Article

A Systematic Review of Research Engagement in TESOL Teacher Preparation: Pathways for Research-based Teacher Education

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Abstract

This systematic review provided an overview of the characteristics of empirical studies on research-based practices, nature of these practices, and their reported outcomes in the context of pre-service English language teacher education. Based on a comprehensive literature search in three databases, 19 studies were selected as eligible in line with the a priori defined criteria. Findings indicated a growing interest and increase in research on the topic from 2016 onwards. The most-common research-based practice offered to pre-service teachers was action research (13 studies in total). The results of the reviewed studies were synthesized with thematic synthesis. The synthesis of the findings revealed that research engagement influenced pre-service teachers' professional learning in three interacting dimensions: developing a professional teacher identity, cultivating criticality, and merging theory with practice. The findings and their implications were further discussed for positioning pre-service English language teachers as researchers and research-based teacher education in all fields.

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1 Introduction

It has been recognized worldwide that pre-service teachers are equipped with research knowledge and skills, "a collection of concepts, tools and embodied skills that have the potential to mediate student teachers' learning in ways that support agentic engagement with professional knowledge" (Heikkila et al, 2023, p. 458), through research-based teacher education (Valle et al., 2025). Teachers who are research literate "are familiar with a range of research methods, with the latest research findings and with the implications of this research for their day-to-day practice, and for education policy and practice more broadly" (BERA-RSA, 2014, p. 40). These teachers with a critical lens can explore the complexities of their classroom practice in relation to the social, historical, philosophical, cultural, economic, political and psychological contexts in which it is shaped. By developing a rigorously intellectual and socially activist teacher persona, they gain valuable insights into how cultural, racial, class, gender, sexual, and religious forces influence every aspect of teaching and learning. As a result, they become more aware of the complexities that shape educational practices and outcomes (Kincheloe, 2009; 2012). This can lead to a transformation in students' learning and their own professional learning.

Therefore, the design of initial teacher education (ITE) programs needs to be informed by research so that teachers can have opportunities to conduct their own research (Menter & Flores, 2021; Ulvik, 2014). ITE refers to the training and preparation that pre-service teachers undergo to become qualified teachers. ITE programs can vary by country and may include Bachelor's or Master's programs in education or a specific subject area and teaching practicum. In some countries, such as Australia, Finland and Norway, research is emphasized in ITE programs (see Gray & Campbell-Evans, 2002; Munthe & Rogne, 2015; Valle et al., 2025), but in many other parts of the world, research is still not a part of ITE (see Sousa et al., 2020; Stemberger, 2020; Şendağ & Gedik, 2015).

As in other fields, the role of research engagement in teacher education (Healey, 2005; Heikkila et al, 2023) has been highlighted in the field of English language teacher education. Previous studies have shown that pre-service English language teachers' (PELTs) engagement in research-based practices has multiple benefits, including increased professional agency (Dikilitaş et.al., 2025), stronger connections between theory and practice (Ceylan & Çomoğlu, 2022), enhanced critical reflection (Dikilitaş & Çomoğlu, 2022; Farrell, 2019), a stronger sense of professional identity (Banegas & Consoli, 2021), and improved collaboration (Ulvik & Riese, 2016). In the extant literature, the majority of research-based practices involving PELTs included action research-based projects and/or reflection and reflective practice, conducted individually or collaboratively in the final year of teacher education during practicum (e.g., Lee, 2007; Liou, 2001; Trent, 2010). Furthermore, Exploratory Practice (EP) is a form of practitioner research used in language education to integrate research, learning and teaching (Hanks, 2015). This approach involves all stakeholders - learners, teachers, and researchers - strengthening the connection between practice and research and fostering professional agency and collaborative practitioner knowledge-building (Hiratsuka & Nall, 2024).

However, there is not a consensus in the previous literature on the concept of research-based teacher education and some terms are interchangeably used such as inquiry-oriented, research-informed and research-based (Jakhelin et al., 2021; Valle et al., 2025). Healey and Jenkins (2009, p.5) suggest four main ways of engaging undergraduates with research and inquiry: research-led: learning about current research in the discipline; research-oriented: developing research skills and techniques; research-based: undertaking research and inquiry; research-tutored: engaging in research discussions. They further explain that "research-based" involves undertaking research and inquiry where "students become producers, not just consumers of knowledge" (p.23). In light of this, we conceive research-based practices in ITE as systematic and informed inquiries that pre-service teachers undertake to develop professionally (Lankshear & Knobel, 2004).

This review addresses a critical gap in the existing literature. While prior research has frequently explored the outcomes of pre-service teachers' research engagement across various teaching domains, limited attention has been given to the specific context of English language teaching. Drawing on our expertise in this field, we have focused specifically on the characteristics and outcomes of PELTs' research engagement to address this gap.

In this review we provide a comprehensive account of the characteristics and outcomes of research-based practices within the context of pre-service English language teacher education. We present this information in a manner that is informative and accessible to teacher educators, policymakers, and other stakeholders, enabling them to recognize the diverse possibilities and potential impacts of pre-service teachers' research engagement. Through a systematic review methodology, we provide a synthesized overview of the existing literature on research-based practices offered to PELTs, defining the features of these practices and their reported outcomes. By doing so, we highlight the multifaced nature of research engagement and its implications for the professional development of PELTs and seek to answer the following research questions:

1. What are the characteristics of the studies on research-based practices offered to PELTs during ITE?
2. What are the characteristics of research-based practices (e.g., type and mode of research engagement) offered to PELTs during ITE?
3. What are the reported outcomes of research engagement on PELTs' professional learning?

2 Theoretical Foundations for Research-based Teacher Education

Given the critical role of research-based learning and teaching in preparing pre-service teachers for their future profession, this systematic review is situated within a theoretical framework that emphasizes the need for development of an inquiry stance. The theoretical underpinnings of "inquiry as stance" by Cochran-Smith and Lytle (2009) underscores the potential of research engagement to empower pre-service teachers to develop new frameworks that support transformative change within educational context. This perspective promotes a dialectical approach to knowledge generation and dissemination through exploring, theorizing and sharing new professional knowledge.

Educating pre-service teachers as knowledge explorers and preparing them to be more responsive to emerging social, technological, natural, and political changes require criticality and autonomy in teacher education, which is hard to realize through the implementation of government-mandated curricula and instrumental and utilitarian pedagogies (Peters, 2017). Building an inquiry as stance perspective based upon research-based learning and teaching during ITE can enable future teachers to regard their professional context as a site for inquiry and critically reflect on issues emerging from this site. Developing new topics or foci of study from these issues can create an intersected praxis between new theorizations informed by inquiry-based practices (Cochran-Smith & Lytle, 2009; Fishman & McCharty, 2000; Freire, 1970; Lankshear & Knobel, 2004).

Cochran-Smith and Lytle (2009) suggest that developing a stance based on inquiry is not confined to a short-term project or professional development activity that needs to be completed. Rather, it is an ongoing epistemological stance that needs to be acquired over the period of ITE and sustained throughout the teaching career (Burns et al., 2022). This inquiry stance requires teachers to collaborate with others as they conduct and disseminate their research. They also need to make their locally generated knowledge more accessible and usable in other contexts through the dissemination of their findings. This can help build relationships with other parties in order to work with them in addressing the research issues they problematize and the insights they offer.

3 Previous Reviews on Research-based Practices in ITE

Several review studies have explored the integration of research-based practices into ITE. For instance, Larssen et al. (2018) reviewed 24 studies on lesson study and found that this research-based practice is a promising practice for pre-service teachers, as it serves as a bridge into the teaching profession with its focus on collaborative work. Similarly, Kanellopoulou and Darra (2019) reviewed 24 empirical studies on lesson study from 2008 to 2018. Their review showcased that lesson study helped pre-service teachers achieve a level of cooperation and openness with regard to working with peers and improve their data collection and observation skills.

Willegems et al. (2017) conducted a systematic review of 14 studies on collaborative teacher research practices in ITE and found that these practices promote reflection, collaboration and inquiry-based teaching and helps develop a student-centered approach to teaching. Ceylan and Çomoğlu (2022) conducted a thematic analysis of 20 studies to explore the opportunities and challenges action research (AR) offers in ITE. They found that AR encouraged pre-service teachers to critically reflect, helped them (re)construct their teacher identity, and fostered a view of students as partners.

Furthermore, Rutten (2021) reviewed 35 studies on practitioner inquiry and found that research engagement helped pre-service teachers to develop a better understanding of students' needs and to improve their research and collaboration skills. Matjasic and Vogrinc (2024) conducted a systematic review of 22 studies to examine what kind of research practices exist in ITE programs. The review pinpointed a need for a clear definition of research competence in ITE and a need to integrate research into the very fabric of teacher education through AR and other practices. In their review of 17 studies, Wang et al. (2023) highlighted that the research-teaching nexus seems to be unevenly applied in ITE programs, as teacher educators and pre-service teachers have different understandings of the role of research. They concluded that setting up environments where collaborative research between pre-service teachers and teacher educators is prioritized can lead to more effective integration of research into ITE.

In summary, the body of literature on research engagement in ITE highlights the significant benefits of integrating collaborative and inquiry-based practices such as lesson study, AR, and practitioner inquiry. These reviews demonstrate that such research-based practices not only enhance pre-service teachers' pedagogical skills and reflective capacities but also foster a deeper understanding of student needs and collaborative dynamics within educational settings. However, there are still challenges, especially with regard to the nature of research practices and the coherent understanding of the research role of teacher educators and pre-service teachers in this process.

4 Method

In order to answer our research questions, we conducted a systematic review with a qualitative thematic synthesis. The reporting in the article followed the guidelines in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA; Moher et al., 2009). The steps recommended by van Wesel et al. (2015) were followed in conducting this review: (a) literature search, (b) study identification, (c) data extraction/study coding, (d) study quality appraisal, and (e) thematic analysis.

4.1. Inclusion and exclusion criteria

The inclusion and exclusion criteria for this review was established a priori in line with the research questions. Table 1 displays the inclusion and exclusion criteria in detail.

Table 1

The Inclusion and Exclusion Criteria

	Inclusion Criteria	**Exclusion Criteria**
Target Group	PELTs	Teachers in other subject areas than English language
Intervention	Research-based practices PELTs engage	No research practice intervention
Study Type	Empirical primary study	Secondary research or conceptual theoretical papers
Publication Type	Peer-reviewed journal articles	Grey literature, books, book chapters and so on
Publication language	Publications written in English	Non-English publications

4.2. Literature search and screening

Before conducting the formal search, in order to better identify the relevant studies, we conducted pilot searches in electronic databases and also reviewed relevant articles on the study topic and iteratively developed the keywords. After these pilot searches and finalizing the search terms, in June 2024 we conducted a systematic literature search of English language articles in three databases due to their relevance and scope: ERIC, Scopus, and Web of Science.

Searches in title, abstract and keywords were facilitated using two categories of search terms covering the target group of PELTs and practices. These two categories of search terms were combined by the Boolean operator 'AND' and further filters added in line with the inclusion/exclusion criteria (see detailed search syntaxes in Appendix 1 for each electronic database and search engine). A sample search string for ERIC database was:

> (TITLE-ABS-KEY ("teacher* education" OR "teacher* training" OR itt OR ite OR pst OR preservice OR pre-service OR "pre service" OR "student* teacher*" OR efl OR esl OR elt OR tesol) AND TITLE-ABS-KEY ("teacher* research*" OR "action research" OR "research* based" OR "research* oriented" OR "research* rich" OR "research* led" OR "research* driven" OR "research* tutored" OR "research* intensive") AND TITLE-ABS-KEY (language)) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "english")) AND (LIMIT-TO (SRCTYPE , "j"))

The studies identified via database search were uploaded into the data management software Covidence (Veritas Health Innovation, n.d.). After removing duplicates, the titles and abstracts of the retrieved studies were independently screened in various pairs to assess their eligibility. This process initially followed a pilot screening of 10% of the studies to ensure consistency. If a study's eligibility could not be determined based on the title and abstract, the full-text article was retrieved for further review. In the second screening stage, the full-text articles were again independently assessed by different author pairs. As in the first stage, 10% of the studies were piloted to standardize the full-text screening process. Any disagreements in the inclusion process were resolved through discussion among all authors.

4.3. Data extraction and analyses

After the identification of the studies meeting the inclusion/exclusion criteria, detailed information about each study was extracted in a shared Excel file to obtain a comprehensive overview of the

included studies. Initially, to calibrate the data extraction form, pilot testing was conducted by extracting information from 10% of the studies. After revising the data extraction form, all authors independently extracted data from the included studies. Data items included: a) study details (e.g., authors, publication year, country, study design), b) sample characteristics (e.g., number of participants, mean age, grade), c) research intervention characteristics (e.g., research engagement type, intervention length, mode of participation), and d) study findings.

To answer research question one (RQ1) and research question two (RQ2), descriptive information extracted was summarized to give an overview of the characteristics of the studies and modes of the research practices offered to PELTs. For research question three (RQ3), the data synthesis involved a qualitative thematic synthesis (e.g., Bryman, 2016; Malterud, 2019). This entails (1) careful reading and coding of each study (2) to identify descriptive themes and then (3) to develop analytical themes by further abstracting the descriptive themes. Discussions were held constantly among all authors to generate and refine further themes, and to reach agreement about the common themes. The core themes identified in the included studies were summarized and presented.

4.4. Study quality

The Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018) was employed to assess the quality of the included studies. This tool comprises two initial screening questions, followed by five questions designed to evaluate the quality of qualitative studies, quantitative studies (experimental, quasi-experimental, and descriptive), and mixed-methods studies. Each item was rated as "yes," "no," or "can't tell." A score of "1" was assigned to each "yes" response, while "no" and "can't tell" responses were assigned a score of "0." The second and third authors conducted the rating and scoring of each included study independently.

A summary of the quality assessment is in Appendix 2. No studies with quantitative designs (descriptive, randomized controlled trials, and nonrandomized studies) were identified; therefore, these categories were excluded from the MMAT checklist. Of the 19 studies assessed, the scores for the 14 qualitative studies ranged 2 two to 5, with the majority (11 studies, 78.6%) rated as excellent (scoring 5), while only one study rates as low (scoring 2). The five studies with mixed methods design received scores ranging from 3 to 5, with three studies (60%) achieving a score of 5.

5. Results

5.1. Study identification

As a result of the database search, we identified a total of 1610 potentially relevant articles from the three databases: 442 from ERIC, 468 from Web of Science, and 700 from SCOPUS. The titles and abstracts of these studies were uploaded to the Covidence and after removing duplicates, 669 articles remained for the independent double title and abstract screening. At this stage, 582 articles were eliminated after initial title and abstract review due to violation of at least one of the inclusion criteria, with a 91.2% agreement among the screeners. At the second stage, the full texts of 87 studies were uploaded into Covidence and 68 were excluded after double independent screening of the full text, with an 88.5% agreement rate. As a result, 19 studies were included in this systematic review. Figure 1 shows the details of the search and study identification process.

Figure 1

Flow Diagram for the Search and Inclusion Criteria for Studies
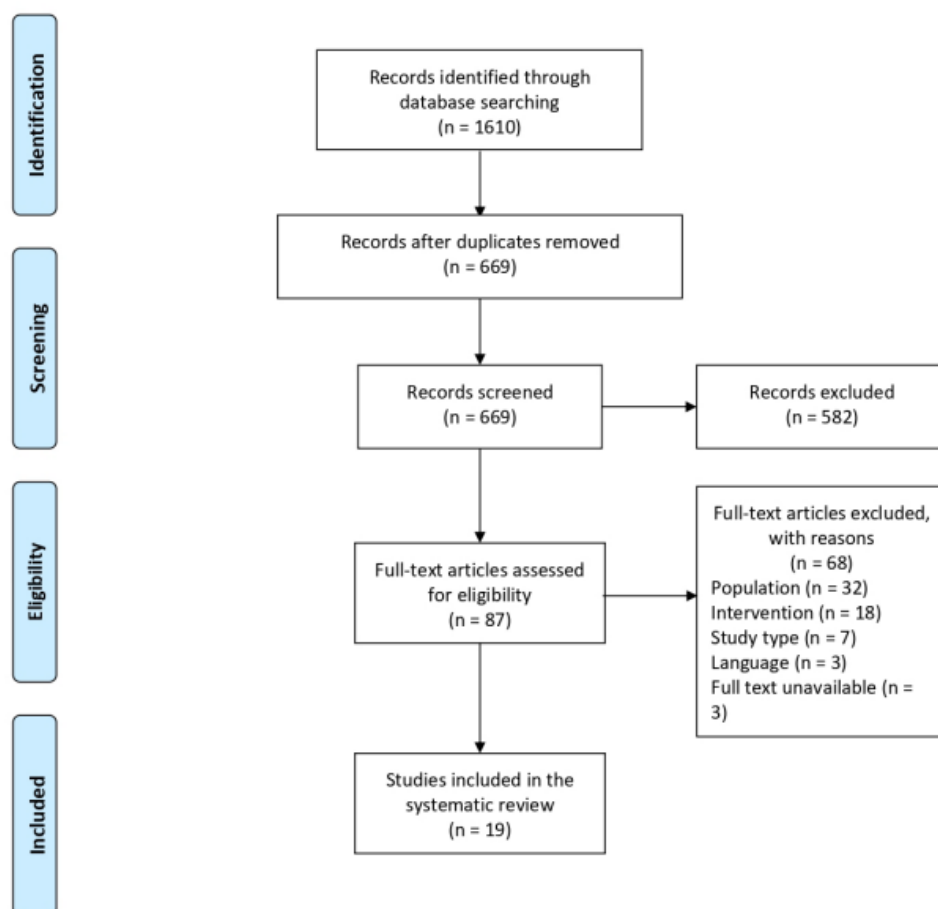
5.2. Characteristics of the included studies

Out of 19 studies identified between 2010 and 2024, six studies were conducted between 2010 and 2015, while the remaining 13 were carried out between 2016 and 2024. This distribution suggests a growing interest and increase in research on the topic from 2016 onwards. Despite this growing interest, the limited number of studies for this review (19 in total) suggests a need for further research to build a more comprehensive understanding of the field.

The reviewed studies were conducted in various countries, indicating a global interest. The USA has the highest number (seven studies), followed by Australia and Türkiye (three each). Other countries like Colombia, Chile, Spain, Philippines, Malaysia, China, and Thailand have contributed one study each. Although the studies span multiple countries, which is positive for understanding the global context of English language teacher education, the predominance of studies from the USA (seven studies) may indicate that findings may be more reflective of the American context.

The characteristics of the included studies suggest a rich qualitative exploration of research engagement among PELTs. 14 out of 19 studies were qualitative, with the rest being mixed method (five studies). With regard to data collection methods, the most frequently used approach was multi-method, incorporating interviews, observations, and written reflections. Other methods included surveys, focus group interviews, and document analysis.

A total of 13 studies included PELTs solely, while six studies also included teacher educators and/ or in-service teachers along with PELTs. 18 studies were conducted in university-based practicum or teacher preparation settings, while one study focused on a community-based service-learning context

(see Appendix 3 for characteristics of the included studies). These findings suggest that there is still room for expanding the research scope to include diverse perspectives and contexts so that we can better understand the specific challenges and opportunities research engagement in ITE presents.

5.3. Characteristics of the research-based practices

A significant finding was on PELTs' engagement in AR (13 studies). This indicates a strong commitment to promoting reflective practice among PELTs by enabling them to critically analyze their teaching methods and student interactions. In these studies, PELTs were mainly engaged in different forms of AR (collaborative, participatory, reflective, and individual). Many of these AR-based practices were incorporated into coursework and assessments. PELTs were required to complete projects of a qualitative nature over the course of four weeks to one semester as part of their academic programs. These projects typically involved assignments, presentations, and reflective reports to enhance their professional development. Furthermore, five of the studies involved voluntary participation which provided opportunities for independent research and professional growth.

In the remaining six studies, however, PELTs were asked to complete small-scale research projects individually or collaboratively without specific focus on the nature and characteristics of the research-based practice. This finding raises questions about the depth of engagement with research and the potential for meaningful reflection.

5.4. Reported outcomes of research engagement

The synthesis of the findings from the 19 studies revealed that research engagement influenced PELTs' professional learning in three interacting dimensions: developing a professional teacher identity, cultivating criticality, and merging theory with practice (Table 2).

Table 2

An Overview of the Main Themes

Themes	Reviewed studies that address each theme	k
1. Developing a professional teacher identity	Cárdenas Claros et al. (2024), Harvey et al. (2019), Kasula (2015), Köprülü (2013), Lammert and Steinitz Holyoke, (2020), Laughter (2015), Madin and Swanto (2019), Mante-Estacio and Ugalingan (2018), Merino and Holmes (2006), Nguyen et al. (2022), Savasci and Rets, (2021), Sun (2024), Thomsett et al. (2011), Zingir and Gülten (2017)	14
2. Cultivating criticality	Kasula (2015), Lammert and Steinitz Holyoke, (2020), Laughter (2015), Lypka (2018), Merino and Holmes (2006), Neilsen (2014), Ramos (2017), Sun (2024), Thomsett et al. (2011), Villacañas de Castro (2015)	10
3. Merging theory with practice	Cárdenas Claros et al. (2024), Harvey et al. (2019), Kasula (2015), Laughter (2015), Lee et al. (2023), Mante-Estacio and Ugalingan (2018), Nguyen et al. (2022), Sun (2024),	8

5.4.1. Developing a professional teacher identity

14 of the reviewed studies reported that research engagement fostered PELTs' professional identity formation, which we explored through the four aspects Zembylas and Chubbuck ([2018](#)) identified

based on existing literature. These are: emotion, narrative and discourse, reflection, and agency and structure. PELTs' prolonged engagement in research, which refers to their planning and doing research and reflecting on research findings to reconsider their teaching practices and perspectives through their practicum or departmental courses (e.g., Kasula, 2015; Lammert & Steinitz Holyoke, 2020), offered a variety of facilitators to invest in their professional identities. Employing *reflective practices* through research engagement deepened PELTs' perspectives on classroom interaction since they became more aware of in-class teaching strategies and could engage in analytical practices and critical thinking (Savasci & Rets, 2021). Adopting a new perspective on teaching skills and challenges by recognizing the unique needs of learners, rather than simply relying on stereotypical understandings, enabled PELTs to adopt more reflective and analytical teaching practices, which contributed to their professional teacher identity.

Even though PELTs initially experienced feelings of emotional insecurity, anxiety, and frustration, particularly when dealing with the challenges of identifying a research focus and selecting appropriate methodologies, they ultimately reflected on their journey with a sense of satisfaction, self-sufficiency, accomplishment, and confidence. This *emotional transformation* was largely attributed to the supportive peer collaboration, real-time practices, and structured guidance they received throughout the research process (Lammert & Steinitz Holyoke, 2020; Mante-Estacio & Ugalingan, 2018; Savasci & Rets, 2021; Zingir Gülten, 2017).

Furthermore, PELTs' engagement in research, specifically during the practicum, promoted their confidence in addressing classroom issues and managing their classroom accordingly (e.g., Savasci & Rets, 2021; Thomsett et al., 2011). This enhanced *sense of agency* not only facilitated their development as researchers but also fostered their professional identity formation (Kasula, 2015; Laughter, 2015; Zingir Gülten, 2017). Some PELTs in Savasci and Rets' (2021) study reported that they were willing to adopt research-based teaching approaches in their future careers while others stated that they would like to pursue a master's degree after their positive experiences with research.

From a sociocultural lens, the collaborative nature of research engagement, which encompasses *discourse* defined as "the talk within and among teachers" (Zembylas & Chubbuck, 2018, p. 186) played a significant role in the identity formation of PELTs. This collaborative process not only fostered the development of a supportive professional network but also enhanced their awareness of mutual learning (Thomsett et al., 2011; Zingir Gülten, 2017). Lee et al. (2023) reported that the collaborative practices led to a clearer understanding of some concepts that might seem complex for PELTs. Engagement in research in a collaborative manner (e.g., working in small groups, disseminating the findings to peers and teacher educators, and sharing ideas and strategies) led PELTs to develop a community of practice ultimately shaping their teacher identity (Merino & Holmes, 2006). The discursive space created through collaborative research practices enabled PELTs to analyze their teaching and thinking practices comprehensively and systematically and reconsider their prior teaching beliefs and philosophies in line with classroom realities, which led to an investment in their pedagogical and professional identities and a better understanding of their role as educators (Madin & Swanto, 2019). It is apparent that engaging in research activities created an opportunity for PELTs to discover, build, and negotiate their identities in meaningful ways as has been reported and discussed in many studies we have reviewed.

5.4.2. Cultivating criticality

In 10 of the reviewed studies, PELTs engaged in research to explore issues like social justice (e.g., Sun, 2024), critical media literacy (e.g., Laughter, 2015), diversity (Ramos, 2017), equity (e.g., Lammert & Steinitz Holyoke, 2020), and advocacy and power dynamics (Lypka, 2018), which cultivated their criticality toward these issues. PELTs' enacting a critical stance to conventional practices of teaching provided new room for pedagogical transformation (e.g., Ramos, 2017; Villacañas de Castro, 2015) and empowered them with their new roles as agents of change in their classes (e.g., Lammert & Steinitz Holyoke, 2020). To exemplify, PELTs came to realize how important it is to integrate the cultural

backgrounds of learners into language teaching with the help of culturally responsive and pedagogically sound activities (Lypka, 2018; Ramos, 2017; Villacañas de Castro, 2015).

Adopting a critical stance could enable PELTs to value linguistic diversity, see it as a strength rather than an insufficiency, and recognize contextual and relational aspects of language use since they came to realize language is not restricted to a set of behaviors and skills as argued by Lammert and Steinitz Holyoke (2020). PELTs mentioned that they could adopt a more student-centered and emancipatory approach by staying more attuned to their students' needs, using bilingual practices, and adapting their strategies (e.g., Merino & Holmes, 2006; Thomsett et al., 2011). They could also perceive teaching as a social responsibility and develop a strong commitment to educational equity, possibly leading to increased responsibility for advocating educational change for equity and inclusivity in their future teaching practices (Neilsen, 2014).

The participatory nature of AR empowered PELTs to deal with critical global challenges and take the initiative to practice these issues in the class (Sun, 2024). This could promote their willingness to take up this critical approach in their future careers (Laughter, 2015). Furthermore, as argued by Lypka (2018), collaborative and agentive practices strengthened relationships between PELTs, English learners and their local community.

5.4.3. Merging theory with practice

In eight of the reviewed studies, PELTs' engagement in research encouraged them to merge the theoretical knowledge learnt in undergraduate programs with the practical knowledge gained throughout their practicum. This reciprocity between theory and practice helped PELTs develop both research-informed practices for their instructional repertoire and practice-informed research awareness (e.g., Cárdenas Claros et al., 2024; Lee et al., 2023). For example, in Sun's (2024) study in China, PELTs engaging in participatory AR conceptualized different components of global citizenship education and integrated them into their classrooms. In another study by Cárdenas Claros et al. (2024), PELTs linked their theoretical knowledge with the local and social realities of South America by collaborating with their university-based supervisors and school mentors. Laughter (2015) also showed in the context of the USA how PELTs incorporated social justice themes into their teaching strategies by connecting theoretical concepts to real classroom issues in light of empirical findings facilitated through AR.

In addition, the pre-service teacher in Kasula's (2015) study in Thailand was able to make a meaningful connection between AR and broader second language acquisition (SLA) theory, as he realized that data from AR could be analyzed through SLA frameworks, and that AR findings could contribute to the SLA field. Similarly, in Nguyen et al.'s study (2022) at an Australian university, PELTs explored SLA theories relevant to their chosen research topic and developed a better understanding of theory and research. In another AR study by Lee et al. (2023), PELTs designed and implemented listening and writing assessments for English learners at a public school in the USA. In this study, extended and collaborative reflections during AR allowed them to recognize and address the limitations of purely theoretical assessment knowledge and tailor assessment tools and content to learners' real needs (Lee et al., 2023). Furthermore, in an English language arts class in the USA, the research team designed multimodal Shakespeare stations to link complex literary work with the multiple, digitized realities of English learners (Harvey et al., 2019).

6 Discussion

In this systematic review, our objective was to examine the breadth of empirical research on PELTs' research engagement and the nature and potential outcomes of this engagement, as reported in relevant studies.

In response to the first research question, we observed a gradual increase in empirical research on PELTs' research engagement from 2016 onwards (13 studies). Although the review of the included studies indicates a growing international research focus on PELTs' engagement in research, the limited number of studies (19 in total) signals the need for more research. Out of the 19 studies reviewed, seven were conducted in the USA. There is a need to see how research-based practices have been employed in TESOL teacher preparation in contexts other than the USA. Furthermore, 13 of these studies focused on the perspectives of PELTs only, it is also important to include the experiences and perspectives of other partners, such as teacher educators and in-service teachers, to enrich our understanding of the entire educational ecosystem and its influence on PELTs' research engagement (Valle et. al, 2025; Wang et al., 2023).

To address the second research question, we identified the research-based practices and the extent, nature, and scope of PELTs' research engagement. The most-common research-based practice offered to PELTs was AR (identified in 13 studies) in its different forms (collaborative, participatory, reflective, and individual). As a practitioner research approach, AR helps PELTs to critically examine their teaching practices. This makes them more aware of their pedagogical choices and their impact on student learning (Burns et al., 2022), while also helping to bridge the theory-practice gap (Curtis, 2020). It differs from other practitioner research approaches in terms of its initiation, ownership, processes, and multifaceted impacts which include professional, pedagogical, personal, and educational (Burns & Dikilitaş, 2025). However, the nature of research-based practices was unclear in the remaining six studies, as Matjasic and Vogrinc (2024) found in their review. This raises concerns about the depth of PELTs' research engagement, given the lack of clear guidelines or a framework for the research process.

The research paradigm followed or offered to PELTs was predominantly qualitative, which makes sense given the similarities between teaching and qualitative research: both are complex, context-dependent, emergent, ambiguous, and socially constructed (Breidenstein, 2002; Klehr, 2012). Qualitative research engagement helps PELTs reconcile the gap between teaching and learning by connecting what is taught with how students learn (Gratch, 2002; Mitchener & Jackson, 2012). In doing so, teachers enhance content knowledge, pedagogical knowledge, and pedagogical content knowledge, thereby enriching their teaching process (Halai, 2012). This cycle ultimately contributes to the development of in-depth knowledge acquisition which can inform teaching and learning practices (Sallee & Flood, 2012).

In addressing the third research question about the outcomes of research engagement on PELTs' professional learning, we identified the studies that reported various impact dimensions of research engagement among PELTs. These studies revealed three main thematic dimensions that are crucial for understanding how PELTs learn and develop through research engagement.

The first theme that emerged from our analysis was that PELTs who engaged in research tended to develop a professional teacher identity. In the related literature, several studies have found identity related development as a result of research engagement (Dikilitaş & Çomoğlu; 2022; Yuan & Burns, 2017). The research engagement of PELTs addressed the four aspects of teacher identity formation identified by Zembylas and Chubbuck (2018) in their review of existing literature. Emotions, seen as an internal aspect of teacher identity formation (Beauchamp & Thomas, 2009; Zembylas & Chubbuck, 2018), were positively addressed when PELTs felt more accomplished and fulfilled as future teachers during their research endeavors. The emotions they felt during the research processes strongly contributed to their identity as teachers. Another aspect of teacher identity formation, reflection, "a key means by which teachers can become more in tune with their sense of self" (Beauchamp & Thomas, 2009, p.182), was facilitated by PELTs' research engagement as they engaged in reflective practices through various forms of research. Furthermore, the discursive space created within the research teams enabled PELTs to reconsider their current thoughts and practices about teaching also in a future sense (Zembylas & Chubbuck, 2018). Finally, agency, a critical aspect of teacher identity formation, was enacted as PELTs identified and brought solutions to their classroom issues through research engagement, which

involved collaboration and peer support (Wu & Miller, 2025). PELTs, by adopting an inquiry as stance perspective, could concretize their agency and regard their professional context as a site for inquiry and critical reflection (Cochran-Smith & Lytle, 2009). Obviously, this sense of empowerment led to their professional identity development.

Secondly, PELTs engagement in research enabled them to employ a critical stance in issues that affect the quality of language learning and create democratic potentialities for collaboration with colleagues, learners, and local communities (Kincheloe, 2009). Through this engagement, PELTs explored "how immediate classroom concerns are connected to those outside issues influencing the functions of second language education" (Hadley, 2024, p.21) and sought to create transformative experiences in the lives of culturally, linguistically, and socio-economically diverse learners. PELTs could create a nexus where local knowledge is reciprocated with public knowledge, and educational stakeholders collaborate to create transformative experiences (Cochran-Smith & Lytle, 2009). Although the critical lens PELTs adopted does not cover all aspects of criticality identified by Kincheloe (2009), including cultural, racial, class, gender, sexual, and religious dimensions, it marks an important initial step towards becoming transformative teachers who are able to look beyond the classroom and consider social contexts, as well as moral and ethical issues (Menter et al., 2017, p.3) through their research experiences.

The third theme indicated an emphasis on merging theory with practice through research engagement. In teacher education, the divide between theory and practice is a recurring concern (Sato, 2023; Sato & Loewen, 2022). Teachers are often positioned as the key actors who can help bridge this gap, particularly when they actively engage in research and develop practical knowledge by theorizing their practice. The nexus encompasses practice informed by theory and theory informed by practice (la Velle, 2019). From an inquiry-as-stance lens, PELTs in the reviewed studies have gained valuable insights about what theory looks like in practice and how theoretical knowledge can be put into practice, facilitating the observation of "their complementarities" (Healey, 2005, p.196).

7 Limitations

While this review offers various insights, certain limitations must be acknowledged. Despite a rigorous methodology employed in search, some relevant studies may still have been missed due to indexing variations, keyword differences, or publication in sources beyond our search scope. Additionally, by focusing solely on empirical studies from peer-reviewed journals, grey literature such as reports, dissertations, and conference papers was excluded, which may have led to the omission of relevant insights and unpublished findings. This review primarily examined research-based practice characteristics and outcomes but does not assess long-term impacts due to a limited number of longitudinal studies.

8 Conclusions and Implications

This systematic review provided an exploration of the empirical research on PELTs' engagement in research, highlighting that research engagement significantly contributes to their professional learning. The findings indicated an increasing number of studies in which PELTs are the researchers, and an international interest in how research shapes their professional development. We also argued that research engagement facilitated the development of a professional teacher identity and a strong sense of agency, and enabled PELTs to adopt a more critical, transformative approach to teaching. In addition, PELTs' engagement in research helped bridge the theory-practice divide, facilitating a more integrated understanding of teaching practices and theoretical frameworks.

Although the study included studies from the field of English language teaching, it has several implications for research-based teacher education in all fields. Our findings suggested that teacher

education programs should place greater emphasis on developing research knowledge and skills through the integration of research courses in the curriculum. As we found, such a course could primarily focus on basic qualitative research methods, engaging teachers in critical inquiry of their perspectives and practices.

The studies we reviewed also showed that teachers' professional identities were shaped by their engagement in research-based practices. There is an increasing need in ITE to position teachers as researchers who can engage in various forms of research, thereby constructing and reconstructing their identities. Supporting teachers in developing new identities could be one of the key objectives of teacher education programs (Yazan, 2019), especially by developing their research knowledge and skills. This helps them become life lifelong learners and researchers of their practices (Dikilitaş et al, 2025).

Finally, what has been daunting in the profession of teaching as a practical discipline is the integration of theoretical knowledge. While most teachers often rely on their naturally evolving practical knowledge, there are few that consider theoretical aspects of teaching and align their practices with the principles of theory that might inform their teaching. One of the key implications we drew is that teacher education programs need to develop learning space and practices where teachers continuously reflect on the theory-practice nexus through reading key resources (Hosseini et al., 2024), analyzing data from teaching context (Dikilitaş et al, 2025), and reflection (Çomoğlu & Dikilitaş, 2020).

More specific practical implications for research-based teacher education are that

(a) we need to introduce research-based practices as a way of engaging in critical pedagogy and collaborative reflection within research teams;

(b) pre-service teachers need to be facilitated to challenge their existing educational assumptions;

(c) teacher education programs need to use collaborative research projects as micro communities where pre-service teachers are encouraged to engage with real-world issues in education and transform their teaching practices.

On the other hand, teacher educators also need to be equipped with the necessary knowledge, skills, and attitudes to support their students in their research endeavors as their research mentors. More specifically, they need to be able to integrate research-based practices into their courses, making research an ongoing part of ITE by assigning their students to engage in research-based projects, critically analyze existing studies, or use research to inform their teaching practices.

To create a research rich curriculum, policy makers should also be involved by supporting the implementation of teacher education frameworks that encourage the faculty to promote research-based teacher education and appreciate the teachers and teacher educators who prioritize teacher learning through research engagement as an alternative to learning without praxis.

The study also has implications for further research. In this study, we were mainly focused on research-based practices in which PELTs actively engaged in research through collecting, analyzing, and interpreting data to find solutions to educational problems in a structured way. Further studies can explore the influence of other forms of practitioner inquiry in ITE, such as EP, which prioritizes understanding over immediate problem-solving through collaborative exploration and reflection (Allwright, 2005).

Appendix 1

Search Strings across Databases

The formal search was carried out in 18/16/2024. The searches were further limited to peer-reviewed journal articles and English language.

SCOPUS

(TITLE-ABS-KEY ("teacher* education" OR "teacher* training" OR itt OR ite OR pst OR preservice OR pre-service OR "pre service" OR "student* teacher*" OR efl OR esl OR elt OR tesol) AND TITLE-ABS-KEY ("teacher* research*" OR "action research" OR "research* based" OR "research* oriented" OR "research* rich" OR "research* led" OR "research* driven" OR "research* tutored" OR "research* intensive") AND TITLE-ABS-KEY (language)) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "english")) AND (LIMIT-TO (SRCTYPE , "j"))

ERIC

	Query	Limiters/Expanders	Last Run Via	Results
S6	S1 OR S2 OR S3	Limiters - Academic(Peer-Reviewed) Journals Narrow by Language: -english Search modes -Boolean/Phrase	Interface - EBSCOhostResearch Databases Search Screen - AdvancedSearch Database - ERIC	442
S5	S1 OR S2 OR S3	Limiters - Academic(Peer-Reviewed) Journals Search modes -Boolean/Phrase	Interface - EBSCOhostResearch Databases Search Screen - AdvancedSearch Database - ERIC	469
S4	S1 OR S2 OR S3	Search modes -Boolean/Phrase	Interface - EBSCOhostResearch Databases Search Screen - AdvancedSearch Database - ERIC	732
S3	DE ("teacher* education"OR "teacher* training" ORITT OR ITE OR PST ORpreservice OR pre-service OR "pre service"OR "student* teacher*"OR EFL OR ESL OR ELTOR TESOL) AND DE ("teacher* research*" OR"action research" OR"research* based" OR"research* oriented" OR"research* rich" OR"research* led" OR"research* driven" OR"research* tutored" OR"research* intensive")AND DE language	Search modes -Boolean/Phrase	Interface - EBSCOhostResearch Databases Search Screen - AdvancedSearch Database - ERIC	1

S2	AB ("teacher* education"OR "teacher* training" ORITT OR ITE OR PST ORpreservice OR pre-service OR "pre service"OR "student* teacher*"OR EFL OR ESL OR ELTOR TESOL) AND AB ("teacher* research*" OR"action research" OR"research* based" OR"research* oriented" OR"research* rich" OR"research* led" OR"research* driven" OR"research* tutored" OR"research* intensive")AND AB language	Search modes -Boolean/Phrase	Interface - EBSCOhostResearch Databases Search Screen - AdvancedSearch Database - ERIC	726
S1	TI ("teacher* education"OR "teacher* training" ORITT OR ITE OR PST ORpreservice OR pre-service OR "pre service"OR "student* teacher*"OR EFL OR ESL OR ELTOR TESOL) AND TI ("teacher* research*" OR"action research" OR"research* based" OR"research* oriented" OR"research* rich" OR"research* led" OR"research* driven" OR"research* tutored" OR"research* intensive")AND TI language	Search modes -Boolean/Phrase	Interface - EBSCOhostResearch Databases Search Screen - AdvancedSearch Database - ERIC	14

Web of Science

> Refine results for "teacher education" OR "teacher training" OR ITT OR ITE OR PST OR preservice OR pre-service OR "pre-service" OR "student* teacher*" OR EFL OR ESL OR ELT OR TESOL (Topic) AND "teacher* research*" OR "action research" OR "research* based" OR "research* oriented" OR "research* rich" OR "research* led" OR "research* driven" OR "research* tutored" OR "research* intensive" (Topic) AND language (Topic) and Article (Document Types) and English (Languages)

Appendix 2

Study Quality Assessment

Screening questions:
S1. Are there clear research questions?
S2. Do the collected data allow to address the research questions?

Qualitative:
1.1. Is the qualitative approach appropriate to answer the research question?

1.2. Are the qualitative data collection methods adequate to address the research question?

1.3. Are the findings adequately derived from the data?

1.4. Is the interpretation of results sufficiently substantiated by data?

1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?

Mixed-methods:

5.1. Is there an adequate rationale for using a mixed methods design to address the research question?

5.2. Are the different components of the study effectively integrated to answer the research question?

5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?

5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?

5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?

Table 1

Study Quality Assessment

Studies	Screening items		Qualitative					Mixed-method					Total
	S1	S2	1.1.	1.2.	1.3.	1.4.	1.5.	5.1.	5.2.	5.3.	5.4.	5.5.	
Cárdenas Claros et al. (2024)	Y	Y	Y	Y	Y	Y	Y						5
Harvey et al. (2019)	Y	Y	Y	Y	Y	Y	N						5
Lee et al. (2023)	Y	Y	Y	Y	Y	Y	Y						5
Kasula (2015)	Y	Y	Y	Y	Y	Y	Y						5
Köprülü (2013)	Y	Y	Y	Y	Y	Y	Y						5
Lammert & Steinitz Holyoke (2020)	Y	Y						Y	Y	Y	Y	Y	5
Laughter (2015)	Y	Y	Y	Y	Y	Y	Y						5
Sun (2024)	Y	Y	Y	Y	Y	Y	Y						5
Lypka (2018)	Y	Y	Y	Y	Y	N	N						3
Madin & Swanto (2019)	Y	Y	Y	Y	Y	Y	Y						5
Mante-Estacio & Ugalingan (2018)	Y	Y	Y	Y	Y	Y	Y						5
MeriN & Holmes (2006)	Y	Y	Y	Y	Y	Y	Y						5
Neilsen (2014)	Y	Y	Y	Y	Y	Y	Y						5
Nguyen et al. (2022)	Y	Y						Y	Y	Y	Y	Y	5
Ramos (2017)	Y	Y						Y	Y	Y	Y	N	4
Savasci & Rets (2021)	Y	Y						Y	Y	Y	Y	Y	5
Thomsett et al. (2011)	Y	Y						Y	Y	N	Y	N	3
Villacañas de Castro (2015)	Y	Y	Y	Y	Y	N	N						3
Zingir Gülten (2017)	Y	Y	Y	Y	N	N	N						2

Notes. Y=Yes; CT= Can't tell; N= No

Appendix 3

Characteristics of the Included Studies

Table 2
Characteristics of the Included Studies

	Study	Country	Research design	Data collection methods	Participant focus	Context
1	Merino & Holmes (2006)	USA	Qualitative	Surveys, questionnaires, interviews, observations, logs, portfolios, and email dialogue	56 pre-service teachers	University-based teacher preparation program
2	Köprülü (2013)	Turkey	Qualitative	Reflective diaries, questionnaire	17 pre-service teachers	University-based practicum settings
3	Neilsen (2014)	Australia	Qualitative	Interviews, reflective assignments, and AR reports	57 pre-service teachers	University-based practicum settings
4	Kasula (2015)	Thailand	Qualitative	Teacher reflective journal; photographs; audio recordings of lessons; students' reflective journals; final student questionnaire	1 pre-service teacher	University-based practicum settings
5	Laughter (2015)	USA	Qualitative	Classroom observations, analysis of the interns' projects, and reflections on the teaching practices developed during the study	15 pre-service teachers	University-based teacher preparation program
6	Villacañas de Castro (2015)	Spain	Qualitative	Collective sessions, observations and final practicum reports	10 pre-service teachers	University-based practicum settings
7	Ramos (2017)	USA	Mixed method	Pre- and post-course surveys, open-ended questions, instructional conversations, reflections, and lesson plans	18 pre-service teachers	University-based teacher preparation program

8	Zingir Gülten (2017)	Turkey	Qualitative	Observations, fieldnotes, semi-structured interviews and data collection tools used by pre-service teachers in their classes	9 pre-service teachers	University-based teacher preparation program
9	Lypka (2018)	USA	Qualitative	Surveys, reflections, researcher journal, field notes, visual documentation (video voice)	20 adult English learners, 5 pre-service teachers enrolled in an ESOL endorsement program	Community-based service learning
10	Mante-Estacio & Ugalingan (2018)	Philippines	Qualitative	Reflective logs	25 pre-service teachers	University-based ESL course
11	Harvey et al. (2019)	USA	Qualitative	Open response survey	1 pre-service teacher; 2 teacher educators	University-based practicum
12	Madin & Swanto (2019)	Malaysia	Qualitative	Focus group discussions and individual interviews	20 ESL pre-service teachers and 5 supervisors	University-based teacher preparation program
13	Lammert & Steinitz Holyoke (2020)	USA	Mixed method	Surveys, observations, and artifacts	15 pre-service teachers	University-based practicum settings
14	Savasci & Rets (2021)	Turkey	Mixed method	Survey, semi-structured focus groups, open-response survey	32 pre-service teachers	University-based teacher education program
15	Thomsett et al. (2021)	Australia	Mixed method	Questionnaires, interviews, analysis of curriculum documentation	18 pre-service teachers	University-based teacher preparation program
16	Nguyen, Dao, & Iwashita (2022)	Australia	Mixed method	Pre-course surveys, written reflections, focus group interviews	130 pre-/ in-service teachers	MA program

17	Lee et al. (2023)	USA	Qualitative	Written reflections	1 pre-service teacher; 1 in-service teacher; 1 teacher educator	University-based practicum
18	Cárdenas Claros et al. (2024)	Colombia and Chile	Qualitative	Semi-structured interviews	13 pre-service teachers; 8 university supervisors; 8 school mentors	University-based practicum
19	Sun (2024)	China	Qualitative	Reflections, interviews, class observations, and course assignments	16 pre-service teachers	An elective course (i.e., university setting)

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