International Journal of Learning, Teaching and Educational Research
Vol. 25, No. 8, pp. 752-785, August 2026
https://doi.org/10.26803/ijlter.25.8.30
Received May 26, 2026; Revised Jul 16, 2026; Accepted Jul 28, 2026

Internship and Mentorship for Developing the Pedagogical Competence of Pre-Service Early Childhood Teachers: A Systematic Literature Review

Jiang Li, Ni Wayan Surya Mahayanti*, Gede Rasben Dantes and I Gede Margunayasa
Universitas Pendidikan Ganesha
Singaraja, Indonesia

Abstract. The pedagogical competence of pre-service early childhood teachers develops not only through university coursework but also through guided participation in authentic settings. Yet internship and mentorship experiences remain uneven because of persistent theory-practice disconnections, inconsistent mentoring, and insufficiently coherent practicum structures. This systematic literature review synthesised 37 peer-reviewed articles published from 2020 to 2025 and indexed in CNKI, Web of Science, and ERIC. Using a structured coding framework and thematic synthesis, the review examined study characteristics, theoretical orientations, processes of competence development, and the contextual conditions shaping those processes. Across the literature, pedagogical competence emerged as a multidimensional and situated capacity developed through classroom participation, mentoring, peer collaboration, and critical reflection. The effectiveness of these processes depended on institutional coordination, access to resources, mentor preparation and availability, academic support, manageable workloads, and a supportive school culture. Mentorship was especially important because it helped pre-service teachers interpret children's responses, connect theory with developmentally appropriate practice, and form a professional identity. The review therefore supports internship models that deliberately connect sustained classroom responsibility with prepared mentors, collaborative inquiry, and structured reflection. It also identifies design principles relevant to the further development and empirical evaluation of the Hengxing Internship Model. These findings offer a conceptual basis for teacher educators, institutions, and policymakers seeking context-responsive approaches to preparing reflective and adaptive early childhood teachers.

Citation :
Li, J., Mahayanti, N. W. S., Dantes, G. R., Margunayasa, I. G. (2026). Internship and Mentorship for Developing the Pedagogical Competence of Pre-Service Early Childhood Teachers: A Systematic Literature Review. *International Journal of Learning, Teaching and Educational Research*, *25*(8), 752–785. https://doi.org/10.26803/ijlter.25.8.30

*Corresponding author: Ni Wayan Surya Mahayanti; *surya.mahayanti@undiksha.ac.id*

Keywords: pedagogical competence; pre-service teachers; early childhood education; internship; mentorship; teacher education; practicum; experiential learning; reflective practice; systematic literature review.

1. Introduction

Early childhood education (ECE) is being reshaped by educational reform, rising expectations for quality, and wider recognition that young children's early experiences influence their learning, well-being, and development (OECD, 2021; UNESCO, 2022). Accordingly, education systems increasingly need early childhood teachers who can combine sound pedagogical knowledge with reflective judgement, relational sensitivity, and professional adaptability (Darling-Hammond et al., 2020; Loughran, 2021). Teacher-education institutions must therefore connect university-based learning with sustained participation in authentic early childhood settings (Grossman et al., 2021; Korthagen, 2021).

For pre-service early childhood teachers, the movement from university coursework into classroom practice is both formative and demanding. During this transition, they must learn to interpret children's verbal and non-verbal responses, organise play-based and intentional learning, guide behaviour in developmentally appropriate ways, and respond to diverse learning and developmental needs (Flores & Swennen, 2020; König et al., 2020). Many, however, find it difficult to transform theoretical knowledge into situated pedagogical decisions and coherent learning experiences (Jita, 2022; Hasymi & Nurkamto, 2023). This persistent disconnection between university preparation and field-based practice can restrict the development of pedagogical competence (Nguyen, 2022; Purnama et al., 2025).

Internship and practicum programmes are therefore central to teacher education because they provide conditions for experiential learning and professional formation (Darling-Hammond et al., 2020b; McIntyre & McIntyre, 2020). By observing, planning, teaching, documenting children's learning, and participating in the daily life of an early childhood setting, pre-service teachers begin to develop practical judgement as well as a professional identity (Korthagen, 2021; Huang et al., 2025). Well-designed placements can strengthen pedagogical competence, reflective practice, and confidence (Yan & He, 2024; Parker et al., 2022). Their value, however, depends on the quality of programme design, the responsibilities entrusted to pre-service teachers, and the support available throughout the placement (Huang et al., 2025; Yan & Mingyao, 2022).

Mentorship is a particularly important condition of a productive practicum. Mentors help pre-service teachers interpret the complexity of early childhood practice through modelling, dialogue, feedback, and professional support (Hudson, 2020; Orland-Barak & Wang, 2021). Effective mentoring has been associated with stronger pedagogical practice, professional identity, and adaptation to classroom contexts (Allen et al., 2021; Dreer-Göthe, 2025). Mentor teachers can make otherwise tacit decisions visible, invite reflection, and help pre-service teachers connect theory with the needs of particular children and groups

(Qi, 2025; Loughran, 2021). Yet mentoring remains informal, inconsistent, or insufficiently structured in many settings, which limits its developmental value (Nguyen, 2022; Smith & Johnson, 2023).

These concerns have prompted growing interest in internship models with explicit stages, roles, learning goals, and mechanisms for feedback and reflection (Bekereci-Şahin, 2024; Zeichner & Conklin, 2021). The Hengxing Internship Model is one institutional example: it brings together collaborative learning, sustained mentoring, and coordination between campus-based preparation and field practice. As a design framework, it is consistent with experiential and social perspectives on learning, which emphasise participation, reflection, interaction, and repeated engagement in practice (Korthagen, 2021; Wang & Fan, 2025).

Although internship and mentoring have received considerable attention, literature offers a less developed account of how their components work together to support the pedagogical competence of pre-service early childhood teachers. Studies commonly examine practicum experiences or individual features of mentoring, rather than the relationships among classroom responsibility, guided reflection, peer learning, and institutional support (Wong, 2025; Liu & Dzainudin, 2023). Consequently, evidence relevant to integrated models remains dispersed across different research traditions and educational contexts (Yan & Mingyao, 2022).

A systematic synthesis is needed to clarify the processes through which internship and mentorship support competence development, the conditions that strengthen or constrain these processes, and the remaining gaps in the evidence. Such a synthesis can also provide a defensible basis for evaluating and refining structured models, including the Hengxing Internship Model, without assuming their effectiveness in advance (Huang et al., 2024; Huang et al., 2025; Parker et al., 2022).

Accordingly, this study systematically reviews research on internship and mentorship in the preparation of pre-service early childhood teachers. It examines how pedagogical competence is conceptualised and developed, identifies the contextual conditions associated with productive placements, and derives design implications for coherent internship models. The review then considers how these evidence-informed principles may guide the further development and empirical evaluation of the Hengxing Internship Model. In doing so, it seeks to inform teacher educators, institutions, and policymakers working to prepare capable, reflective, and context-responsive early childhood teachers (OECD, 2021; UNESCO, 2022).

1.1 Pedagogical Competence of Pre-Service Early Childhood Teachers

Pedagogical competence is a foundational dimension of professionalism in early childhood education. It encompasses more than the delivery of planned instruction: teachers must design, enact, observe, and evaluate experiences that are responsive to children's development, interests, cultures, and participation. Contemporary accounts therefore treat competence as an integration of content knowledge, pedagogical knowledge, and contextual judgement (Darling-

Hammond et al., 2020b; Loughran, 2021; Shulman, 1987). In early childhood settings, this integration is expressed through sensitive interaction, intentional play-based pedagogy, observation, and the organisation of inclusive environments for exploration and learning (OECD, 2021; UNESCO, 2022).

Importantly, pedagogical competence is not a fixed attribute acquired during initial teacher education but rather a dynamic and evolving process shaped through experience, reflection, and participation in real teaching contexts (Grossman et al., 2021; Korthagen, 2021; Lave & Wenger, 1991). This perspective highlights the situated nature of teacher learning, where competence develops through engagement with authentic classroom situations, interaction with learners, and ongoing reflection on practice (McIntyre & McIntyre, 2020; Schon, 1983). For pre-service teachers, this developmental process is often characterised by uncertainty and gradual progression from theoretical understanding to practical application.

For pre-service early childhood teachers, the development of pedagogical competence begins within teacher education institutions, where they are introduced to theoretical frameworks, instructional strategies, and foundational knowledge of child development. However, the transition from theory to practice remains a persistent challenge. Empirical studies consistently report that student teachers struggle to apply theoretical concepts in real classroom situations, particularly in managing classroom interactions, facilitating child-centred learning, and adapting instruction to diverse developmental needs (Flores & Swennen, 2020; Jita, 2022; König et al., 2020; Nguyen, 2022). These challenges reflect a well-documented gap between university-based preparation and the realities of classroom practice, often referred to as the theory-practice divide (Korthagen, 2021; Bekereci-Şahin, 2024).

Within early childhood education, pedagogical competence is best understood as a multidimensional construct. Its interrelated domains include planning, play- and inquiry-based pedagogy, interaction and classroom organisation, assessment of children's learning and development, and reflective practice (Darling-Hammond et al., 2020b; Loughran, 2021; Purnama et al., 2025). Planning requires attention to developmental trajectories and children's emerging interests, whereas enactment requires teachers to extend learning through responsive interaction. Likewise, classroom management in ECE is not simply behavioural control; it includes creating emotionally secure, inclusive environments that support agency, participation, and well-being (OECD, 2021).

Reflective practice is equally important because it enables pre-service teachers to examine the assumptions behind their decisions, interpret children's responses, and adjust subsequent teaching (Loughran, 2021; Schon, 1983). Such reflection is indispensable in early childhood settings, where pedagogy must remain responsive to individuals, relationships, and unfolding classroom events. Pre-service teachers, however, may initially describe events rather than analyse them and therefore need skilful guidance to develop critical, evidence-informed reflection (Huang et al., 2025; Yan & Mingyao, 2022).

Despite the comprehensive nature of pedagogical competence, pre-service teachers frequently encounter difficulties in developing these domains simultaneously. Limited teaching experience, lack of confidence, and insufficient exposure to diverse classroom situations often constrain their development (Purnama et al., 2025; Hasymi & Nurkamto, 2023). In particular, novice teachers may rely heavily on theoretical knowledge without fully understanding how to adapt it to dynamic classroom contexts, resulting in fragmented or ineffective teaching practices (Grossman et al., 2021; König et al., 2020).

In this regard, field-based experiences such as internships or practicum programmes play a crucial role in supporting the development of pedagogical competence. These experiences provide opportunities for experiential learning, allowing pre-service teachers to engage directly in teaching, observe experienced educators, and interact with children in authentic settings (Darling-Hammond et al., 2020; Yan & He, 2024; McIntyre & McIntyre, 2020). Through repeated cycles of practice and reflection, pre-service teachers gradually develop practical knowledge, professional judgement, and teaching confidence (Korthagen, 2021; Parker et al., 2022).

Moreover, the effectiveness of practicum experiences is strongly influenced by the presence of structured support, particularly mentoring and guided reflection. Studies indicate that pre-service teachers who receive consistent feedback and support from mentors demonstrate higher levels of pedagogical competence, including improved classroom management, instructional strategies, and reflective abilities (Allen et al., 2021; Dreer-Göthe, 2025; Qi, 2025). Conversely, unstructured or poorly supported practicum experiences may fail to provide meaningful learning opportunities, thereby limiting competence development (Brown & Leigh, 2020; Nguyen, 2022).

Literature therefore presents pedagogical competence as an integrated achievement arising from theoretical preparation, sustained practicum participation, and continuing mentor support. It develops through the interaction of individual inquiry, relationships with mentors and peers, and the opportunities afforded by particular institutions and classrooms. This conception provides an appropriate basis for considering structured internship models, including the Hengxing model, that deliberately connect practice, reflection, and mentoring.

1.2 Internship and Mentorship in Early Childhood Teacher Education

In teacher education, the practicum is a principal site for connecting academic preparation with professional practice. Its importance is especially pronounced in early childhood education, where pedagogical decisions are relational, developmentally informed, and highly sensitive to context. A placement should therefore be understood not as an adjunct to coursework but as a setting in which competence is constructed through participation in the everyday work of teaching (Darling-Hammond et al., 2020b; Korthagen, 2021; Bekereci-Şahin, 2024). It exposes pre-service teachers to the uncertainty of practice and requires them to develop flexible responses to children, colleagues, and classroom events (Grossman et al., 2021; McIntyre & McIntyre, 2020).

However, the effectiveness of internship programmes is not automatically guaranteed. Research consistently shows that practicum experiences vary widely in quality depending on their structure, duration, and level of institutional support (Yan & He, 2024; Zeichner & Conklin, 2021). In some cases, internships are reduced to observational activities with limited opportunities for active teaching, reflection, or feedback, thereby constraining meaningful learning (Nguyen, 2022). This variation highlights the importance of designing structured internship models that provide clear learning objectives, defined roles, and systematic support mechanisms to guide pre-service teachers throughout their professional learning journey.

Mentorship shapes whether these experiences become educative. It is a relational and developmental process through which an experienced teacher supports a pre-service teacher by modelling practice, making professional reasoning explicit, offering feedback, and sharing responsibility (Hudson, 2020; Orland-Barak & Wang, 2021). In ECE, mentorship should also invite careful attention to children's perspectives, play, relationships, and developmental variation (Qi, 2025; Loughran, 2021). Close participation with a mentor gives pre-service teachers access to the tacit knowledge embedded in moment-to-moment decisions, communication, and the orchestration of complex learning situations (Korthagen, 2021; Schon, 1983).

Empirical evidence demonstrates that effective mentoring significantly contributes to the development of pedagogical competence. Mentored pre-service teachers tend to show improvements in lesson planning, classroom management, and instructional delivery, as well as increased confidence in their teaching abilities (Allen et al., 2021; Dreer-Göthe, 2025). In addition, mentoring provides opportunities for observation and feedback, enabling pre-service teachers to critically reflect on their practice and refine their teaching strategies (Huang et al., 2025; Yan & Mingyao, 2022). This reflective dimension is particularly important in early childhood education, where teaching requires continuous adjustment based on children’s responses and developmental progress.

Despite its importance, mentoring remains uneven across teacher-education contexts. Relationships may depend on individual goodwill rather than shared expectations, purposeful observation, or agreed procedures for feedback (Nguyen, 2022; Smith & Johnson, 2023). Consequently, some pre-service teachers experience sustained professional dialogue while others receive little more than supervision. Mentor workload, limited time, inadequate preparation, and weak institutional coordination further reduce the quality of support (Brown & Leigh, 2020; Purnama et al., 2025). These constraints show why mentor expertise and programme conditions must be considered together.

These limitations point to the need for a more systematic and integrated approach to internship and mentorship within teacher education. Recent scholarship emphasises the importance of structured internship models that align mentoring practices with clear pedagogical goals, collaborative learning processes, and reflective activities (Grossman et al., 2021; Zeichner & Conklin, 2021). Such models

move beyond fragmented practicum experiences towards more coherent systems of professional learning, where pre-service teachers are supported through continuous guidance, peer interaction, and iterative reflection.

Against this background, the Hengxing Internship Model can be examined as a framework for bringing structured mentoring, collaborative learning, and sustained classroom participation into a more coherent relationship. Its design is intended to connect institutionally guided preparation with field-based learning through recurring cycles of practice, dialogue, and reflection. This orientation accords with contemporary accounts of teacher learning as experiential, relational, and situated within a professional community (Korthagen, 2021; Lave & Wenger, 1991; McIntyre & McIntyre, 2020).

The literature thus treats internship and mentorship as interdependent rather than parallel components of teacher preparation. Opportunities to teach are most educative when mentors support interpretation, feedback, and increasingly independent decision-making. Conversely, mentoring has limited value when it is detached from meaningful classroom participation. Their deliberate integration can provide a strong foundation for preparing reflective, responsive, and adaptive early childhood teachers.

2. Theoretical Perspectives

No single theory fully explains how pre-service early childhood teachers develop pedagogical competence. The process involves participation in practice, observation of others, professional dialogue, reflection, and changing forms of membership within educational communities. This review therefore uses Experiential Learning Theory, Social Learning Theory, and Communities of Practice as complementary lenses for interpreting how internship and mentorship support professional learning.

2.1 Experiential Learning Theory

Kolb's (1984) Experiential Learning Theory describes learning as a recurring movement among concrete experience, reflective observation, abstract conceptualisation, and active experimentation. The framework is pertinent to teacher education because professional knowledge is developed through engagement with practice rather than acquired through theory alone (Darling-Hammond et al., 2020b; Korthagen, 2021). During an ECE practicum, pre-service teachers encounter concrete situations involving children, relationships, curriculum, and classroom routines. Reflection helps them interpret these encounters, reconsider their assumptions, and plan more responsive action (Yan & He, 2024; McIntyre & McIntyre, 2020). Repeated movement between action and interpretation can gradually develop practical knowledge, professional judgement, and adaptive expertise (Grossman et al., 2021; Schon, 1983).

Importantly, the effectiveness of experiential learning depends on the presence of structured opportunities for reflection and feedback. Without guided reflection, teaching experiences may remain superficial and fail to contribute meaningfully to competence development (Korthagen, 2021; Parker et al., 2022). This

underscores the need for internship models that intentionally integrate practice with reflective processes.

2.2 Social Learning Theory

Social Learning Theory (Bandura, 1986) complements this account by explaining how learning occurs through observation, modelling, interaction, and beliefs about one's own capability. In teacher education, pre-service teachers learn from their own actions and by observing mentors, working with peers, and participating in shared professional activity (Hudson, 2020; Orland-Barak & Wang, 2021).

Mentorship plays a central role in this process, as mentors act as models of professional practice. Through observation, pre-service teachers gain insight into instructional strategies, classroom management techniques, and professional behaviours that are often tacit and context-dependent (Qi, 2025; Loughran, 2021). Interaction with mentors further enables the co-construction of knowledge through dialogue, feedback, and shared reflection (Allen et al., 2021).

Self-efficacy, a central concept in Social Learning Theory, refers to people's beliefs about their capability to perform particular tasks. In a practicum, these beliefs influence whether pre-service teachers persist through difficulty, seek feedback, and try unfamiliar pedagogical strategies (Bandura, 1986; Nabi et al., 2025). Successful teaching experiences and credible mentor support can strengthen efficacy while competence is developing. This relationship is especially consequential in ECE, where teaching demands flexibility, emotional attunement, and continuous adjustment.

2.3 Communities of Practice

The concept of Communities of Practice, introduced by Lave and Wenger (1991) and further developed by Wenger (1998), situates learning within social participation and shared practice. From this perspective, learning is not merely an individual cognitive process but a form of participation in a community where knowledge is constructed collectively.

In teacher education, pre-service teachers enter professional communities that include mentor teachers, peers, and institutional actors. Initially, their participation is often peripheral, characterised by observation and limited engagement. However, through continued interaction and guided participation, they gradually assume more active roles within the teaching community (Lave & Wenger, 1991; Wenger, 1998). Mentoring facilitates this transition by providing access to established practices, professional norms, and shared knowledge (Park et al., 2024). Such participation is especially significant in ECE because much pedagogical knowledge is local, relational, and developed with colleagues in practice. Engagement with mentors and peers enables pre-service teachers to develop pedagogical competence alongside a sense of professional identity and belonging (Flores & Swennen, 2020).

2.4 Applying the Theoretical Framework to the Hengxing Internship Model

Together, the three perspectives provide an analytical framework for considering the design of the Hengxing Internship Model. Experiential Learning Theory directs attention to cycles of classroom participation and reflection; Social Learning Theory explains the contribution of modelling, dialogue, and self-efficacy; and Communities of Practice highlights increasingly active participation in a professional community. Read together, these perspectives indicate that exposure to practice is insufficient unless an internship also provides purposeful mentoring, collaborative participation, and structured opportunities to interpret experience. The reviewed evidence supports this proposition: competence development is associated with the interplay among experiential learning, mentor quality, peer collaboration, and institutional support (Huang et al., 2025; Nguyet Nguyen, 2022; Purnama et al., 2025).

The Hengxing Internship Model may therefore be interpreted as an integrative design rather than as a discrete intervention whose effectiveness can be assumed. Its combination of structured practicum, sustained mentoring, and collaborative learning is theoretically consistent with a holistic account of competence development. Whether these components operate as intended requires direct empirical investigation. This synthesis frames pedagogical competence as the product of continuing interaction among individual inquiry, social participation, and contextual support. It provides criteria against which the Hengxing model can be refined and evaluated while avoiding claims that extend beyond the evidence reviewed.

3. Methodology

This study employed a systematic literature review (SLR) to synthesise evidence on how internship and mentorship support the pedagogical competence of pre-service early childhood teachers. An SLR was appropriate because it provides a transparent and reproducible process for locating, appraising, and integrating a dispersed body of research while identifying recurrent patterns and gaps (Page et al., 2021; Snyder, 2019). The review focused on internship and mentorship generally; the resulting synthesis was subsequently used to derive design implications relevant to the Hengxing Internship Model.

3.1 Search Strategy

The search covered CNKI, Web of Science, and ERIC. Together, these databases provided access to international and Chinese scholarship in early childhood education, teacher education, practicum, and mentoring. CNKI was included to strengthen representation of research published in Chinese contexts, whereas Web of Science and ERIC broadened coverage of international peer-reviewed education research.

The searches were conducted from January to March 2025. Keywords and Boolean operators were combined as follows: ("pre-service teacher" OR "student teacher" OR "teacher candidate") AND ("early childhood education" OR "kindergarten" OR "ECE") AND ("internship" OR "practicum" OR "field experience") AND ("mentorship" OR "mentoring") AND ("pedagogical competence" OR "teaching competence"). Synonyms and database-specific variations were refined iteratively

to improve relevance and coverage. The search was limited to peer-reviewed journal articles published in English or Chinese between 2020 and 2025 so that the review would capture recent developments in the field.

3.2 Inclusion and Exclusion Criteria

Eligibility criteria were specified before screening to maintain a consistent focus across databases.

Studies were included when they:

1. focused on pre-service teachers, with clear relevance to early childhood education;
2. addressed internship, practicum, or another form of field-based professional learning;
3. examined mentorship, coaching, supervision, or guided professional support;
4. investigated pedagogical competence, teaching practice, or professional development;
5. reported empirical research, a systematic review, or a substantive conceptual contribution;
6. were published in a peer-reviewed journal between 2020 and 2025.

Studies were excluded when they:

1. focused exclusively on in-service teachers, teacher educators, or university lecturers;
2. did not address field experience or the development of pedagogical practice;
3. offered no empirical, review-based, or substantive theoretical contribution relevant to the review;
4. were conference papers, editorials, theses, reports, or other non-peer-reviewed sources; or
5. provided insufficient methodological or conceptual detail for analysis.

3.3 Study Selection Process

Study selection followed a systematic procedure informed by the PRISMA guidelines (Page et al., 2021). Records retrieved from CNKI, Web of Science, and ERIC were consolidated in a reference-management system and duplicates were removed. The remaining records then proceeded through title, abstract, and full-text screening against the stated eligibility criteria.

During title screening, records clearly unrelated to ECE, pre-service teacher education, internship or practicum, mentorship, or pedagogical competence were excluded. Abstracts of the remaining records were then examined for alignment with the review's population, professional-learning context, and outcomes of interest. This stage removed studies that mentioned teacher education but did not investigate field-based learning, mentoring, or the development of pedagogical practice.

Full texts were subsequently assessed for eligibility and analytic usefulness. Attention was given to each study's focus, methodological or conceptual quality, and contribution to understanding competence development through internship or mentorship. Articles were excluded when their evidence was insufficient, their methods were inadequately reported, or their focus did not address the purpose

of the review. Applying the same criteria at each stage reduces inconsistency in selection decisions.

This procedure yielded 37 studies for the final synthesis (Appendix 3). Appendix 1 presents the number of records identified, screened, excluded, and retained at each stage in a PRISMA flow diagram.

3.4 Data Extraction and Coding

Data was extracted using the structured coding framework in Appendix 2. The framework was derived from the review objectives and refined through repeated reading of the included studies so that it captured both predetermined areas of interest and unanticipated features of the evidence. Its consistent application supported systematic comparison across studies with different designs and contexts.

The extraction framework covered seven areas: (1) study design; (2) educational context and participant group; (3) theoretical framework; (4) dimensions and processes of pedagogical competence development; (5) forms of internship, mentoring, and supervision; (6) contextual conditions that enabled or constrained learning; and (7) gaps identified in the evidence base. These categories captured both descriptive characteristics and interpretive findings.

Initial open coding identified recurrent concepts and meanings relevant to the review questions. Each article was read closely, and preliminary codes were assigned to passages concerning professional learning, practicum participation, mentoring, and contextual conditions. Although the broad domains of the extraction framework were established in advance, the substantive codes within them were allowed to develop inductively (Snyder, 2019).

Codes were then compared across studies to examine convergence, difference, and contextual variation. Related codes were grouped into broader categories and progressively refined into themes. Constant comparison moved the analysis beyond a collection of study summaries towards an interpretive account of the relationships among experience, mentoring, reflection, and institutional conditions.

The analysis was therefore both inductive and deductive. Inductive coding preserved patterns emerging from the studies, whereas deductive interpretation used Experiential Learning Theory, Social Learning Theory, and Communities of Practice to examine how those patterns could be explained. This combination kept the synthesis grounded in the reviewed evidence while allowing theoretical relationships to be articulated.

3.5 Data Analysis

The 37 studies were analysed through thematic synthesis, an approach suited to integrating findings from diverse qualitative, quantitative, and mixed-methods research while retaining attention to context (Snyder, 2019; Thomas & Harden, 2008). Repeated reading established familiarity with each study's purpose, design, setting, and findings before evidence was coded and compared.

Open coding first identified concepts related to pedagogical competence, practicum participation, mentoring, reflection, and professional learning. Codes were compared across studies and clustered into progressively broader categories. The resulting themes were checked against the coded evidence to ensure that the synthesis represented patterns across studies rather than isolated claims.

Two overarching analytic dimensions organised the synthesis. The first concerns processes of pedagogical competence development: classroom participation, mentor support, reflection, self-directed learning, and peer collaboration. These processes operated relationally, with practice generating experiences that feedback and reflection helped pre-service teachers interpret (Korthagen, 2021; Yan & He, 2024; McIntyre & McIntyre, 2020).

The second dimension concerned conditions shaping the quality of internship and mentorship, including institutional coordination, mentor expertise and availability, opportunities to teach, access to resources, academic support, workload, and school culture. Clear programme structures, prepared mentors, and adequate supervision strengthened professional learning, whereas limited mentor time, ambiguous expectations, and restricted participation constrained it (Brown & Leigh, 2020; Nguyen, 2022; Purnama et al., 2025).

The synthesis consequently treated competence development as an interaction among processes and conditions rather than as the outcome of any single activity. Internship programmes were interpreted as more coherent when they connected active classroom participation with continuing mentorship, peer dialogue, and structured reflection.

Theoretical interpretation followed the empirical synthesis. Experiential Learning Theory explained cycles of action and reflection; Social Learning Theory clarified the roles of modelling, feedback, interaction, and self-efficacy; and Communities of Practice illuminated learning through participation in professional communities (Bandura, 1986; Kolb, 1984; Lave & Wenger, 1991). Using the three lenses together supported a multidimensional interpretation of the evidence.

3.6 Methodological Rigour and Trustworthiness

Methodological rigour was supported through a documented search strategy, explicit eligibility criteria, and a staged selection process consistent with systematic-review guidance (Page et al., 2021; Snyder, 2019). Recording the databases, search concepts, publication limits, and screening stages improved transparency and made the boundaries of the review open to scrutiny. Applying the same criteria during title, abstract, and full-text screening also reduced the likelihood that studies were retained solely on the basis of superficial relevance.

The coding framework in Appendix 2 promoted consistency in data extraction across study designs, contexts, theoretical positions, and competence domains. Categories were refined iteratively as the evidence was compared, helping the analysis remain responsive to the studies rather than forcing all findings into predetermined classifications. Including qualitative, quantitative, mixed-

methods, review, and substantive conceptual work also enabled the synthesis to consider convergence and variation across different forms of evidence (Flick, 2018).

Trustworthiness was further supported by maintaining an explicit connection among the included studies (Appendix 3), the coding framework (Appendix 2), and the themes reported in the findings. Theory was used to interpret patterns after coding rather than to replace the evidence. Finally, the PRISMA flow diagram (Appendix 1) documents the movement of records through the review and makes the selection process auditable.

4. Findings

The thematic synthesis of 37 studies, using the framework in Appendix 2 and the study characteristics in Appendix 3, showed that pedagogical competence developed through relationships among classroom participation, reflective inquiry, mentor guidance, peer learning, and the conditions afforded by teacher-education institutions and placement settings. The findings are presented in four parts: the characteristics of the reviewed studies, processes of competence development, conditions influencing internship and mentorship, and gaps in the evidence. A final synthesis explains how these elements relate.

4.1 Characteristics of the Reviewed Studies

The included literature used varied methodologies: qualitative interviews and case studies, quantitative surveys, mixed-methods designs, reviews, and conceptual analyses (A1-A5). Survey studies (e.g., Xie, 2025; Huang et al., 2025; Huang et al., 2024) examined patterns in competence, readiness, and practicum outcomes. Qualitative studies and the qualitative components of mixed methods work (Qi, 2025; Jita, 2022; Yan & Mingyao, 2022) illuminated how pre-service teachers and mentors experienced placements. Mixed-methods studies (Yan & He, 2024; Yan & Mingyao, 2022; Parker et al., 2022) connected quantitative patterns with contextual explanation.

The studies were situated in ECE and in the broader field of teacher education (B1-B4). Although several addressed pre-service early childhood teachers directly, others examined practicum and mentoring processes across teacher-education programmes and were included for their relevance to ECE preparation. The evidence base therefore combines field-specific studies with transferable insights from closely related contexts.

Experiential learning (C3), mentoring frameworks (C1), and models of pedagogical competence (C2) were the most visible theoretical orientations. Social Learning Theory (C4) and Communities of Practice (C5) appeared particularly in accounts of observation, collaboration, and participation (Wang & Fan, 2025). Several studies, however, reported no explicit theoretical framework (C6). This conceptual unevenness makes it difficult to explain why similar placement arrangements may produce different learning experiences.

4.2 Processes of Pedagogical Competence Development

Six connected processes (D1-D6) described how pre-service early childhood teachers developed pedagogical competence. Their analytic separation clarifies the contribution of each process, but the evidence indicated that they worked reciprocally in practice.

Active Self-Development (D1)

The findings show that pre-service teachers actively construct their pedagogical competence through self-reflection, independent learning, and personal initiative. Studies such as Jita (2022) and Nguyen et al. (2022) indicate that student teachers engage in reflective thinking to evaluate their teaching practices and identify areas for improvement. This process highlights the importance of individual agency in competence development.

Utilisation of Training Opportunities (D2)

Structured learning opportunities, including practicum activities, workshops, and guided teaching experiences, play a significant role in competence development. Studies (e.g., Purnama et al., 2025; Huang et al., 2025) show that participation in these activities enhances teaching skills, lesson planning, and classroom management. Practicum experiences, in particular, provide essential exposure to real teaching environments.

Mentoring Support (D3)

Mentoring emerges as a central mechanism across the reviewed studies. Mentors provide guidance, feedback, and modelling of pedagogical practices, enabling pre-service teachers to develop instructional skills and professional confidence (Dreer-Göthe, 2025; Hudson, 2020). The findings indicate that structured mentoring leads to more consistent and effective competence development compared to informal mentoring arrangements.

Peer Collaboration (D4)

Peer interaction is identified as an important complementary process. Studies such as Sun and Zhang (2022) show that collaboration among pre-service teachers supports knowledge sharing, problem-solving, and mutual learning. Peer collaboration also reduces anxiety and fosters a supportive learning environment during internships.

Integrated Competence Development (D5)

The findings indicate that pedagogical competence develops through the integration of theory, practice, and reflection. Studies (e.g., Yan & He, 2024; Grossman et al., 2021) highlight that effective teacher development requires alignment between coursework and practicum experiences. Mentoring plays a key role in connecting these elements and ensuring coherence in learning.

Classroom Practice Experience (D6)

Direct teaching experience is identified as a fundamental component of competence development. Engagement in real classroom situations allows pre-service teachers to apply theoretical knowledge, manage classroom interactions,

and adapt teaching strategies (Huang et al., 2025; Liu & Dzainudin, 2023). Repeated practice enhances both confidence and practical skills.

4.3 Factors Influencing Internship and Mentorship Effectiveness

The analysis identifies six key factors (E1-E6) that influence the effectiveness of internship and mentorship processes.

Institutional Support (E1)
Supportive institutional structures, including clear programme design and supervision systems, enhance the quality of internship experiences. Studies such as Darling-Hammond et al. (2020) highlight the importance of well-organised practicum programmes.

Resource Availability (E2)
Access to teaching materials, facilities, and learning resources significantly affects competence development. Limited resources may constrain opportunities for effective teaching practice (Huang et al., 2024; Huang et al., 2025).

Mentor Quality (E3)
The competence and commitment of mentors play a critical role in shaping learning outcomes. Effective mentors provide constructive feedback, model best practices, and support reflective learning (Qi, 2025; Hudson, 2020).

Academic Support (E4)
Structured support mechanisms, including supervision, feedback sessions, and training, strengthen internship outcomes. Studies such as Xu and Huang (2022) show that formal support systems lead to more consistent competence development.

Workload Balance (E5)
The balance between academic requirements and practicum demands influences the learning experience of pre-service teachers. Excessive workload may limit engagement in reflective and collaborative activities.

School Environment (E6)
The classroom and school context significantly affect learning experiences. Supportive school environments facilitate active participation, while unsupportive contexts may hinder competence development Klik atau ketuk di sini untuk memasukkan teks..

4.4 Identified Research Gaps

Five gaps recurred across the literature (F1-F5). Few studies examined coherent internship designs that deliberately integrated mentoring, reflection, peer learning, and progressively responsible practice (F1). Mentor quality remained inconsistent (F2), and links between university coursework and field-based learning were often weak (F3). Direct empirical evidence on integrated internship models in ECE was limited (F4), while the concentration of studies in particular national and institutional contexts constrained the transferability of conclusions (F5).

4.5 Synthesis of Findings

Across the themes, pedagogical competence emerged as a situated and relational accomplishment. Individual initiative mattered, but it became more productive when classroom participation generated authentic problems of practice, mentors supported interpretation, peers created opportunities for collective inquiry, and institutions protected time and resources for learning. The synthesis therefore supports internship designs that connect progressively responsible classroom practice with prepared mentors, structured reflection, and peer collaboration. These principles offer a basis for refining the Hengxing Internship Model, but the model's outcomes should be established through implementation research rather than inferred from the broader literature alone.

5. Discussion

This review positions the practicum as a relational system of professional learning rather than a period of classroom exposure. Through 37 studies, competence development depended on how experience, mentoring, reflection, peer participation, and institutional conditions were connected. The following discussion interprets these relationships through the three theoretical lenses and considers their significance for early childhood teacher education.

5.1 Reconceptualizing Pedagogical Competence as a Multidimensional Process

The evidence does not support a linear view of pedagogical competence as the accumulation of discrete teaching skills. Competence was constructed as pre-service teachers interpreted experience, interacted with others, and responded to the opportunities and constraints of particular settings. This account qualifies approaches that place coursework at the centre of teacher preparation and instead emphasizes situated participation in educational practice (Darling-Hammond et al., 2020b; Grossman et al., 2021; Korthagen, 2021).

The situated character of competence is especially visible in ECE. Teaching young children entails more than presenting content: it requires teachers to notice children's intentions, extend play and talk, support emotional security, and adapt experiences to substantial developmental variation. What pre-service teachers know is therefore inseparable from how they interpret and act in particular relational and cultural contexts (Loughran, 2021; OECD, 2021; Schon, 1983).

The findings corresponding to D1–D6 further illustrate that competence develops through multiple, interrelated processes rather than isolated activities. Active self-development (D1), for instance, reflects the role of reflection and individual agency, where pre-service teachers critically examine their own teaching experiences and adjust their practices accordingly (Jita, 2022; Nguyen, 2022). However, this individual effort alone is insufficient. Its effectiveness is significantly enhanced when supported by structured learning opportunities (D2), such as practicum programmes and guided teaching experiences, which provide concrete contexts for applying and testing pedagogical knowledge (Huang et al., 2025; Purnama et al., 2025).

Mentoring support (D3) further strengthens this process by offering guidance, feedback, and modelling of professional practice. Through interaction with mentors, pre-service teachers gain access to tacit knowledge that is often absent from formal instruction, including classroom decision-making and adaptive teaching strategies (Allen et al., 2021; Qi, 2025; Hudson, 2020). At the same time, peer collaboration (D4) contributes to competence development by creating spaces for shared learning, discussion, and mutual support. Studies consistently show that collaborative engagement allows pre-service teachers to compare experiences, exchange strategies, and build confidence during practicum (Wang & Fan, 2025).

These processes were mutually dependent. Classroom practice (D6) became educative when it generated material for reflection (D1) and professional dialogue with mentors (D3). Likewise, theory-practice integration (D5) depended on coordination between coursework and field experience and on guidance that helped pre-service teachers explain why a pedagogical response was appropriate (Grossman et al., 2021; Yan & He, 2024). Without these connections, experience could remain episodic and the theory-practice divide could persist (Bekereci-Şahin, 2024).

This pattern is consistent with Experiential Learning Theory, which describes learning through cycles of experience, reflection, conceptualisation, and experimentation (Kolb, 1984). The review nevertheless extends a purely individual reading of that cycle: mentors, peers, institutional expectations, and placement opportunities influenced what pre-service teachers experienced and how they interpreted it (Korthagen, 2021; McIntyre & McIntyre, 2020). Competence development was therefore experiential, relational, and contextual at the same time.

This multidimensional account also reflects the character of ECE, where pedagogical decisions are continually adjusted in response to children's development, participation, relationships, and socio-cultural contexts (OECD, 2021; UNESCO, 2022). Competence should consequently be regarded as an evolving capacity for informed and ethical judgement, not as a static threshold achieved at the end of a programme.

5.2 The Central Role of Mentorship in Competence Development

Mentorship performed an integrative function across the reviewed studies. It linked university knowledge with situated practice by providing modelling, dialogue, feedback, and emotional support as pre-service teachers assumed greater responsibility (Allen et al., 2021; Qi, 2025; Hudson, 2020; Parker et al., 2022). Mentoring was therefore not an optional addition to practicum but one of the principal mechanisms through which experience became interpretable and educative.

In practice, pre-service teachers often enter internship settings with a strong theoretical foundation but limited capacity to respond to real classroom dynamics. Mentors, in this context, serve as interpretive agents who help translate theory into actionable teaching strategies. Through observation and guided

participation, pre-service teachers begin to understand how pedagogical decisions are made in context, including how to manage classroom interactions, scaffold learning, and respond to children's behaviour (Korthagen, 2021; Loughran, 2021). This process highlights that much of teaching knowledge is tacit, situational, and difficult to acquire through coursework alone (Grossman et al., 2021; Schon, 1983).

From a theoretical perspective, this pattern aligns closely with social learning theory, which emphasises that learning occurs through observation, modelling, and interaction within social environments (Bandura, 1986). In internship settings, mentors act not only as instructors but as role models whose practices are observed, interpreted, and gradually internalised by pre-service teachers (Nabi et al., 2025; Orland-Barak & Wang, 2021). This observational process enables the transfer of tacit knowledge, including classroom management strategies, communication styles, and professional judgement, which are rarely made explicit in formal training (Qi, 2025; Hudson, 2020).

Beyond modelling, mentoring also creates a dialogic space for reflection. Feedback from mentors allows pre-service teachers to critically examine their teaching practices, identify limitations, and refine their approaches. This reflective dimension is particularly important in early childhood education, where teaching requires continuous adjustment to children's developmental needs and classroom contexts (Loughran, 2021; Yan & Mingyao, 2022). Studies indicate that structured feedback and reflective dialogue significantly enhance the depth of learning during practicum, leading to more adaptive and responsive teaching practices (Huang et al., 2025; Yan & He, 2024).

Mentoring also supported professional confidence and identity. The movement from student to teacher can generate considerable uncertainty, particularly when pre-service teachers encounter complex classroom situations for the first time. Relationships that combined appropriate challenge with reassurance helped them assume responsibility without treating difficulty as evidence of failure (Allen et al., 2021; Dreer-Göthe, 2025). In this respect, the development of competence and the formation of professional identity were closely connected (Flores & Swennen, 2020).

The evidence also cautions against treating the presence of a mentor as proof of mentoring quality (F2). Informal, inconsistent, or narrowly supervisory relationships produced uneven opportunities to observe, discuss, and rehearse practice (Nguyen, 2022; Purnama et al., 2025). Mentor expertise, availability, commitment, and preparation were important, as was institutional recognition of the time required for mentoring (Brown & Leigh, 2020). Structured systems can reduce this variability by specifying mentor and pre-service teacher roles, preparing mentors for observation and feedback, and scheduling regular professional dialogue (Smith & Johnson, 2023; Parker et al., 2022). Structure should not turn mentoring into compliance, however. Its purpose is to create dependable conditions for inquiry, responsive feedback, and increasingly independent judgement.

5.3 The Significance of Collaboration and Learning Communities

Competence was also developed through peer collaboration (D4) and participation in wider learning communities. During practicum, peers helped one another interpret classroom events, compare pedagogical responses, and solve problems that individual reflection could not fully resolve (Nguyen, 2022; Wang & Fan, 2025). Collaboration thus broadened the sources of knowledge available to pre-service teachers beyond the mentor-pre-service teacher dyad.

These collaborative interactions create what can be described as dialogic learning spaces, where knowledge is negotiated, contested, and refined through conversation and shared reflection. Unlike formal instruction, which often emphasises correct procedures, peer dialogue allows for exploration of uncertainty, alternative strategies, and context-specific responses to teaching situations (Grossman et al., 2021; Loughran, 2021). In this sense, collaboration functions as a mechanism for making tacit knowledge more visible, as pre-service teachers articulate their reasoning, compare approaches, and learn from each other's experiences (Korthagen, 2021; Schon, 1983).

Communities of Practice helps explain why this participation matters. Learning involves becoming able to participate in the social practices through which a profession constructs and shares knowledge (Lave & Wenger, 1991; Wenger, 1998). Pre-service teachers commonly entered placement communities through observation and assistance and then moved towards more active participation as their competence and confidence developed (Wenger, 1998). This movement concerned not only skill acquisition but also recognition as a legitimate, responsible participant in the profession.

Importantly, peer collaboration supports this movement by providing a more accessible and less hierarchical space for participation. While mentoring often involves vertical relationships, peer interaction allows for horizontal learning, where individuals at similar stages of development engage in mutual support (Park et al., 2024). This horizontal dimension complements mentoring by enabling pre-service teachers to test ideas, share difficulties, and co-construct solutions in a more open and less evaluative environment.

In addition to its cognitive and professional functions, collaboration also plays a significant affective role. The early stages of teaching practice are frequently characterised by uncertainty, anxiety, and a lack of confidence, particularly when pre-service teachers encounter unfamiliar classroom situations. Collaborative environments help to mitigate these challenges by fostering a sense of belonging and shared experience (Flores & Swennen, 2020; Nguyen, 2022). Knowing that others face similar difficulties reduces feelings of isolation and encourages more active engagement in learning processes.

Peer interaction could therefore contribute to resilience as well as cognition. Pre-service teachers in collaborative environments were more willing to persist through difficulty, seek feedback, and try alternative pedagogical strategies Klik atau ketuk di sini untuk memasukkan teks.. Collaboration should consequently

be treated as a substantive component of professional learning, not simply as a source of informal encouragement. These benefits were not automatic. Internship designs organised around individual observation and assessment sometimes left little space for peer inquiry (Zeichner & Conklin, 2021). Purposeful structures such as collaborative planning, peer observation, case discussion, and facilitated reflection are needed if pre-service teachers are to learn with, as well as alongside, one another.

5.4 Classroom Practice as the Core of Competence Development

Classroom practice (D6) was the principal arena in which pedagogical knowledge became professional action. Authentic participation required pre-service teachers to notice children's responses, make time-sensitive decisions, and adapt interactions and experiences as events unfolded. In this sense, pedagogical knowledge became enacted and testable rather than remaining abstract (Grossman et al., 2021; Huang et al., 2025; Liu & Dzainudin, 2023).

Classroom practice provides opportunities for pre-service teachers to translate pedagogical concepts into action. Lesson planning, classroom management, interaction with children, and assessment are no longer hypothetical tasks but lived experiences that require judgement and flexibility. In early childhood education, this is particularly significant because teaching is highly responsive to developmental needs, emotional dynamics, and the learning environment (Loughran, 2021; OECD, 2021). As a result, competence develops not only through knowing what to do, but through learning how to act appropriately within specific and often unpredictable situations (Korthagen, 2021; Schon, 1983).

Repeated exposure to classroom practice further strengthens this process. Over time, pre-service teachers begin to recognise patterns, anticipate challenges, and refine their instructional approaches. This iterative engagement contributes to the development of professional judgement, which is a key component of pedagogical competence (Yan & He, 2024; McIntyre & McIntyre, 2020). Confidence also grows through repeated practice, as familiarity with classroom situations reduces uncertainty and supports more autonomous teaching behaviour.

Practice, however, did not invariably produce learning. Placements without guided reflection or substantive responsibility could become routine, performative, or focused on task completion (Parker et al., 2022; Bekereci-Şahin, 2024). The educational quality of a practicum therefore depended on what pre-service teachers were permitted to do and, on the support, available for interpreting the consequences of their actions.

The integration of mentoring (D3), reflection (D1), and feedback is therefore essential in transforming practice into learning. Mentors play a key role in guiding pre-service teachers to interpret their classroom experiences, identify strengths and weaknesses, and develop more effective teaching strategies (Qi, 2025; Hudson, 2020). Feedback provides an external perspective that challenges assumptions and encourages improvement, while reflection allows pre-service

teachers to connect experience with underlying pedagogical principles (Huang et al., 2025).

This process reflects the principles of experiential learning, where experience alone is insufficient unless it is followed by reflection and conceptualisation (Kolb, 1984). In this sense, classroom practice becomes meaningful only when it is embedded within a structured cycle of action, feedback, and reflection. Without this integration, the gap between theory and practice remains unresolved, and learning outcomes are limited (Grossman et al., 2021; Korthagen, 2021).

The placement environment also shaped the quality of classroom participation. Access to materials, supportive colleagues, and opportunities to plan, teach, observe, and assess children's learning expanded what pre-service teachers could learn. Passive or restrictive placements narrowed those opportunities (Huang et al., 2024). Practice was therefore both an individual activity and an institutional affordance.

5.5 Institutional and Contextual Factors as Enablers and Constraints

Pedagogical competence was embedded in institutional and contextual conditions, not produced through individual effort alone. Six factors - institutional support, resources, mentor quality, academic support, workload balance, and school environment (E1-E6) - collectively shaped whether internship and mentorship could function as coherent forms of professional learning.

Institutional support (E1) emerges as a foundational element that structures the overall quality of practicum experiences. Well-designed internship programmes, characterised by clear objectives, structured supervision, and alignment between coursework and field experience, create conditions that enable meaningful learning (Darling-Hammond et al., 2020b; Zeichner & Conklin, 2021). In such contexts, pre-service teachers are not merely placed in classrooms but are guided through a coherent learning process. Conversely, when practicum structures are unclear or poorly coordinated, learning tends to become fragmented, and opportunities for competence development are significantly reduced (Nguyen, 2022).

Closely related to institutional support is the issue of resource availability (E2). Access to teaching materials, classroom facilities, and learning tools directly influence the quality of teaching practice. In early childhood settings, where learning is often play-based and interaction-driven, limited resources can constrain the ability of pre-service teachers to implement diverse and engaging instructional strategies (Huang et al., 2024; Huang et al., 2025). Resource constraints may also limit opportunities for experimentation, thereby reducing the depth of pedagogical learning.

Mentor quality (E3) represents another critical factor that significantly shapes learning outcomes. Effective mentors are not only experienced practitioners but also capable of providing constructive feedback, modelling reflective practice, and supporting professional growth (Qi, 2025; Hudson, 2020). However, the findings suggest that mentor effectiveness varies considerably, depending on

factors such as experience, commitment, and training. In cases where mentors lack preparation or time, mentoring becomes superficial and less impactful, reinforcing the need for institutional investment in mentor development (Purnama et al., 2025; Parker et al., 2022).

Academic support systems (E4), including supervision, feedback mechanisms, and structured reflection activities, further strengthen the internship experience. These systems provide scaffolding that helps pre-service teachers interpret their experiences and connect them with pedagogical theory (Yan & He, 2024). Without such support, practicum experiences may remain disconnected from theoretical understanding, perpetuating the well-documented gap between theory and practice (Korthagen, 2021; Bekereci-Şahin, 2024).

Workload balance (E5) also plays an important, though often overlooked, role. Pre-service teachers frequently need to manage multiple demands, including academic assignments, lesson preparation, and practicum responsibilities. When workload becomes excessive, opportunities for reflection, collaboration, and meaningful engagement in teaching are reduced (Brown & Leigh, 2020). This can lead to a focus on task completion rather than deep learning, thereby limiting competence development.

The school environment (E6) is particularly significant in the context of early childhood education, where teaching is highly dependent on classroom dynamics, relationships, and institutional culture. Supportive school environments characterised by collaborative staff, open communication, and opportunities for active participation enable pre-service teachers to experiment, take initiative, and engage more deeply in teaching practice (Flores & Swennen, 2020). In contrast, restrictive or unsupportive environments may limit interaction, reduce autonomy, and hinder learning.

These conditions interacted rather than exerting separate effects. Strong institutional coordination could help programmes use limited resources more purposefully, while skilful mentors could sometimes buffer the difficulties of a less supportive placement. Conversely, unclear roles, heavy workloads, weak university-school communication, and limited resources could compound one another. Programme quality therefore depended on alignment across the system.

5.6 Implications for Internship Design

The review indicates that internship design in teacher education needs to move beyond observation-dominated or fragmented placements. Pre-service early childhood teachers require progressively responsible participation in the complex work of noticing, planning, interacting, assessing, and adapting. These capacities cannot be developed through passive exposure or isolated teaching tasks (Darling-Hammond et al., 2020b; Korthagen, 2021; Bekereci-Şahin, 2024).

An effective internship is better conceived as an integrated learning system. Classroom participation should generate evidence for reflection; mentors should help pre-service teachers interpret that evidence; and peer collaboration should allow alternative explanations and responses to be examined. Aligning these

components makes each more educative than it would be in isolation (Hudson, 2020; Yan & He, 2024; Parker et al., 2022).

Mentoring should therefore be designed as a core professional-learning process. Mentors need preparation in observation, dialogic feedback, and the gradual release of responsibility, in addition to expertise as classroom teachers. Programmes should also schedule collaborative planning, peer observation, and case-based reflection so that pre-service teachers can examine shared problems of practice Klik atau ketuk di sini untuk memasukkan teks..

Institutional conditions are equally consequential. Universities and partner schools need shared expectations, clear communication, adequate resources, manageable workloads, and agreed procedures for supervision and assessment. Without this coordination, even strong individual mentors or well-designed activities may remain disconnected. Alignment across settings gives the internship continuity and a clear developmental purpose (Darling-Hammond et al., 2020b; Zeichner & Conklin, 2021).

These design principles are relevant to the Hengxing Internship Model because the model seeks to connect structured mentoring, collaborative learning, and sustained classroom participation. Its architecture is consistent with the multidimensional account of competence developed in this review and with experiential, social-learning, and communities-of-practice perspectives.

This theoretical and evidential alignment makes the Hengxing model a plausible framework for further development, but it does not establish effectiveness. Implementation research should examine whether mentoring is enacted as intended, whether pre-service teachers receive progressively meaningful responsibility, how collaboration influences reflection, and how children and placement schools experience the model. Such evidence is necessary before claims about outcomes can be made.

5.7 Contribution to Literature

This review contributes an integrated account of how pedagogical competence develops through internship and mentorship in early childhood teacher education. Rather than treating practicum, mentoring, reflection, and classroom participation as separate domains, it shows how they form a relational system of teacher learning (Darling-Hammond et al., 2020b; Grossman et al., 2021).

Its principal conceptual contribution is to position pedagogical competence as multidimensional, situated, and dependent on the interaction of experience, mentoring, peer collaboration, and contextual conditions. This account moves beyond models centred on knowledge acquisition or isolated teaching episodes. The synthesis of 37 studies supports a view of competence as developing through sustained participation in practice accompanied by reflection and social interaction (Yan & He, 2024; Loughran, 2021).

The review also clarifies why structure matters. The theory-practice divide and variation in mentoring quality are not problems that pre-service teachers can

resolve through individual effort alone (Korthagen, 2021; Bekereci-Şahin, 2024). They reflect how programmes distribute responsibility, prepare mentors, coordinate coursework and placements, and protect time for reflection (Hudson, 2020; Parker et al., 2022). This shifts attention from isolated practicum activities to the coherence of the professional-learning system. A further contribution is the treatment of mentorship as an integrative mechanism rather than an optional source of support. Mentors help pre-service teachers access tacit pedagogical knowledge, interpret feedback, and exercise professional judgement in authentic settings (Allen et al., 2021; Qi, 2025; Orland-Barak & Wang, 2021). Mentorship thereby connects individual learning with the social and institutional conditions in which practice occurs.

Finally, bringing Experiential Learning Theory, Social Learning Theory, and Communities of Practice into dialogue strengthens the explanation of how competence develops (Bandura, 1986; Kolb, 1984; Wenger, 1998). The combined framework also yields practical criteria for internship design: sustained and progressively responsible practice, prepared mentors, structured reflection, peer inquiry, and institutional coordination. These criteria can guide future research and programme development without implying that a particular model has already been validated.

6. Conclusion

This review examined how internship and mentorship contribute to the pedagogical competence of pre-service early childhood teachers. Across the 37 studies, competence did not develop as a linear accumulation of techniques. It emerged through sustained interaction among classroom participation, mentor guidance, reflection, peer collaboration, and the opportunities afforded by particular institutions and placement settings. Authentic practice was the principal site at which theoretical knowledge became professional action, but practice was most educative when pre-service teachers received purposeful feedback and opportunities to interpret children's responses, reconsider their decisions, and plan subsequent action. Mentorship connected these processes by making tacit judgement visible and supporting the gradual assumption of a professional role. Peer learning broadened this support through shared inquiry, mutual encouragement, and collaborative problem-solving.

The review also demonstrates that practicum quality is a programme-level responsibility. Mentor preparation, university-school coordination, access to resources, manageable workloads, and a supportive school culture can enable or constrain professional learning. Effective early childhood teacher education therefore requires an integrated internship design that connects progressively responsible practice with mentoring, reflection, and collaboration. The Hengxing Internship Model is compatible with these principles and may provide a useful framework for their enactment; however, its effectiveness must be established through direct and context-sensitive implementation research.

6.1 Limitations and Future Research

The conclusions of this review are bounded by the available literature and by the review design. The search was limited to CNKI, Web of Science, and ERIC, to English- and Chinese-language peer-reviewed journal articles, and to the period 2020-2025. Relevant work indexed elsewhere or published in other languages may therefore have been missed. The included studies also varied in design, sample, setting, and theoretical depth, which limited direct comparison and precluded claims about causal effects (Page et al., 2021; Snyder, 2019). Evidence was concentrated in Asia and selected Western contexts, so the transferability of the synthesis to differently organised early childhood systems should be examined rather than assumed (UNESCO, 2022). Most importantly, relatively few studies directly evaluated integrated internship models; conclusions about the Hengxing model are therefore design implications, not evidence of impact.

Future research should undertake longitudinal and comparative studies of integrated internship models in early childhood teacher education. Such work should document how mentor preparation, feedback, peer inquiry, and the gradual release of teaching responsibility are enacted, not merely whether these features are listed in programme documents. Attention should also be given to children's experiences, mentor and pre-service teacher perspectives, and the influence of institutional and cultural context. Mixed-methods implementation research could connect changes in pedagogical competence with evidence from observation, reflective records, interviews, and assessments over time. A broader geographical and linguistic evidence base would further strengthen the field's capacity to develop context-responsive models of professional learning.

7. References

Allen, K. A., Kern, M. L., Rozek, C. S., McInerney, D. M., & Slavich, G. M. (2021). Belonging: A Review of Conceptual Issues, an Integrative Framework, and Directions for Future Research. *Australian Journal of Psychology*, *73*(1), 87–102. https://doi.org/10.1080/00049530.2021.1883409

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall. https://psycnet.apa.org/record/1985-98423-000

Bekereci-Şahin, M. (2024). Rethinking the Practicum after the COVID-19 Crisis: Insights from Pre-service EFL Teachers. *Bartın Üniversitesi Eğitim Fakültesi Dergisi*, *13*(3), 500–511. https://doi.org/10.14686/buefad.1164643

Breckwoldt, J., Svensson, J., Lingemann, C., & Gruber, H. (2014). Does clinical teacher training always improve teaching effectiveness as opposed to no teacher training? A randomized controlled study. *BMC medical education*, *14*, 6. https://doi.org/10.1186/1472-6920-14-6

Brown, N., & Leigh, J. (Eds.). (2020). *Ableism in academia: Theorising experiences of disabilities and chronic illnesses in higher education*. UCL Press.

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, *24*(2), 97–140. https://doi.org/10.1080/10888691.2018.1537791

Dreer-Göthe, B. (2025). How appreciation predicts teachers' job satisfaction, emotional exhaustion, and quitting intentions. *Educational Studies*, *51*(6), 1279–1299. https://doi.org/10.1080/03055698.2025.2511915

Flick, U. (Ed.). (2018). *The SAGE handbook of qualitative data collection*. SAGE. https://doi.org/10.4135/9781526416070

Flores, M. A., & Swennen, A. (2020). The COVID-19 pandemic and its effects on teacher education. *European Journal of Teacher Education*, *43*(4), 453–456. https://doi.org/10.1080/02619768.2020.1824253

Grossman, P., Hammerness, K., & McDonald, M. (2021). Redefining teaching, re-imagining teacher education. *Teachers College Record*, *123*(3), 1–28.

Hasymi, M., & Nurkamto, J. (2023). Cross-Cultural Experiences in Teacher Education: Indonesian Pre-Service English Teachers' Perspectives on International Teaching Practicum. *Voices of English Language Education Society*, *7*(3), 614–626. https://doi.org/10.29408/veles.v7i3.24115

Huang, L., Chen, Y., & Li, J. (2024). Classroom practice and pedagogical competence development in early childhood education. *Early Years*, *44*(2), 210–225.

Huang, G., Jansaeng, A., & Chano, J. (2025). Developing an Educational Practice Course through Outcome-Based Education: Enhancing Practical Ability of Pre-Service Teachers in Guangxi, China. *Higher Education Studies*, *15*(4), 141. https://doi.org/10.5539/hes.v15n4p141

Hudson, P. (2020). Mentoring preservice teachers: Identifying tensions and challenges. *Teaching Education*, *31*(1), 1–15.

Jita, T. (2022). Mentoring experiences during teaching practice: A South African perspective. *South African Journal of Education*, *42*(1), 1–10.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall. https://www.researchgate.net/publication/235701029_Experiential_Learning_Experience_As_The_Source_Of_Learning_And_Development

König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany. *European Journal of Teacher Education*, *43*(4), 608–622. https://doi.org/10.1080/02619768.2020.1809650

Korthagen, F. (2021). Core reflection and realistic teacher education. *Teaching and Teacher Education*, *102*, 103313.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press. https://doi.org/10.1017/CBO9780511815355

Liu, Z. R., & Dzainudin, M. (2023). Exploring the Impact of Integrating the Nursery Teacher Certificate on Student Teachers' Teaching Competences in Teacher Education in Shaanxi, China. International Journal of Academic Research in Progressive Education and Development, 12(2), 1494–1506. https://doi.org/10.6007/ijarped/v12-i2/17316

Loughran, J. (2021). *Developing a pedagogy of teacher education: Understanding teaching and learning about teaching* (2nd ed.). Routledge.

Nabi, G., Walmsley, A., Mir, M., & Osman, S. (2025). The impact of mentoring in higher education on student career development: a systematic review and research agenda. *Studies in Higher Education*, *50*(4), 739–755. https://doi.org/10.1080/03075079.2024.2354894

Nguyet Nguyen, M. (2022). Navigating academic mentorship as active, knowing, and moral subjects. *Mentoring and Tutoring: Partnership in Learning*, *30*(4), 434–453. https://doi.org/10.1080/13611267.2022.2091196

OECD. (2021). Starting strong VI: Supporting meaningful interactions in early childhood education and care. *OECD Publishing*.

Orland-Barak, L., & Wang, J. (2021). Teacher mentoring in service of preservice teachers' learning to teach: Conceptual bases, characteristics, and challenges for teacher

education reform. *Journal of Teacher Education, 72*(1), 86–99. https://doi.org/10.1177/0022487119894230

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*, *372*. https://doi.org/10.1136/bmj.n71

Park, H., Brown, C. D., & Pearson, A. L. (2024). A systematic review of audit tools for evaluating the quality of green spaces in mental health research. *Health & Place*, *86*, 103185. https://doi.org/10.1016/j.healthplace.2024.103185

Parker, L. M., Xu, S., & Chi, C. L. (2022). Chinese Preservice Teachers' Perspectives of Mentoring Relationships in an International Learning Partnership. *Journal of Teacher Education*, *73*(5), 525–537. https://doi.org/10.1177/00224871221108655

Purnama, C., Cahyadi, T., Faozun, I., Barasa, L., Hidayat, B., & Utama, Y. P. (2025). Knowledge Transfer from Veteran Seafarers to Maritime Cadets Through Mentorship-Based Education. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*. *10*(2), 739-750. https://doi.org/10.24042/tadris.v10i1.29261

Qi, K. (2025). The Impact of Reflective Practice on Teacher Efficacy and Professional Growth among English as a Foreign Language (EFL) Teachers in China. *Uniglobal Journal of Social Sciences and Humanities*, *4*(2), 191–197. https://doi.org/10.53797/ujssh.v4i2.23.2025

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books. https://www.scirp.org/reference/referencespapers?referenceid=2569351

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review, 57*(1), 1–22. https://doi.org/10.17763/HAER.57.1.J463W79R56455411

Smith, S., & Johnson, G. (2023). A systematic review of the barriers, enablers and strategies to embedding translational research within the public hospital system focusing on nursing and allied health professions. *PloS One*, *18*(2). https://doi.org/10.1371/journal.pone.0281819

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research, 104*, 333–339. https://doi.org/10.1016/j.jbusres.2019.07.039

Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology, 8*, 45. https://doi.org/10.1186/1471-2288-8-45

Tian, X.-M., Bao, L., Li, T., & Gu, Y. (2022). Teacher Becoming Curriculum Designer: Professional Teaching and Learning in China's Early Childhood Education. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.873044

UNESCO. (2022). Global report on teachers. *UNESCO Publishing*.

Wang, Y., & Fan, Z. (2025). The Impact of Communities of Practice on Professional Development Among Chinese Teachers: A Mixed-Methods Longitudinal Study. *SAGE Open*, *15*(3). https://doi.org/10.1177/21582440251359824

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press. https://doi.org/10.1017/CBO9780511803932

Wong, K. K. (2025). Mentoring in higher education in China: a critical survey. *Mentoring & Tutoring: Partnership in Learning*, *33*(4), 456–484. https://doi.org/10.1080/13611267.2025.2518386

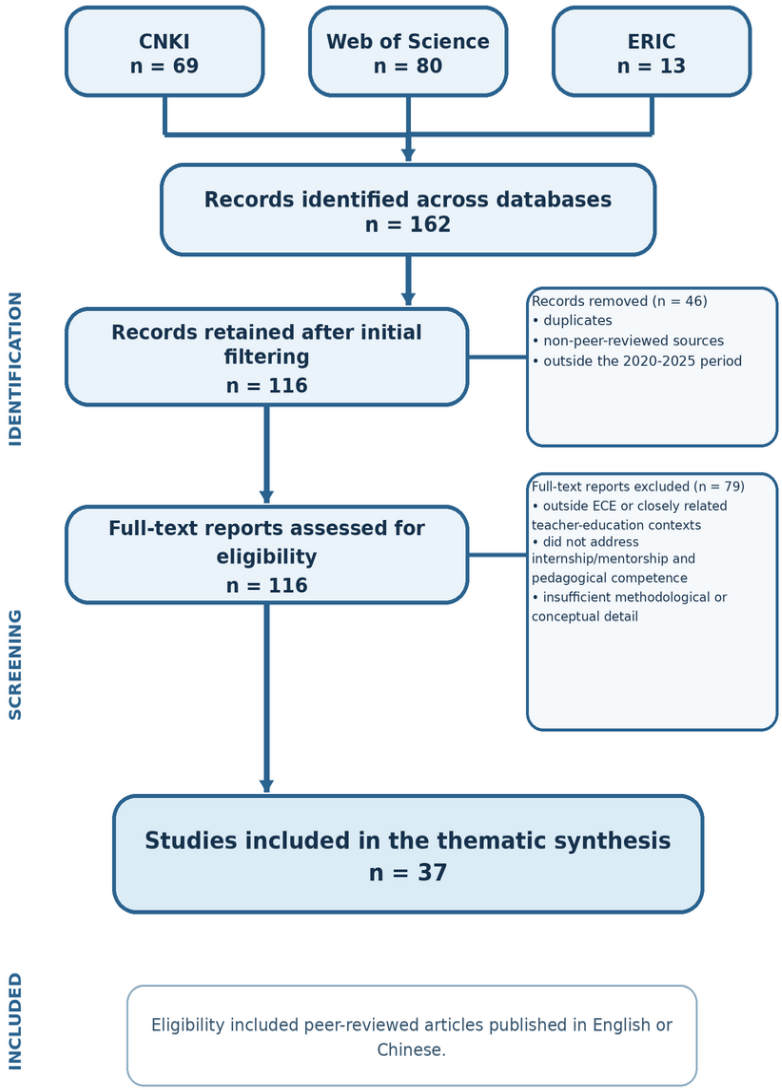
Yan, C., & He, C. (2024). Problems and countermeasures: a phenomenological study of Chinese EFL supervisors' perspectives about the practicum. *Culture and Education*. https://doi.org/10.1177/11356405241272350

Yan, W., & Mingyao, L. (2022). Education practicum effects on professional identity of EFL pre-service teachers in China: To be more confident. *International Journal of Educational Sciences, 36*(1-3), 61–70. https://doi.org/10.31901/24566322.2022/36.1-3.1189

Zeichner, K., & Conklin, H. (2021). *Field experiences in teacher education. In D. Gitomer & C. Bell (Eds.)* (6th ed.). Handbook of research on teaching .

Appendices

Appendix 1: Overview of the Screening and Selection Process



Appendix 2. Coding Scheme for the Analysis of Included Studies (n = 37)

Category	Code	Label	Definition
Study design	A1	Mixed-method study	Refers to studies conducted using both qualitative and quantitative approaches
	A2	Interview	Refers to studies conducted using qualitative interviews
	A3	Survey	Refers to studies conducted using questionnaires or structured surveys
	A4	Case study	Refers to studies using in-depth contextual or case-based analysis
	A5	Review/conceptual	Refers to literature reviews or conceptual papers
Context and participant group	B1	Early childhood education	Refers to studies conducted in early childhood education settings
	B2	Pre-service teachers	Refers to teacher candidates or student teachers in training
	B3	Internship/practicum context	Refers to field practice or internship-based learning environments
	B4	Institutional setting	Refers to universities, training centres, or partner schools
Theoretical stance	C1	Mentorship framework	Refers to studies grounded in mentoring theories
	C2	Pedagogical competence	Refers to competence development in teaching skills and pedagogy
	C3	Experiential learning theory	Refers to Kolb or practice-based learning frameworks
	C4	Social learning theory	Refers to Bandura or observational learning perspectives
	C5	Communities of practice	Refers to collaborative and social learning frameworks
	C6	No explicit framework	Refers to studies without explicit theoretical grounding
Development of pedagogical competence	D1	Active self-development	Refers to independent learning, reflection, and initiative
	D2	Use of professional learning opportunities	Refers to participation in workshops, practicum, or guided activities
	D3	Mentoring support	Refers to guidance provided by supervisors or mentor teachers
	D4	Peer collaboration	Refers to learning through fellow student teachers or peers
	D5	Integrated competence development	Refers to alignment of theory, practice, and reflection
	D6	Classroom practice experience	Refers to direct teaching experience in real classroom settings

Category	Code	Label	Definition
Contributing factors	E1	Institutional support	Refers to policies, curriculum design, and institutional backing
	E2	Resource availability	Refers to access to teaching materials and learning facilities
	E3	Mentor quality	Refers to competence and involvement of supervising teachers
	E4	Academic support	Refers to training, supervision, and feedback mechanisms
	E5	Workload balance	Refers to balance between academic tasks and practicum demands
	E6	School environment	Refers to classroom climate and support from partner schools
Identified gaps	F1	Lack of structured internship model	Refers to absence of systematic internship frameworks
	F2	Limited mentoring quality	Refers to inconsistency or lack of effective mentoring
	F3	Weak theory-practice integration	Refers to disconnect between coursework and field experience
	F4	Limited empirical evidence	Refers to lack of data-driven research
	F5	Context-specific limitations	Refers to findings limited to certain regions or institutions

Appendix 3: Summary of the Included Studies (n = 37)

Author(s) and Year	Country/region	Study focus	Method	Analytical approach	Sample Size	Educational context	Theoretical Framework
Jita (2022)	South Africa	Mentorship experiences during teaching practice	Interview	Qualitative	45	Teacher education	Experiential learning
Hasymi & Nurkamto (2023)	Indonesia	International teaching practicum challenges	Case study	Qualitative	3	Teacher education	Transformative Learning
Xie (2025)	China	Internship and career commitment in ECE	Survey	Quantitative	200+	Early childhood education	Career development
Bartolome et al. (2025)	Philippines	Pre-service teacher resilience (AQ)	Survey	Quantitative	125	Early childhood education	Psychological resilience
Dreer-Goethe (2025)	Germany	Mentor support in teacher learning	Survey	Quantitative	300+	Teacher education	Mentorship
Purnama et al. (2025)	Indonesia	Internship performance evaluation	Mixed-method study	Mixed	47	Vocational Education	Mentorship
INJOTEL Study (2025)	Philippines	Teaching internship performance	Survey	Quantitative	60+	Teacher education	Reflective practice
IJFMR Study (2025)	Philippines	Internship challenges and competencies	Mixed-method study	Mixed	80+	Teacher education	Mentorship
Orland-Barak & Wang (2020)	International	Teacher mentoring theory	Review	Qualitative	-	Teacher education	Mentorship
Flores & Swennen (2020)	Portugal	Teacher educator development	Interview	Qualitative	20	Higher education	Professional identity
König et al. (2020)	Germany	Teaching readiness	Survey	Quantitative	89	Teacher education	TPACK
Trust & Whalen (2020)	USA	Professional learning networks	Survey	Quantitative	325	Teacher education	Network theory

Author(s) and Year	Country/region	Study focus	Method	Analytical approach	Sample Size	Educational context	Theoretical Framework
Allen et al. (2021)	USA	Mentoring outcomes	Mixed-method study	Mixed	150	Teacher education	Mentorship
Nguyen et al. (2022)	Vietnam	Teacher professional development	Mixed-method study	Mixed	95	Teacher education	Competence
Hudson (2020)	Australia	Mentoring practices in teacher education	Interview	Qualitative	25	Teacher education	Mentorship
Darling-Hammond et al. (2020)	USA	Teacher preparation and practicum	Review	Qualitative	-	Teacher education	Experiential learning
Bekereci-Şahin (2024)	Turkey	Rethinking teacher practicum	Case Study	Qualitative	14	Teacher education	Practice-based learning
McIntyre & McIntyre (2020)	USA	Historical evolution of clinical practice	Conceptual	Qualitative	-	Teacher education	Practice-based learning
Korthagen (2021)	Netherlands	Realistic teacher education	Conceptual	Qualitative	-	Teacher education	Experiential learning
Borko et al. (2021)	USA	Teacher learning in practice	Mixed-method study	Mixed	120	Teacher education	Professional learning
Grossman et al. (2021)	USA	Core practices in teaching	Review	Qualitative	-	Teacher education	Practice theory
Loughran (2021)	Australia	Teacher education pedagogy	Interview	Qualitative	18	Teacher education	Reflective practice
Zeichner & Conklin (2021)	USA	Field experiences in teacher education	Review	Qualitative	-	Teacher education	Experiential learning
Tian et al. (2022)	China	Model of practicum for ECE teachers	Semi-structured focus group discussion	Qualitative	21	Early childhood education	Pedagogical competence

Author(s) and Year	Country/region	Study focus	Method	Analytical approach	Sample Size	Educational context	Theoretical Framework
Yan & He (2024)	China	Problems arising in the EFL practicum	Phenomenological Study	Qualitative	15	Teacher education	Mentorship
Chen & Xu (2021)	China	Reflective teaching in practicum	Interview	Qualitative	20	Teacher education	Reflective practice
Zhao et al. (2022)	China	Pre-service teacher readiness	Survey	Quantitative	150	Teacher education	Competence
Wang & Fan (2025)	China	Communities of Practice (CoPs)	Mixed-method study	Qualitative	21	Teacher education	Social learning
Wong (2025)	China	Critical survey of mentoring in Chinese higher education	Survey	Qualitative	25	Teacher education	Pedagogical competence
Parker et al. (2022)	China	Mentoring effectiveness	Narrative Inquiry	Qualitative	19	Teacher education	Mentorship
Gao et al. (2023)	China	Impact of reflective practice on teacher efficacy and professional growth among EFL teachers	Mixed-method study	Mixed	30	Teacher education	Reflective practice
Huang et al. (2025)	China	Developing an educational practice course	Survey	Quantitative	150	Teacher education	Competence
Liu & Dzainudin (2023)	China	Teaching competence growth	Survey	Quantitative	85	Early childhood education	Pedagogical competence
Yan & Mingyao (2022)	China	Experiential learning outcomes	Interview	Qualitative	12	Teacher education	Experiential learning
Huang et al. (2024)	China	Classroom practice skills	Survey	Quantitative	200	Early childhood education	Pedagogical competence
Li & Wang (2024)	China	Mentoring support impact	Interview	Qualitative	24	Teacher education	Mentorship