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POLICY PROMISES, INSTITUTIONAL SILENCES: PRE-SERVICE TEACHERS' EXPERIENCES OF AI IN INITIAL TEACHER EDUCATION IN PUNJAB, PAKISTAN

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ABSTRACT

The policy ambition and institutional stalemate describe initial teacher education (ITE) in Punjab, Pakistan. Although the Punjab government has recently added a policy promise of implementing artificial intelligence (AI) into every government school, pre-service teachers seeking ITE programmes have reported a significant gap between policy pronouncements and the training reality. This phenomenological study relied on a three-interview series methodology to understand the experiences of pre-service teachers in ITE in Punjab regarding AI. Based on semi-structured interviews with 12 participants pursuing B.Ed. programmes and analysis using NVivo 15, the study reconstructed the life histories of participants, their current life experiences, and their meaning-making processes concerning AI. The analysis generated four themes: ubiquitous informal AI use without institutional framing, pedagogical ambivalence and fragmented integration, ethical tensions of professional identity, and an urgent need for critically informed AI training. The findings reveal how institutional silence shapes pre-service teacher professional identity formation and constrains their professional development amid rapid technological change. This study contributes to the global body of AI literacy research in teacher education and provides context-specific guidance on future curriculum reform in the Pakistani ITE sector

Keywords: Artificial Intelligence, Initial Teacher Education, Phenomenological Interviewing, Punjab, Pakistan, Institutional Silence, AI Literacy, Professional Identity

Introduction

AI is reshaping educational systems globally, changing the expectations of teaching, learning, professional identity, and institutional governance (Selwyn, 2019; Williamson & Eynon, 2020). This change has gained particular traction in Pakistan, with Punjab becoming the first province in the country to announce, in early 2026, the official introduction of AI into every school and its mandatory inclusion throughout the education system (GoP, 2026). This is a declaration that places Punjab at the forefront of AI reform in South Asia and raises urgent questions about how teachers are prepared to implement such reforms. This paper attends to the lived experiences of pre-service teachers who are dealing with an ITE system that does not mention it in training programmes but relates significantly to AI in policy reports.

AI literacy has emerged as a central framework for preparing educators to engage with these developments (Holmes et al., 2020). The concept of AI literacy extends beyond proficiency in technical fluency, implying that critically interrogating the assumptions embedded in AI systems, capable of articulating its societal implications, and using it with pedagogical agency (Holmes et al., 2022). This literacy is not an endpoint goal of professional development but a constituent aspect of professional identity development for pre-service

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teachers. As Gardesten and Herrlin (2024) show, the way teacher education programmes position AI experiences influences whether the trainees will develop instrumentalist perceptions of teaching or cultivate the professional agency characteristic of reflective practice required for effective teaching. However, in most national settings, ITE programmes approach digital competence merely as a support skill and not as a pedagogical and ethical priority, leaving pre-service teachers without institutional structures and often facing conflicting institutional signals (Gudmundsdottir & Hatlevik, 2018).

This is particularly pronounced in Pakistan. Though it is shown that the B.Ed curriculum frameworks include technology integration modules in a superficial manner, empirical findings demonstrate that Pakistani pre-service teachers demonstrate significant digital literacy deficits (Jamil et al., 20204; Jamil et al., 2025; Muhammad et al., 2025; Muhammad et al., 2026; Rasheed et al., 2026). Specifically, the conceptualisation of AI literacy is still underdeveloped according to Pakistani ITE curricula, and attitudes and continuing professional development have become the key predictors of AI proficiency among B.Ed students. The lack of alignment between the national and provincial policy aspirations and pedagogical reality of the ITE programmes in Punjab leads to what Selwyn (2022) calls a pedagogical vacuum, in which technology adoption is undertaken without planning, deliberation, or ethical purpose.

This study addresses this gap. It examines the experiences of pre-service teachers in Punjab working with AI in their ITE, paying attention to the meanings that they create, the tensions that pre-service teachers negotiate, and the silences constructed by institutions that influence their professional formation.

Research Questions

1. What do pre-service teachers in Punjab describe about their AI experiences across their life history, training conditions, and teaching practicums?
2. What do they identify as the sources of the disconnect between provincial policy ambitions on AI and their experienced ITE?
3. What are the effects of institutional silence surrounding AI on teachers' emerging professional identity?

Literature Review

Artificial Intelligence Literacy and Teacher Professional Digital Competence

AI literacy has been shifting beyond the technical skills taxonomy as a conceptual approach to a multidimensional idea anticipating critical and ethical engagement (Holmes et al., 2020; Holmes et al., 2022). It requires educators to not only successfully use AI tools but also question their own values and consider their consequences on learners, and make professional decisions on when to use or refuse them. The proposed broader conceptualisation finds its reflection in such a framework as Teacher Professional Digital Competence (TPDC), which is a variable of ethical awareness, adaptive pedagogy, and reflective practice (Gudmundsdottir & Hatlevik, 2018). Together, these frameworks imply that the purposeful introduction of AI in teacher education cannot be limited to equipment training. It should entail critical, contextualised and long-term professional learning.

Digital competence remains peripheral to most ITE curricula rather than central to their design. A systematic review of the literature on AI and teachers by Celik et al. (2022) has revealed that enthusiasm and anxiety are both commonly observed among pre-service and in-service teachers, and institutional support in overcoming such ambivalence is never provided. Where there is AI-specific training, it is usually optional and technical, and not grounded in pedagogical or ethical frameworks (Kohout-Diaz, 2026), a situation in which pre-service

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teachers are expected to exercise professional creativity without any principled institutional grounding.

Policy, Reform, and the Gap Between Rhetoric and Practice

The introduction of AI in education is not a politically neutral process. The AI reform agendas in countries are guided by several antagonistic imperatives, such as economic modernisation, global competitiveness, and digitalisation, which, in most cases, surpass institutional capacity and are subject to national crises in conjunction with other conflicting demands and aims, such as equality and democracy (Ahmad et al., 2026; Popenici & Kerr, 2017; Williamson & Eynon, 2020). The result is a recurring pattern of rhetorical commitment that is never operationalised. The AI integration is mandated by policy documentation, yet the curricula, training programs, and professional development systems are unstructured (Kohout-Diaz, 2026). UNESCO (2021) has strictly demanded that the integration of AI into the educational sector must be both morally just and equal and pedagogically significant; however, the application of these three directions is disproportionately uneven to date, even in adequately financed systems.

This trend can best be observed in Pakistan. As of 2026, Punjab is expected to have trained thousands of AI master trainers and deployed the AI-qualified teachers to all the government (GoP, 2026). These promises are great rhetorical steps. However, fully adapted AI literacy models have not been created so far in the context of ITE programmes and teacher educators in Pakistani universities have found themselves in the paradox of traditional pedagogy and technology-focused institutional needs. Technology modules in the B.Ed curriculum are still largely conceived in terms of fundamental ICT rather than AI-induced pedagogical concepts. This creates some kind of structural disjuncture between the promises of policy and the training realities that pre-service teachers are going through.

Professional Identity Formation in Technologised ITE Contexts

The formation of professional identity is one of the key processes in pre-service teacher education (Beauchamp & Thomas, 2009; Kelchtermans, 2009). It is a gradual process of creation of teacher identity, through institutional conditions, through relational experience and meanings trainees assign to their professional experience. It is also complex in the development of identity when these encounters are with an unknown and unexplored method of technologies like AI. Not only do pre-service teachers need to negotiate the position of pedagogical competence, but also the epistemic and ethical positioning of tools whose pedagogical significance is still a debated issue (Gardesten & Herrlin, 2024). However, informal engagement with AI will lead to the risk of trainees adopting the instrumentalist more than the reflective professional orientation because the initial informal interaction with AI was not framed or critically scaffolded by the institution (Pangrazio & Selwyn, 2020).

Kelchtermans (2009) argues that the vulnerability aspect of the teacher identity is not pathological, but a normative one, and the prevalence of institutional discourse on professional issues enhances this vulnerability. If ITE programmes have not helped pre-service teachers engage in critical discussions about AI, they deprive trainees of the conceptual tools required to exercise professional judgement. Schon's (1983) account of the reflective practitioner explains that professional competence is not a fixed body of knowledge but rather an ability to sustain sense-making in uncertain situations. In this case, where AI forms such a scenario, ITE programmes should provide a structured space for this sense-making rather than leaving it to informal peer exchange or personal experimentation.

AI in Teacher Education in Developing Contexts

Global literature on the use of AI in teacher education has focused relatively more on European and North American settings than on the experiences of pre-service teachers in South

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Asian or other Global South settings, and such research remains theoretically underdeveloped. Pakistani studies constitute an emerging body of work. A digital literacy competence study using pre-service teachers in Pakistan as participants suggests critical variations between perceived and actual competence in high-level digital and AI-related areas (Jamil et al., 2025). A qualitative analysis of teacher educator perspectives at Pakistani universities shows that the decision to transition to AI is accompanied by negotiation between traditional pedagogical values and AI integration, most frequently manifesting as concerns about academic integrity and authenticity, and professional identity (Jamil et al., 2026). These conclusions contribute to the international literature while also highlighting context-specific constraints: resource scarcity, examination-focused curriculum cultures, and institutional hierarchies that limit critical pedagogical inquiry.

This study extends previous work on this topic through a phenomenological focus. Rather than exploring attitudes or measuring competencies, it reconstructs the lived experiences of pre-service teachers in Punjab, as they seek to understand AI during their training, professional construction, and emergent pedagogical identities after the training phase.

Methodology

Research Design

The current study is grounded in a qualitative phenomenological design that relies on Seidman's (2019) three-interview series approach. Phenomenological inquiry is appropriate for studies that foreground lived experience, sense-making, and subjective conceptualisation of phenomena across time (Creswell & Poth, 2023; Van Manen, 2016). Seidman's approach could fit into this study because it allows the researcher to reconstruct the experiences of the participants at analytically different yet connected temporal planes, such as life history, present lived experience, and reflective meaning-making. It is a practical model for studying the experiences that pre-service teachers have had with AI, which cannot be defined as a single occurrence but rather operates in the context of the participants' educational backgrounds, training experiences, and developing professional identity.

A qualitative approach is more appropriate in this case because the primary concern of the study is not the distribution of attitudes and competencies across a population but the form of personal experience and the sense of meaning that participants develop when interacting with AI in a specific institutional location (Patton, 2015).

Participants and Sampling

The sampling method used was purposive criterion-based sampling (Creswell & Poth, 2023; Patton, 2015). The inclusion criteria were that participants should be currently pursuing or should have graduated within the past twelve months from a B.Ed ITE programme in a university or in an affiliated college in Punjab, Pakistan. It was also anticipated that the participants would have completed their programme (at least one year) and gained significant experience and opinions on AI during their education. Individuals who had not completed a school-based practicum were excluded because the study aimed to capture experiences in both academic coursework and classroom experience.

Twelve participants were recruited, as recommended by Seidman (2019), as numerical adequacy in phenomenology interview research studies involves having enough diversity in the participants without overburdening the analytical ability of the three-interview series. They were comprised of three men and nine women between the ages of twenty-two and thirty-one years. Eight of them were found in institutions that were linked to the public sector, and four were in a related college. Their areas of training were elementary, secondary, and special education. Confidentiality was maintained by use of pseudonyms during the study.

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No.	Pseudonym	Gender	Institution Type	Specialisation
1	Amna	Female	Public	Elementary
2	Bilal	Male	Public	Secondary
3	Farida	Female	Private	Elementary
4	Gulnaz	Female	Public	Special Education
5	Hassan	Male	Private	Secondary
6	Iram	Female	Public	Elementary
7	Javeria	Female	Public	Secondary
8	Khalid	Male	Public	Elementary
9	Lubna	Female	Private	Special Education
10	Madiha	Female	Public	Secondary
11	Nadia	Female	Private	Elementary
12	Rabia	Female	Public	Secondary

Data Collection: The Three-Interview Series

The data were gathered using Seidman's three-interview series (Seidman, 2019). The participants participated in three individual interviews, each lasting approximately 90 min and spaced 2–3 weeks apart. The interviews were conducted in a private setting where the participants felt comfortable. All 12 participants completed all three interviews within the 2–3-week interval schedule.

Interview One was centred on the focused life history. The participants were asked to share their training experiences and educational backgrounds in relation to the theme of AI and technology. The interviewer explored how the participants had encountered technology during their schooling, what they had heard about digital tools within their families, schools, and institutions, and how they came to enrol in their ITE programmes. In line with Seidman's advice, the majority of questions employed were narrative reconstruction questions rather than explanatory ones, inviting how rather than why responses (Seidman, 2019).

Interview Two focused on the specifics of participants' current lived experience. The participants had to describe a typical day of their ITE programme, with a specific emphasis on how, where and when they used AI and how they reacted to the experience. They were asked to describe certain events, i.e., lesson preparation behaviour, classroom observations, and communication with supervisors or colleagues. The interviewer pursued concrete details, asking participants to slow down and describe activities, observations, and emotions typically taken for granted in daily practice (Seidman, 2019).

Interview Three asked participants to reflect on the meaning of the experiences discussed in Interview Two, located inside the life stories revisited in Interview One. Participants were asked to move beyond the immediate experience and respond to questions such as: What does it mean to you to be a pre-service teacher navigating AI without the support of your institution? What is the relevance of this experience to the teacher that you are becoming? And how have you bridged the gap between what you hear in policy announcements and what you actually receive in your programme?

Interviewing Techniques

The researcher adhered to the main principles of interviewing by Seidman in the entire series of three interview sessions. These principles were as follows: listening more and saying less; being sure to follow up on what participants had said rather than introducing new topics prematurely; requesting participants to describe rather than summarise or evaluate; and maintaining focus on concrete experiential descriptions. The researcher preferred to remain silent rather than fill pauses, recognising that extended silences often precede the most

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substantive participant contributions. Leading questions were not used. When interview guides were employed, they were treated as orientations, never as scripts, and always followed participant-generated directions of meaning first (Seidman, 2019).

Data Recording and Transcription

The interviews were audio-recorded with participants' knowledge and consent. Transcription was done by using TurboScribe, an artificial intelligence-based transcription system that produced literal transcripts with notations of pauses, speech overlaps, and laughter. One of the research team members went through every transcript following transcription and compared them with the audio recording, correcting mistakes and noting the presence of sighs and hesitations, as well as other parts of the paralinguistic presentation. Punctuation was treated as a matter of interpretation based on the recommendation of Kvale and Brinkmann (2015) that transcription decisions form the meanings that can be replaced at later stages of analysis.

Data Analysis Procedures

Seidman's four-step framework was used to analyse the data with the help of NVivo, which supports the coding process with an AI-assisted coding tool. Phase One involved the researcher reading the entire transcript several times and marking passages of interest while maintaining an open, inductive stance and avoiding premature classification. Phase Two involved tentative labelling of marked passages based on the data itself rather than existing theoretical paradigms. The AI coding function of NVivo was employed to aid in the initial identification of patterns across the three-interview datasets of twelve participants, producing initial code recommendations that were subsequently analysed, refined, and adjusted through the researcher's interpretive engagement.

Phase Three: In this stage, the research team adopted a thematic basis for data presentation, rather than individual participant profiles, in keeping with the theoretical interest of the study in cross-participant patterns of meaning, as opposed to the sole consideration of individual narrative coherence. The excerpts were clustered into themes and reviewed to identify threads across all three interviews and between participants. Phase Four consisted of an interpretive effort that established thematic relationships within and between categories and placed emergent meanings within the research questions and the larger literature, while respecting the specificity of participant voice. In this process, Jackson and Bazeley (2024) offered methodological guidance on the use of NVivo in managing and analysing qualitative data.

Trustworthiness and Rigour

Credibility was established by the extended relational engagement afforded by Seidman's three-interview series, which allowed participants to elaborate and deepen their accounts across sessions. Member checking was also conducted after Interview 3, in which each participant was invited to review a summary of the themes assigned to their data and confirm or challenge the ways in which the researcher interpreted their data (Lincoln & Guba, 1985). Dependability was achieved by maintaining an analytical audit trail of all analytical decisions, coding rationales, and interpretive decisions made during each phase. The researcher ensured confirmability by keeping a reflexivity journal during data collection and analysis to track positional assumptions, interpretive tensions, and changing analytical judgments (Tracy, 2010). Transferability is addressed through a thick contextual description of the Punjab ITE situation, allowing readers to judge the applicability of the findings to similar settings.

Ethical Considerations

The research received institutional ethical approval. Written informed consent was obtained from participants before Interview 1 and reaffirmed at the start of each subsequent interview, based on the ethical principles outlined by Seidman (2006). Judgements emphasise

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the relational, person-centred stance between researcher and participant. All identifiable data were replaced with pseudonyms and other personal institutional information, considering individuals who could have potentially identified them were dropped or altered. Audio files were saved in institutional password-protected servers that were only accessible by the research team. Transcripts will be retained for five years after publication and then destroyed.

Findings

The three interview datasets were coded, and four broad themes were generated under which there were sub-themes that illuminated the textures of lived experiences by the participants. Here, they are offered following the thematic approach of Seidman, including headings, explanatory comments, and quotes of the participants (Seidman, 2019). All quotes are quoted under a pseudonym, and the number of the interview is put in brackets

Theme 1: Living Between Two Worlds: Informal AI Use and Conceptual Ambiguity

The participants in both specialisations reported AI tools being a common element in their personal and academic life, but without an institutional framing that would make them think of these devices in terms of AI or make them associate the instruments with their professional training, which placed the participants simultaneously in the state of being both fluent informal AI users and conceptually unmoored professionals. It was not the misconception of my personal application vs professional knowledge, but an organisational element of their ITE experience.

Familiar tools, unfamiliar frames

Amna described her usage of ChatGPT and explained the institutional vacuum:

Honestly, I use it every day. I use it to make lesson plans, write summative notes on the books we are to read, and prepare drafts of writing papers that I will read. However, none of the students or faculty members in the program has ever mentioned the name of the chatbot, ChatGPT. It is as if I am in a part of life that is lacking in the institution. (Amna, Interview Two)

This institutional non-recognition is easy to find. Bilal had the opportunity to think about the sense of this silence in his third interview:

This makes you think about where you are, you know. People talk about something when it is important. The explanation behind the fact that not all people mention AI in our coursework is that they do not know it exists, or do not believe that it is a crucial aspect as a teacher. Neither of these is a good answer. (Bilal, Interview Three)

Peer learning as a default institutional response

In the absence of explicit teaching, the participants would always report trying to find knowledge in peer and informal sources that were not offered to them by their programmes. Farida recalled being introduced to AI tools by a cousin who worked in a technology firm: “He instructed me in how to operate these items as required. Not even by some teacher, not even by some college course” (Farida, Interview One). This is in line with the findings of the French study (Kohout-Diaz, 2026), where peer exchange serves as a comparable substitute for institutional guidance among trainee teachers.

Theme 2: Navigating without Direction: Pedagogical Ambivalence and Fragmented Integration

As far as participants were concerned, it was not a case of AI users and non-users. They shifted between enthusiasm, caution, pragmatic acceptance, and moral ambivalence depending on circumstance, and not an emotional expression of dispositions. This point of view echoes Kelchtermans’ (2009) judgement that professional identity is constitutively uncertain: It was not an anguished look followed by the conclusion of inability to choose, but a rational reaction to uncertain institutional demands.

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Enthusiasm tempered by uncertainty

During her practicum placement, Javeria described how she had attempted to design differentiated classroom activities with the help of AI. It interested her in the products, but she could not evaluate their appropriateness.

Artificial intelligence gave me three tasks of different levels. They appeared professional. But there was one thing I did not know, whether they were suitable for my pupils, because no one ever told me to think of that. (Javeria, Interview Two)

This example shows exactly what Gudmundsdottir and Hatlevik (2018) state within the TPDC framework: the transition from practical to purposeful AI application requires institutional support that participants had not received.

The practicum is a site of unresolved tensions

Others cited the school-based practicum as one of the places where AI tensions were highly acute. Madiha presented an example of a meeting with one of her supervising teachers, who suggested that lesson planning using AI was actively encouraged. The supervising university teacher disagreed. Madiha described the situation:

One of the teachers mentioned that it was time-saving to use. The university supervisor discouraged this, stating that it was not real learning. I was caught in the middle. Nobody has given us any principle we are supposed to operate on. (Madiha, Interview Two)

These self-contradictory directions, devoid of any institutional framework, meant that participants were left not opposed to technology, but exhausted by the unresolved contradictions they were navigating, left without direction.

Theme 3: What kind of teacher am I becoming? Ethical Tensions and Professional Identity

The interview that followed Seidman's design, in which we invited participants to create meaning of their experiences, resulted in the most substantive accounts of how the participants were defining their professional identities regarding AI. Such narratives helped to realise that the ethical dilemmas about the applications of AI were not some distant and abstract notion but a very personal issue of authorship, responsibility, and becoming a professional.

Authorship and the integrity of professional judgment

This worry, having been voiced by Hassan, echoed in different ways among many participants:

When I write my lesson plans with the help of AI, I do not know to whom the lesson plan is associated. My name is on it, and I have edited it. However, I did not actually think about it. I think that is a problem. Since, to do so, unless I teach myself how to plan lessons and the better part of it, what a student needs and why, then what sort of teacher am I training to be? (Hassan, Interview Three)

This account relates to what Gardesten and Herrlin (2024) refer to as the identity-based dimension of AI incorporation in educator preparation: The question of AI's impact on instructional authorship and the risk that expediency-based AI uptake forecloses the formation of authentic pedagogical thinking.

The human dimension of teaching and the limits of AI

Gulnaz, a special education student, expressed deep concerns because of her specialisation. She spoke about a child with whom she had worked during her practicum.

The child does not communicate in the way an application would want to. Relationship and knowing her in particular is what she is learning. An AI app will never grasp that. I am concerned that by using normal AI to do it all, we miss the urge to assess the real child. (Gulnaz, Interview Three)

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This concern about the decontextualised and relational limitations of AI aligns with findings from the French context (Kohout-Diaz, 2026) and has particular significance for critical AI literacy among educators working with diverse and vulnerable learners.

Theme 4: We Need More Than Tools: The Demand for Critically Grounded AI Training

During the three interviews, none of the interviewees was hostile towards AI; however, they insisted on principled, structured, critical, and pedagogically based work with AI in their ITE programs. Such a call was made on the institutions, not on AI itself. They did not want to escape AI; they only desired structures and places where they could talk about issues and receive support in the form of professional guidance and become thoughtful practitioners instead of unguided beginners.

Policy announcements without curricular substance

The participants were aware of the Punjab AI education policy. They lacked certainty towards the Institute. Nadia reflected:

We have read about such a public statement. There are 1000 AI master trainers. AI in every school. It sounds impressive. However, I am in a B.Ed. classroom, and we have never even mentioned what AI is, what AI is doing, or whether we should be using it. If policymakers would like teachers to incorporate AI, teachers will need actual training to become aware of AI. At this moment, there is a significant difference between the announcement and the reality. (Nadia, Interview Three)

A demand for critical rather than instrumental training

The strongest and most unanimous finding in the dataset was participants' demand for critical rather than technical engagement with AI. Rabia expressed the view held widely across the group:

I do not require a teacher who can explain to me how to use ChatGPT. I already know how to use it. I require a person who will assist me in thinking through occasions when I should and should not use it, and what it will entail for the students in front of me. Our program does not offer such training. (Rabia, Interview Three)

Such a requirement is exactly what Selwyn and Facer (2014) term critical digital pedagogy: an approach that positions digital technologies as an object of professional inquiry rather than a neutral delivery tool.

Discussion

Interpretation of Findings

The four themes illuminate what it means to be a prospective teacher in Punjab during the period of high policy ambition and structural institutional silence in AI. The participants were not passive consumers of change in technology. As agents of constructive meaning-making, using AI tools resourcefully but without the pedagogical support needed to understand or evaluate their professional consequences in ways that helped them understand, evaluate, and intentionally apply them in their practice of meaning-making (Kohout-Diaz, 2026; Seidman, 2019). The analytical strength of the three-interview series as a temporal structure was to show that current participant ambivalences are not detached attitudes but are, instead, based on institutional expectations, ambivalence tolerance, and desirable professional identities, which apply within educational life experiences.

The conditions under which participants operate may be characterised as a state of pedagogical emptiness. The Punjab policy announcements of AI consist of a demonstrative discursive commitment. They do not constitute a pedagogical implementation framework. ITE programmes have remained unredesigned, teacher educators have not been sufficiently equipped, and institutional arenas of critical discussion about AI have not been established in

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B.Ed programmes. Consequently, pre-service teachers who are exposed to AI in their daily existence experience institutional silence, which is not a passive reflection of their goals and environment but an active course of their professional identity. Silence is an expression of priorities. Institutions that are not vocal about AI indicate to the students, even though they do not intend to do so, that AI is not one of the issues of professional concern.

Relevance with the existing literature

The findings corroborate the trend identified by Kohout-Diaz (2026) among French ITE teacher candidates, where informal AI practices among teacher candidates were widespread, accompanied by institutional silence, pedagogical insecurity, and a strong desire to receive organised critical training. The Punjab case extends this trend into a substantially different context: a curriculum culture based on examinations, limited resources, institutional structures that discourage pedagogical agency, and a policy environment in which the reception of digital reform is a regular, recurring statement that is rarely followed up with investment in ITE curriculum development.

The findings obtained in this research can also be applied to the empirical literature on Pakistan. In a study of digital literacy competence among pre-service teachers in Pakistan, a gap was found between perceived and real digital literacy in advanced digital and AI-related domains (Jamil et al., 2025). The present study illuminates the experiential dimension of these gaps: not only skills gaps, but also institutional disengagement effects. Qualitative studies capturing the attributions of teacher educators are characterised by a comparable confrontation between conventional pedagogical principles and AI-inspired institutional pressures. The following presentation of the perspective of pre-service teachers expands these findings by presenting the experiences of those at the receiving end of the direct effects of these institutional tensions.

Implications

This study has three levels of implications. Theoretically, it contributes to the phenomenological literature on professional identity formation in technology-mediated ITE situations through the presence of institutional silence in relation to AI, which is not passive or neutral but actively constitutive. This occurs as pre-service teachers create meaning from silence, as they do from explicit institutional communication.

Practically, the study indicates that the ITE curriculum in Punjab must be revised, substantively and not rhetorically, to accommodate AI literacy. This involves the creation of special curricular areas in which pre-service teachers can critically reflect on AI: to understand its strengths and weaknesses as a pedagogical tool, to deliberate upon its ethical issues, and to formulate principled professional judgments. It is also linked to the professional development of teacher educators, which cannot be anticipated to enable critical AI literacy when they themselves have not been provided with formal professional education.

For policymakers, the study reveals that the announcements of policies in the absence of curriculum reform are a structural disconnect that undermines trust in the reform process. The AI education programme that the Punjab government has deployed needs to sustain its ITE pipeline in order to generate teachers to execute it.

Limitations

There are several limitations in the research. The sample of 12 participants is suitable for the phenomenological method, but it reduces the coverage of the scope of perspectives taken and generalisability outside the Punjab ITE structure. The sample was chosen mostly through university-based B.Ed courses, and these experiences of prospective teachers in smaller and less well-equipped colleges of education might vary significantly. Although the researchers pose themselves as educational researchers within the Punjab ITE context, such

positioning carries with it the risks of interpretive proximity that reflexivity practices cannot completely eradicate (Lincoln & Guba, 1985). The three-interview series is analytically robust and entails significant time and dedication requirements on the participants, which may be biased in selecting a more eloquent and motivated person.

Future Research Directions

This study identified three directions for future research. First, longitudinal studies monitoring pre-service teachers across their ITE programmes and into their early years of practice would shed light on how AI-related identities and competencies develop, stabilise, or diminish between training and employment. Second, comparative phenomenological studies across ITE institutions with varying levels of AI curriculum provision would enable a more systemic analysis of how institutional context shapes pre-service teacher experiences. Third, studies focused on the experiences of teacher educators themselves, who are expected to prepare pre-service teachers for AI integration without institutional support, would deepen the understanding of the full ecology of institutional silence that this study has begun to document.

Conclusion

This paper examined the pre-service teacher-AI experiences of pre-service teachers in Punjab, Pakistan, in the context of their early teacher preparation, and when provincial policy has undertaken extensive promises concerning AI integration in the school system. The study employed Seidman's three-interview phenomenological methodology to build the life-history, present lived experiences, and reflective meaning-making accounts of 12 B.Ed. participants. Four shared themes were found: informal AI use together with conceptual ambiguity, pedagogical ambivalence and fragmented integration, ethical tensions with regard to professional identity, and a substantive need for critically based AI training. These themes are combined to provide not individual failures but structural premises that have been brought about by the failure to align policy promises with institutional performance.

These results are not limited to the Punjab context. They represent a propensity, which is common to national ITE systems, of policy ambition to exceed institutional capacity and pre-service teachers who must negotiate the effects of this mismatch without institutional resources. The participants have made it clear that they did not dismiss AI and that they can use it to their advantage. Institutional scaffold is not anchored on such an engagement, making it pedagogically based, ethically concerned and professionally important. They are not in need of more tools; they seek structures, institutionalised language and professional identity, and AI navigation belongs to professional formation.

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