Manifestation Layer: The Structure of Pedagogical Communication Competence According to a "Multimodal – Learner-Oriented" Logic

Drawing on the competence-based approach in teacher education—which conceptualizes competence as the integration of knowledge, skills, attitudes, and context-sensitive application (Darling-Hammond, 2006; Chen, 2025)—pedagogical communication competence (PSC) in early childhood education should be understood as the capacity to construct effective

pedagogical interactions that support children's learning, development, and psychological safety. Beyond spoken language, PSC is inherently multimodal, combining speech, gestures, facial expressions, posture, and educational tools to generate meaning in classroom communication (Taylor, 2014). Research on pedagogical communication in early childhood settings likewise indicates that effective interaction is typically manifested through spoken language, behavioral/gestural expressions, and the use of educational tools as complementary communicative "channels" (Hoan et al., 2025).

For children aged 5–6, PSC is operationalized into competence clusters closely aligned with this structure, including: (1) relationship-building; (2) information exchange and interaction management; and (3) the use of communicative means (including the handling of difficult situations). Structuring PSC into these three groups is consistent with the view that communication with preschool children simultaneously entails relationship-building, instructional interaction, and multimodal enactment (Jonsson & Williams, 2013; Taylor, 2014). In the digital era, the manifestation layer of PSC expands to encompass two additional requirements:

- Multi-channel communication (face-to-face–online, synchronous–asynchronous) and the ability to maintain a "child-oriented" perspective across diverse interactional contexts (Jonsson & Williams, 2013; MoET, 2021).
- Emotional self-regulation and digital conduct standards, in order to reduce psychological noise and sustain interaction quality in fast-paced environments characterized by multi-source feedback and heightened stress risk (Gross, 2015; Sutton & Wheatley, 2003).

Thus, PSC in this framework is not merely the ability to "speak well," but rather the competence to orchestrate pedagogical interaction across multiple channels and symbolic modes, grounded in understanding the child, understanding oneself, and mastering the surrounding context.

4.1.2. The Enabling Pillar Layer: Four Pillars Co-Constructing PSC

The synthesis results indicate that PSC is formed and developed on the basis of four pillars (PSY–SEC–TRP–IEC). These four pillars function both as "inputs" and as "enabling conditions" for PSC in professional practice.

(1) The PSY Pillar: Understanding the Psychological–Developmental Characteristics of Preschool Children

The PSY pillar reflects the extent to which student teachers grasp the linguistic, cognitive, and socio-emotional developmental characteristics of children aged 3–6, thereby enabling them to select appropriate content, modes of expression, and interactional strategies. In early childhood, language develops rapidly and becomes the primary means of communication; children's interactional scope expands alongside motor development, making the requirement to "adjust communication according to age" particularly critical (Brodin & Renblad, 2020). In addition, teachers' ability to accurately identify developmental indicators and understand individual differences among children constitutes an essential condition for designing appropriate pedagogical responses (Koch et al., 2011).

In communicative practice, PSY primarily operates through the following mechanisms:

- Increasing the appropriateness of speech, gestures, and educational tools in relation to children's developmental levels;
- Reducing "communication misalignment" (e.g., overly complex demands or abstract expressions), thereby decreasing conflict and enhancing cooperation;

- Reinforcing the child perspective, which is considered complex yet essential in early childhood interaction (Jonsson & Williams, 2013).

However, the synthesis also suggests an important point: understanding child psychology alone is insufficient to ensure that competence is effectively enacted if not accompanied by self-confidence and a supportive practicum context.

(2) The SEC Pillar: Self-Efficacy, Expressive Capacity, and Emotional Self-Regulation

The SEC pillar represents student teachers' belief in their ability to communicate and behave pedagogically, which is associated with their level of proactivity, persistence, and effectiveness when confronting classroom situations. Research in early childhood education shows that self-efficacy is significantly related to teacher–child communication skills (Ata-Aktürk & Demircan, 2017) and the quality of teacher–child relationships (Chung et al., 2005). From a professional development perspective, pre-service teachers' self-efficacy may increase with maturation throughout the training process, contributing to improved professional attitudes (Baltaoglu et al., 2015; Yildirim, 2021).

SEC is operationalized through manifestations such as confidence in communicating during learning and play activities, belief in the ability to handle most communicative situations, and a tendency to seek solutions rather than avoid interaction; it is also linked to linguistic and expressive capacities (e.g., vocabulary range, explanatory ability, use of poetry and storytelling). This aligns with the view that early childhood communication competence requires both "motivational belief" and "expressive resources" to enact effective interaction.
In the context of digital transformation, SEC must be understood more broadly in two dimensions:

- Emotional self-regulation to sustain communication quality when managing multi-source feedback, time pressure, and challenging situations (Gross, 2015; Sutton & Wheatley, 2003);
- Social–emotional competence as a "soft core" enabling teachers to work with people through technology, alongside digital competence (MoET, 2018; MoET, 2021).

Accordingly, within the integrative framework, SEC is regarded as the central pillar that may amplify or attenuate the effects of PSY, TRP, and IEC on PSC. This interpretation is consistent with the hierarchy of influence observed in the empirical evidence.

(3) The TRP Pillar: Teacher Education Programs and the Structure of Learning Experiences for PSC Development

The TRP pillar reflects the extent to which teacher education programs (and practice activities within teacher education institutions) provide student teachers with: (i) foundational knowledge of pedagogical communication; (ii) guided opportunities for practice; (iii) professional feedback; and (iv) simulation-based activities such as micro-teaching.

Theoretically, twenty-first-century teacher education emphasizes that teaching quality depends heavily on program design and practical experiences (Darling-Hammond, 2006). Within higher education, communication skill development is viewed as a crucial soft skill component enabling learners to adapt to the labor market and global professional environments (Iksan et al., 2012). Specifically in teacher education, research on improving pedagogical skills underscores the necessity of systematic and evidence-based programmatic solutions (Negassa & Engdasew, 2017; Chen, 2025).

In early childhood education, TRP should pay particular attention to:

- Communication training grounded in developmental psychology (Koch et al., 2011);
- Communication and interaction as integral components of early childhood curriculum goals (Sheridan et al., 2011);
- The tradition of incorporating the "child perspective" in communication (Jonsson & Williams, 2013).

In the digital era, TRP may also leverage digital tools and learning formats to enhance feedback, observation, and self-reflection (e.g., video-recorded micro-teaching, digital practicum journals, e-portfolios), while ensuring digital safety orientation for student teachers (MoET, 2021).

(4) The IEC Pillar: Practicum Environment and Conditions as an "Ecosystem of Transformation"

The IEC pillar represents the set of conditions within practicum sites (preschools) that influence opportunities for and the quality of PSC development: workplace climate, feedback culture, peer support, classroom conditions (e.g., group/class size), and the quality of professional mentoring.

Research on teaching practicum regards it as a decisive stage in professional competence formation because it creates a "bridge" between academic knowledge and classroom practice (Kiggundu, 2007; Loc, 2014). Moreover, experience-based learning during practicum can enhance the teaching–learning experience for multiple stakeholders (student teachers, mentor teachers, and university instructors) when effectively organized (Hemmerich et al., 2015).

From the perspective of early childhood interaction, IEC is particularly sensitive to:

- Group/class size, which affects children's care conditions, interaction quality, and learning experiences, thereby indirectly influencing teachers' communication opportunities (Williams et al., 2019);
- Leadership roles and organizational relationships, which may shape communication satisfaction and collaborative quality within the school (Terek et al., 2015; Murphy & Louis, 2018);
- The role of practicum mentors, who facilitate the transformation of knowledge into applied skills through modeling and situational feedback (Yamauchi et al., 2012; Hemmerich et al., 2015).

In the digital context, IEC also encompasses the school's digital communication infrastructure, readiness for innovation, and digital conduct standards in school–parent–community interactions, consistent with national educational digital transformation orientations (MoET, 2021; Government of Vietnam, 2020).

4.1.3. The Integration Mechanism: A Co-Constructive Model of PSC in the Context of Digital Transformation

Based on the preceding analyses, the proposed integrative framework conceptualizes PSC as the outcome of an interconnected system linking the four pillars, in which:

1. TRP → (PSY, SEC): Teacher education programs provide psychological–educational knowledge and create an initial training environment, thereby enhancing expressive resources and reinforcing self-efficacy (Darling-Hammond, 2006; Iksan et al., 2012; Koch et al., 2011).

2. IEC → "opportunities for enactment" of PSC: The practicum environment determines the frequency and quality of authentic communication opportunities, while simultaneously creating "feedback pathways" through which communicative behavior can be adjusted and refined (Hemmerich et al., 2015; Yamauchi et al., 2012).
3. SEC as a central activation/regulatory mechanism: Self-efficacy and emotional self-regulation increase proactivity, reduce avoidance, and enhance the ability to sustain communication in challenging situations. This explains why SEC frequently emerges as a weighty factor in models of early childhood communication (Ata-Aktürk & Demircan, 2017; Sutton & Wheatley, 2003).
4. PSY as a mechanism of "developmental alignment": Understanding child psychology supports the selection of age-appropriate and individually responsive communication strategies, thereby improving relationship quality and interaction effectiveness (Brodin & Renblad, 2020; Jonsson & Williams, 2013; Koch et al., 2011).
5. The digital context as an encompassing conditional layer: Digital transformation intensifies the demand for multi-channel communication and digital conduct competence, while simultaneously making social–emotional competence and emotional regulation a "protective foundation" for effective communication in high-pressure environments (MoET, 2021; Government of Vietnam, 2020; Gross, 2015).

The integrative framework can be conceptually represented as: PSC = (PSY, SEC, TRP, IEC) in which SEC tends to function as both a lever and a regulatory mechanism in transforming PSY, TRP, and IEC into concrete communicative behaviors in the classroom—consistent with the hierarchy of influence observed in the foundational empirical evidence. To further clarify this structure, Table 1 summarizes the pillars, their mechanisms of influence, and their implications within the digital context.

Table 1: Integrative Framework of PSC Pillars in Preschool Teacher Education in the Digital Era

Pillar	Core Content	Mechanism of Influence on PSC	Implications in the Digital Context
PSY	Understanding children's linguistic, cognitive, and emotional development	Increases the appropriateness of communication strategies; reduces interactional misalignment	Maintains the "child perspective" in both digital and face-to-face interaction (Jonsson & Williams, 2013)
SEC	Communicative confidence, expressive resources, emotional self-regulation	Activates action; enhances proactivity; sustains communication in challenging situations	Strengthens resilience to multi-channel feedback pressure; supports emotion management in technology-mediated communication (Gross, 2015)
TRP	Coursework, micro-teaching, instructor feedback, situational simulations	Provides knowledge and guided practice opportunities; enhances self-efficacy	Integrates digital learning resources and e-portfolios; ensures digital safety orientation (MoET, 2021)
IEC	Practicum school culture, professional mentoring, class size, practice opportunities	Provides opportunities for enactment and field-based feedback	Enhances practicum site readiness for digital transformation; establishes digital conduct norms in school–parent interaction

4.1.4. Discussion: Contributions of the Integrative Framework to Research and Practice in Preschool Teacher Education

The integrative framework proposed in this study offers three principal contributions. First, the framework brings together two research traditions that are often treated separately: (i) the tradition that approaches PSC as a set of classroom communication skills (multimodal in nature), and (ii) the tradition that conceptualizes PSC as the outcome of individual and organizational factors. By positioning PSC at the center and considering PSY–SEC–TRP–IEC

as co-constructive pillars, the framework clarifies the "pathway" from training to practice. This perspective is consistent with the view of professional competence development as a cumulative and transformative process within a professional ecosystem (Grangeat & Gray, 2007; Hemmerich et al., 2015).

Second, the framework emphasizes the central role of SEC. Although PSY is crucial for ensuring developmentally appropriate communication with children, both empirical evidence and literature reviews suggest that self-efficacy is the factor that increases the likelihood of skill "enactment" in authentic situations, particularly under conditions of stress and uncertainty (Ata-Aktürk & Demircan, 2017; Sutton & Wheatley, 2003; Gross, 2015). This has important practical implications: PSC development programs should not merely "teach communication techniques," but must also design learning experiences that foster professional confidence and emotional self-regulation capacity.

Third, the framework situates PSC within the "contextual layer" of digital transformation. As digital transformation reshapes interaction models and requires teachers to possess both digital competence and a strong social–emotional foundation (MoET, 2021; Government of Vietnam, 2020), PSC must be developed as a multi-channel communicative–interactional competence linked to digital safety and professional standards. This serves as a direct bridge to Section 4.2, where solutions based on the "learn–do–reflect" cycle and multi-source assessment mechanisms are designed to operationalize the integrative framework in a practice-oriented and evidence-informed manner.

4.2. A Practice-Oriented Framework for Developing PSC Based on the Learn–Do–Reflect Principle and Multi-Faceted Assessment

If Section 4.1 establishes PSC as a multidimensional target competence co-constructed by the four pillars PSY–SEC–TRP–IEC within the contextual layer of digital transformation, Section 4.2 addresses the core practical question: how should training be designed so that this competence can be systematically developed, practiced, and monitored?

On the basis of qualitative synthesis, the article proposes a PSC development framework grounded in the learn–do–reflect logic, inheriting the outcome-based training perspective and transforming a competence often perceived as "soft" into an entity that can be taught, learned, observed, and assessed. This approach aligns with the argument that social–emotional competencies and professional communication skills must be anchored within the structure of curricula, coursework, practicum, and progress assessment systems, rather than being left to emerge spontaneously from fragmented experiences (Mayer et al., 1999; Gross, 2015; Chen, 2025; Ministry of Education and Training [MoET], 2018, 2021; Government of Vietnam, 2020).

4.2.1. Designing PSC Learning Outcomes Based on Observable Behaviors

The starting point of the practice-oriented framework is the design of PSC learning outcomes grounded in observable behaviors. Within a competence-based training logic, learning outcomes should not remain at the level of general descriptions such as "good communication" or "possessing pedagogical skills," but must instead be translated into a competence matrix that can be identified and assessed in practicum settings. Based on the indicators operationalized in this study, PSC learning outcomes should encompass at least five clusters of manifestations: (i) establishing positive relationships with children; (ii) clearly and appropriately exchanging information and guiding activities; (iii) effectively using verbal language, tone of voice, and non-verbal communicative means; (iv) handling difficult situations and regulating emotions

during interaction; and (v) engaging in professional communication with mentor teachers, parents, and other relevant stakeholders within an increasingly digitalized context. This design both reflects the practical manifestations of PSC and aligns with the orientation of describing competence through "observable behaviors" and assessing progress rather than relying on general impressions (Mayer et al., 1999; Gross, 2015; Ministry of Education and Training [MoET], 2018, 2021).

In terms of developmental structure, PSC may be described across four progressive levels: Foundational – Developing – Proficient – Advanced. At the foundational level, student teachers are able to recognize basic emotional cues in children, establish a sense of safety, and articulate simple and understandable instructions. At the developing level, student teachers begin to select communication strategies more appropriately according to situational demands, adjust tone and gestures, pose open-ended questions, and sustain positive interaction during learning and play activities. At the proficient level, student teachers are capable of managing situations such as children crying, resisting instructions, or experiencing peer conflicts, while also communicating respectfully and sensitively with mentor teachers and parents. At the advanced level, student teachers maintain emotional stability under high-pressure conditions, engage in proactive reflection, adjust communication strategies in response to multi-source feedback, and demonstrate professional conduct standards in both face-to-face and digital environments. Such a tiered description allows PSC to be conceptualized as a competence that can be continuously monitored throughout the training and practicum process (Mayer et al., 1999; Gross, 2015; Yildirim, 2021).

More importantly, PSC learning outcomes must be directly linked to the four pillars identified in Section 4.1. In other words, student teachers should not only be assessed on "how they communicate," but should also be supported in developing their understanding of child psychology, strengthening their self-efficacy, applying competences prepared through teacher education programs, and adapting to specific practicum environments. It is precisely this linkage between competence manifestations and the conditions of competence formation that renders PSC learning outcomes developmental in nature, rather than merely summative end-of-term evaluations (Ata-Aktürk & Demircan, 2017; Chung et al., 2005; Jonsson & Williams, 2013; Yamauchi et al., 2012).

4.2.2. The "Learn" Component: Building Foundational Knowledge, Cognition, and Professional Language

At the *learn* stage, the objective is not merely to "learn about communication," but to construct a cognitive foundation that enables student teachers to understand why a particular communication strategy is appropriate or inappropriate in specific situations involving children aged 5–6. Accordingly, courses such as Developmental Psychology in Early Childhood, Early Childhood Education, and pedagogical methods courses should explicitly integrate content related to: children's linguistic, cognitive, and emotional development; the child's perspective in pedagogical interaction; mechanisms of emotional formation and regulation; principles of active listening, open-ended questioning, and empathetic feedback; as well as professional communication standards when interacting with parents, colleagues, and mentor teachers. This foundation ensures that PSC does not remain at the level of surface techniques, but is grounded in sufficiently robust pedagogical reasoning to support professional practice (Jonsson & Williams, 2013; Koch et al., 2011; Sheridan et al., 2011; Gross, 2015).

Within the digital context, the *learn* component must further expand to include content on digital communication culture, online psychological safety, ethical feedback practices on

digital platforms, and appropriate conduct when pedagogical interaction occurs through multimedia channels. This expansion is particularly important because future teachers do not only communicate with children in physical classrooms, but increasingly collaborate with parents, mentor teachers, and educational institutions through digital platforms. Rules concerning response timing, tone in written messages, the protection of learners' dignity, and the principle of delaying reactions when emotions are intense should be regarded as integral elements of PSC in the digital era, rather than as peripheral concerns (Lopes et al., 2006; Gross, 2015; Ministry of Education and Training [MoET], 2021; Government of Vietnam, 2020).

In terms of instructional organization, instead of relying on one-way theoretical delivery, the *learn* component should adopt case-based learning with typical scenarios closely aligned with preschool practicum contexts. Examples include: a child crying at the start of an activity, a child resisting instructions, peer conflicts between children, disagreements between student teachers and mentor teachers, or situations requiring communication with parents about a child's behavior. These cases should be standardized through guiding questions such as: What is the dominant emotional cue? What observable evidence supports this interpretation? What communication options are feasible? What are the anticipated pedagogical consequences? Through this approach, student teachers are trained from an early stage to connect recognition – interpretation – response selection – consequence anticipation, thereby aligning with the professional logic of pedagogical communication (Gross, 2015; Lopes et al., 2006; Jonsson & Williams, 2013).

4.2.3. The "Do" Component: Structured Practice and Guided Practicum

If the *learn* stage provides the cognitive foundation, the *do* stage is where PSC is translated into observable behavior. From a teacher education perspective, this stage must create conditions for "safe trial-and-error," that is, an environment that is sufficiently secure yet closely approximates authentic professional situations. Accordingly, training programs should strengthen the use of micro-teaching, role-play, situational games, social–pedagogical problem-solving projects, and simulated dialogue exercises between student teachers and children, between student teachers and parents, as well as between student teachers and mentor teachers. These forms of practice enable student teachers not only to "know what to say," but also to refine rhythm, intonation, pauses, the use of eye contact and gestures, and the ability to adjust reactions in real or semi-authentic interactional contexts (Darling-Hammond, 2006; Iksan et al., 2012; Gross, 2015).

The operationalization of PSC in the dataset further indicates that student teachers express highly specific needs: additional training in handling difficult situations with children aged 5–6, participation in communication skill practice workshops, increased instructional time devoted to situational problem-solving, and access to instructional materials or handbooks. This implies that the *do* component cannot be limited to a few illustrative practice sessions; rather, it must be structured as a sequence of tasks with progressively increasing complexity. In the initial phase, student teachers may rehearse simple scenarios such as welcoming children, transitioning between activities, or capturing the class's attention. In subsequent phases, tasks should shift toward handling refusal, soothing children when crying or tantruming, negotiating with uncooperative children, or discussing sensitive issues with parents or mentor teachers. In this way, the *do* component remains aligned with the structural dimensions of PSC while directly addressing the difficulties identified in practicum contexts (Ata-Aktürk & Demircan, 2017; Yamauchi et al., 2012).

Within the digital context, the organization of the *do* component can be further enhanced through video-based micro-teaching, interaction analysis using "freeze-frame" techniques, digital scenario repositories, and simulation-support tools that allow student teachers to observe themselves at a micro-level: eye contact, response latency, the quality of empathetic questioning, or shifts in vocal tone under stress. This step is particularly important because many difficulties in PSC do not stem from a lack of knowledge, but from student teachers' limited awareness of how they respond in the moment of interaction. Video analysis thus creates conditions for communicative behavior to become an observable and adjustable object of reflection (Gross, 2015; Lopes et al., 2006; Ministry of Education and Training [MoET], 2021).

At the level of formal practicum, PSC must be implemented within a structured and guided practicum framework rather than being "left to experiential drift." This is consistent with the argument that practicum functions as a "practical laboratory" for testing and refining professional competence. The role of mentor teachers in preschool settings should therefore be central: they model communication, observe student teachers' performance, provide feedback, explain situational dynamics, and help student teachers transition from instinctive reactions to pedagogically reasoned responses. Conditions such as opportunities to directly lead classroom activities, appropriate class sizes, an encouraging atmosphere, and the readiness of mentor teachers to provide support are indispensable for ensuring that the *do* component is truly effective (Hemmerich et al., 2015; Yamauchi et al., 2012; Williams et al., 2019).

4.2.4. The "Reflect" Component: Guided Reflection for Transforming Experience into Sustainable Competence

An important insight of the *learn–do–reflect* model is that experience alone is insufficient to generate competence in the absence of structured reflection. Therefore, the *reflect* stage plays a crucial role in transforming action into professional understanding and sustainable communication habits. After each teaching session, play activity, or noteworthy communication situation, student teachers should be guided to reflect using simple yet consistent frameworks such as "What – So what – Now what" or ABC (Antecedent – Belief – Consequence). These frameworks assist student teachers in identifying: what happened, how they felt or interpreted the situation, what the pedagogical consequences of their response were, and how adjustments should be made in future encounters.

Particularly in situations involving uncooperative children, disagreements with mentor teachers, or communication with parents, guided reflection helps reduce tendencies toward self-blame or avoidance, while simultaneously enhancing self-efficacy through reinterpretation of experience from a learning-oriented perspective (Gross, 2015; Yildirim, 2021).

The *reflect* stage is also the appropriate space to establish a learning trace through reflective journals, e-portfolios, recorded teaching videos, self-assessment forms, and feedback from peers, instructors, and mentor teachers. When effectively organized, the e-portfolio functions not merely as a repository of products, but as a longitudinal map of PSC development: from the initial identification of difficulties, to experimentation with new communication strategies, and finally to adjustments that demonstrate effectiveness in authentic situations. This approach is particularly aligned with the goal of assessment for progress, rather than a single summative evaluation at the end of practicum (Gross, 2015; Ministry of Education and Training [MoET], 2021).

From the perspective of the integrative framework presented in Section 4.1, reflection also serves to connect the four pillars. Through reflective practice, student teachers learn to relate their communicative manifestations to their understanding of child psychology (PSY), professional confidence (SEC), experiences gained from coursework (TRP), and the conditions of the practicum environment (IEC). For this reason, reflection should not be organized as a general "expression of feelings," but rather as an evidence-based learning mechanism with clear objectives, guiding questions, and professional feedback from mentors or instructors (Mayer et al., 1999; Hemmerich et al., 2015).

4.2.5. PSC Assessment Mechanisms: Multi-Faceted, Evidence-Based, and Progress-Oriented

Based on the foregoing logic, PSC assessment should adhere to three core principles: multi-faceted, evidence-based, and progress-oriented. Multi-faceted means that assessment should not rely on a single source, such as an end-of-term instructor evaluation, but rather integrate multiple sources and multiple situations. Evidence-based means that all judgments must be anchored in observable behaviors, rather than subjective impressions. Progress-oriented means that assessment should monitor student teachers' development over time, across multiple learn–do–reflect cycles, instead of merely determining "pass/fail" at a single point. This approach is essential for evaluating a competence such as PSC in a fair and developmentally meaningful manner (Mayer et al., 1999; Gross, 2015; Ministry of Education and Training [MoET], 2021).

Regarding assessment tools, the article proposes the development of a shared PSC rubric to be used jointly by university instructors and mentor teachers at practicum sites. This rubric should encompass five clusters of criteria: (1) establishing relationships with children; (2) guiding and exchanging information; (3) using verbal language, tone of voice, and non-verbal communicative means effectively; (4) handling difficult situations and regulating emotions; and (5) engaging in professional communication with relevant adults (mentor teachers, parents, colleagues) in both face-to-face and digital contexts. Each criterion should be described according to the four competence levels outlined in Section 4.2.1, accompanied by concrete behavioral examples, such as "articulating instructions concisely and clearly," "using open-ended questions," "maintaining a calm tone when children are uncooperative," or "expressing disagreement with a mentor teacher in a respectful and evidence-based manner." Such descriptions enable evaluators to observe the same phenomenon using a shared professional language (Jonsson & Williams, 2013; Yamauchi et al., 2012; Hemmerich et al., 2015).

Sources of evidence for PSC assessment should include direct classroom observation; video recordings of teaching or play sessions; practicum journals; self-assessment forms; peer feedback; feedback from instructors and mentor teachers; as well as artifacts included in the e-portfolio. In the digital context, these forms of evidence can be stored on a Learning Management System (LMS) or electronic learning portfolio system, thereby creating a "learning trace" that allows real-time monitoring of developmental progress. However, because the subjects involved are preschool children, all procedures related to storing and using video recordings, journals, and feedback must comply with confidentiality principles, minimize identifiable data, and be used exclusively for training and program improvement purposes (MoET, 2021; Government of Vietnam, 2020).

In terms of operational cycles, PSC assessment should occur at a minimum of three stages: before practicum (readiness assessment), during practicum (micro-cycle assessment after each significant activity or lesson), and after practicum (summative assessment and planning for

subsequent development). At the pre-practicum stage, assessment aims to identify foundational weaknesses in order to personalize learning tasks. During practicum, assessment focuses on "micro-cycles" following meaningful professional interactions, providing timely feedback and immediate adjustments. After practicum, multi-source data are used to determine the level of PSC development and to feed back into program improvement. Thus, assessment serves not only the learner but also functions as program enhancement data within a closed feedback loop approach (Darling-Hammond, 2006; Chen, 2025; MoET, 2021).

In summary, the PSC practice framework based on the learn–do–reflect principle connects learning outcomes, coursework, simulated practice, practicum, reflection, and progress assessment within a unified architecture. This approach directly addresses the challenge identified in the introduction: not merely identifying "which factors influence PSC," but transforming those factors into an operational training design. Within this framework, PSC is not developed through a single standalone course, but through vertical integration across the curriculum, emphasizing observable communicative behaviors, the gradual strengthening of self-efficacy, continuous professional feedback, and digital infrastructure that supports progress monitoring. This structure lays the foundation for preparing future preschool teachers who are not only proficient in pedagogical communication but also adaptable to the demands of the digital educational ecosystem (Mayer et al., 1999; Gross, 2015; MoET, 2018, 2021; Government of Vietnam, 2020).

5. Conclusion

Based on qualitative synthesis and a competence development perspective, this study demonstrates that the pedagogical communication competence (PSC) of pre-service preschool teachers is not a single isolated skill, but rather a multidimensional professional competence. It is manifested through the ability to establish positive relationships with children, exchange pedagogical information clearly and appropriately, and coordinate verbal and non-verbal communicative means in specific educational situations. The synthesis further confirms that PSC is shaped by four closely interrelated pillars: understanding of children's psychological–developmental characteristics, self-efficacy, teacher education programs, and the practicum environment and conditions. Among these, self-efficacy emerges as the central activating pillar, while mentoring and feedback function as bridging mechanisms that facilitate the transformation of acquired knowledge into professional communicative behavior in authentic practicum contexts (Ata-Aktürk & Demircan, 2017; Gavora, 2010; Hoan et al., 2025; Yamauchi et al., 2012).

From this perspective, the study contributes by shifting the focus from the question "Which factors influence PSC?" to the question "How should training be designed so that PSC can be systematically developed, practiced, and assessed?" The proposed practice framework, grounded in the learn–do–reflect cycle, enables the integration of learning outcomes, coursework, micro-teaching, practicum, reflection, and progress assessment within a unified architecture. Furthermore, the PSC assessment mechanism is defined according to three principles—multi-faceted, evidence-based, and progress-oriented—consistent with the requirement to describe competence through observable behaviors and to link assessment with graduation portfolios, practicum evaluation, and continuous professional development (Darling-Hammond, 2006, 2021; Gross, 2015; Mayer et al., 1999; Ministry of Education and Training [MoET], 2018, 2021). This approach is also aligned with the broader objective of reforming teacher education in Vietnam within the context of digital transformation, where

professional competence cannot be separated from digital competence, digital safety, and teachers' social–emotional capacities (Government of Vietnam, 2020; MoET, 2021).

From a practical standpoint, the findings suggest that preschool teacher education institutions should institutionalize PSC as a mandatory learning outcome, integrated throughout the curriculum rather than being relegated entirely to the practicum phase. University instructors are expected to assume the role of learning experience designers, coaches, and providers of feedback grounded in observable behaviors; meanwhile, practicum sites should function as mentoring ecosystems in which student teachers are able to experiment, adjust, and reflect within authentic professional situations. In the digital era, PSC should therefore be understood as a hybrid competence that integrates direct interaction with children, professional communication with relevant adults, emotional self-regulation under pressure, and adherence to ethical and safety standards in digital communication environments (Gross, 2015; Jonsson & Williams, 2013; Lopes et al., 2006; Ministry of Education and Training [MoET], 2021).

Nevertheless, it must be acknowledged that this article is based on secondary data and qualitative synthesis; thus, its primary contribution lies in proposing a conceptual model and operational framework rather than providing direct empirical validation. Overall, the study affirms that developing PSC among pre-service preschool teachers represents one of the key pathways toward preparing a future teaching workforce that is professionally competent, proactive in practice, humane in interaction, and adaptable to digital transformation—thereby meeting the current demands of educational reform in Vietnam (Darling-Hammond, 2021; Government of Vietnam, 2020; MoET, 2018, 2021).

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