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Exploring Lived Experiences of Teachers Using AI Tools in Classrooms of High School Teachers in Kamber Shahdadkot

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Abstract

The rapid integration of artificial intelligence (AI) technologies into education has transformed teaching and learning processes globally. However, the lived experiences of teachers using AI tools in under-resourced and semi-rural contexts remain underexplored, particularly in Pakistan. This qualitative study investigates the lived experiences of high school teachers using AI tools in classrooms in Kamber Shahdadkot district, Sindh. Grounded in an interpretivist paradigm, the study adopts a phenomenological approach to understand how teachers perceive, use, and negotiate AI technologies in their daily pedagogical practices. Data were collected through semi-structured interviews with twenty high school teachers who had prior exposure to AI-assisted tools such as AI-based content generators, intelligent tutoring systems, automated assessment tools, and digital learning platforms. Thematic analysis was employed to analyze the data, following Braun and Clarke's six-phase framework. Findings revealed five major themes: (1) AI as a pedagogical support tool, (2) AI and transformation of teacher roles, (3) Emotional and ethical concerns related to AI use, (4) Contextual and infrastructural constraints, and (5) Professional growth and future aspirations. The study highlights that while teachers perceive AI as a valuable aid for lesson planning, assessment, and student engagement, they also experience challenges related to digital literacy, ethical considerations, and lack of institutional support. The findings underscore the importance of contextualized AI integration policies, teacher training, and ethical guidelines. This study contributes to the emerging literature on AI in education by offering localized, experience-based insights and provides practical implications for policymakers, school leaders, and teacher educators aiming to integrate AI responsibly in secondary education.

Keywords: Artificial Intelligence, Teachers' Lived Experiences, High School Education, Thematic Analysis, Kamber Shahdadkot

1. Introduction

Artificial intelligence (AI) has emerged as a transformative force in education, reshaping instructional practices, assessment systems, and teacher–student interactions (Holmes et al., 2022; Zhai et al., 2024). AI tools such as adaptive learning systems, automated feedback mechanisms, intelligent tutoring systems, and generative AI platforms have increasingly entered classrooms worldwide. These tools promise personalized learning, efficiency, and enhanced student engagement (Kasneci et al., 2023; UNESCO, 2023). However, the integration of AI into teaching is not merely a technical shift; it represents a profound pedagogical and professional

transformation that directly affects teachers' identities, roles, and daily experiences (Selwyn, 2023).

In developing countries like Pakistan, the adoption of AI in education is uneven and deeply influenced by contextual factors such as infrastructure, teacher preparedness, and policy frameworks (Rizvi & Nabi, 2022; Shah & Khan, 2024). While urban private schools have begun experimenting with AI-driven platforms, public high schools in semi-rural districts often lack systematic guidance and resources for meaningful AI integration (Ameen et al., 2023). Teachers in such contexts are frequently left to navigate AI tools independently, learning through trial and error.

Understanding teachers' lived experiences with AI is crucial because teachers are the primary mediators between technology and students. Their perceptions, beliefs, and emotional responses significantly influence how AI tools are used in classrooms (Viberg et al., 2021; Ouyang & Jiao, 2023). Despite the growing body of international research on AI in education, there is limited qualitative research focusing on teachers' experiences in Pakistan, particularly in districts like Kamber Shahdadkot. This study addresses this gap by exploring how high school teachers experience the use of AI tools in their classrooms, the meanings they assign to these experiences, and the challenges and opportunities they encounter.

1.1. Background of Study

The educational landscape of Kamber Shahdadkot district is characterized by public sector dominance, limited technological infrastructure, and a strong emphasis on board examinations at the secondary level. Teachers often manage large classrooms, diverse student needs, and limited instructional resources (Sindh Education Sector Analysis, 2022). In recent years, however, increased access to smartphones, internet connectivity, and digital platforms has enabled some teachers to experiment with AI-supported tools such as ChatGPT-like applications, AI-based lesson planners, online assessment generators, and automated translation tools (Khan et al., 2024). Globally, AI is positioned as a means to support teachers rather than replace them, enhancing instructional quality and reducing workload (Holmes et al., 2022; Kasneci et al., 2023). Yet, research indicates that teachers' experiences with AI are often ambivalent, combining optimism with anxiety, excitement with ethical concerns, and empowerment with fear of professional devaluation (Selwyn, 2023; Zhai et al., 2024).

In Pakistan, recent studies suggest that teachers' digital competence varies widely and is often influenced by informal learning rather than formal training (Ameen et al., 2023; Shah & Khan, 2024). In semi-rural districts like Kamber Shahdadkot, these challenges are amplified by inconsistent electricity supply, limited internet access, and absence of institutional AI policies. Therefore, exploring teachers' lived experiences in this specific context is essential for developing realistic and culturally responsive AI integration strategies.

1.2. Research Statement

Despite the increasing availability of AI tools in education, little is known about how high school teachers in Kamber Shahdadkot experience, interpret, and utilize these tools in their classrooms. Existing research in Pakistan has largely focused on digital learning outcomes or student perceptions, neglecting teachers' lived experiences with AI technologies. This study seeks to address this gap by exploring the lived experiences of high school teachers using AI tools, focusing on their perceptions, challenges, ethical concerns, and professional transformations within the local educational context.

1.3. Research Objectives

The objectives of this study are to:

1. Explore high school teachers' lived experiences of using AI tools in classrooms.
2. Examine teachers' perceptions of AI's role in teaching and learning.
3. Identify challenges and ethical concerns faced by teachers when using AI tools.
4. Understand how AI use influences teachers' professional identity and instructional practices.
5. Provide context-specific recommendations for effective and ethical AI integration in secondary education.

1.4. Significance of Study

This study is significant for several reasons. First, it contributes to the limited qualitative literature on AI in education within Pakistan, particularly in semi-rural districts (Rizvi & Nabi, 2022; Shah & Khan, 2024). Second, by focusing on lived experiences, it provides deep insights into teachers' emotional, ethical, and professional realities that are often overlooked in quantitative studies (Viberg et al., 2021). Third, the findings offer practical implications for policymakers, school administrators, and teacher educators seeking to implement AI tools in contextually appropriate and ethically responsible ways (UNESCO, 2023; Ouyang & Jiao, 2023).

2. Review of Literature

Recent literature on AI in education highlights its potential to personalize learning, support assessment, and enhance instructional efficiency (Holmes et al., 2022; Kasneci et al., 2023). Generative AI tools, in particular, have attracted attention for their ability to assist teachers in lesson planning, content creation, and feedback generation (Zhai et al., 2024).

However, studies also emphasize teachers' mixed reactions to AI adoption. Selwyn (2023) argues that AI often introduces new forms of labor, requiring teachers to adapt, monitor, and ethically manage AI outputs. Viberg et al. (2021) found that teachers' acceptance of AI depends on perceived usefulness, ease of use, and alignment with pedagogical values.

In developing contexts, infrastructural and policy constraints significantly shape AI experiences (Rizvi & Nabi, 2022). Ameen et al. (2023) reported that Pakistani teachers often rely on self-learning to adopt digital tools, leading to uneven and sometimes ineffective implementation. Ethical concerns such as data privacy, academic dishonesty, and over-reliance on AI are also widely reported (UNESCO, 2023; Kasneci et al., 2023).

Despite growing interest, there is a lack of phenomenological research exploring teachers' lived experiences with AI in secondary education, especially in rural and semi-rural regions. This study responds to this gap by foregrounding teachers' voices and contextual realities.

2.1 Artificial Intelligence in Education: Conceptual Foundations

Artificial intelligence in education (AIED) refers to the application of machine-based systems capable of performing tasks that traditionally require human intelligence, including reasoning, language processing, adaptive decision-making, and pattern recognition (Holmes et al., 2022). Within educational contexts, AI is operationalized through adaptive learning systems, automated assessment tools, learning analytics dashboards, and generative AI platforms that assist teachers and learners (Kasneci et al., 2023).

Recent scholarship distinguishes between instrumental AI (automation, efficiency) and augmentative AI, which supports human judgment and pedagogical decision-making (Ouyang & Jiao, 2023). This distinction is critical for understanding teachers' lived experiences, as educators often interpret AI not merely as a tool but as a pedagogical actor that reshapes classroom authority and instructional responsibility (Selwyn, 2023).

In secondary education, AI adoption intersects with curriculum pacing, standardized examinations, and adolescent socio-emotional development. Studies indicate that AI-supported instruction can enhance conceptual clarity and formative assessment, but its effectiveness is mediated by teachers' pedagogical beliefs and contextual constraints (Zhai et al., 2024; Holmes et al., 2022).

2.2 Teachers' Lived Experience and Phenomenological Perspectives

Phenomenology emphasizes understanding how individuals experience phenomena in their everyday lifeworlds, focusing on meaning-making rather than causal explanation (Creswell & Poth, 2018). Applied to AI in education, a phenomenological lens foregrounds teachers' emotions, values, fears, and professional identity negotiations when engaging with AI tools (Braun & Clarke, 2021).

Recent qualitative studies reveal that teachers' experiences with AI are deeply emotional and ethically charged. Teachers report excitement about innovation alongside anxiety about loss of control, deskilling, and moral responsibility (Selwyn, 2023; UNESCO, 2023). These lived experiences are particularly salient in contexts where institutional guidance is weak, requiring teachers to navigate AI adoption independently.

In Pakistan, where professional autonomy is often constrained by examination systems and bureaucratic structures, teachers' lived experiences with AI reflect both aspiration and uncertainty (Shah & Khan, 2024). Understanding these experiences is essential for developing grounded AI policies that respect teachers' agency.

2.3 AI, Teacher Identity, and Professional Authority

Teacher identity is socially constructed through institutional expectations, classroom interactions, and professional narratives (Beauchamp & Thomas, 2021). AI disrupts traditional teacher identities by introducing non-human agents capable of generating explanations, assessments, and feedback—functions historically associated with teachers' expertise (Kasneci et al., 2023).

Research suggests that teachers experience identity tension when AI tools challenge their epistemic authority. Some perceive AI as a threat to professional legitimacy, while others reframe their role as facilitators, mentors, and ethical gatekeepers (Selwyn, 2023; Zhai et al., 2024). This reconfiguration aligns with constructivist pedagogy but requires emotional adaptation and professional learning.

In semi-rural Pakistani contexts, where teachers' authority is culturally significant, the negotiation of AI-mediated authority becomes particularly complex. Teachers must balance respect, discipline, and technological mediation in classrooms shaped by traditional expectations (Rizvi & Nabi, 2022).

2.4 Ethical Dimensions of AI Use in Classrooms

Ethical concerns constitute a central dimension of teachers' experiences with AI. UNESCO (2023) identifies key risks including data privacy, algorithmic bias, surveillance, academic dishonesty, and unequal access. Teachers are often positioned as frontline ethical decision-makers without formal training or guidelines.

Empirical studies report that teachers worry about students' over-reliance on AI, erosion of critical thinking, and plagiarism facilitated by generative tools (Kasneci et al., 2023; Ouyang & Jiao, 2023). These concerns are amplified in examination-oriented systems such as Pakistan's secondary education, where academic integrity is tightly linked to assessment credibility.

Teachers' ethical experiences are not abstract; they are embedded in daily classroom dilemmas—deciding when AI use is acceptable, how to detect misuse, and how to educate students about responsible use (Selwyn, 2023).

2.5 AI in Developing and Semi-Rural Educational Contexts

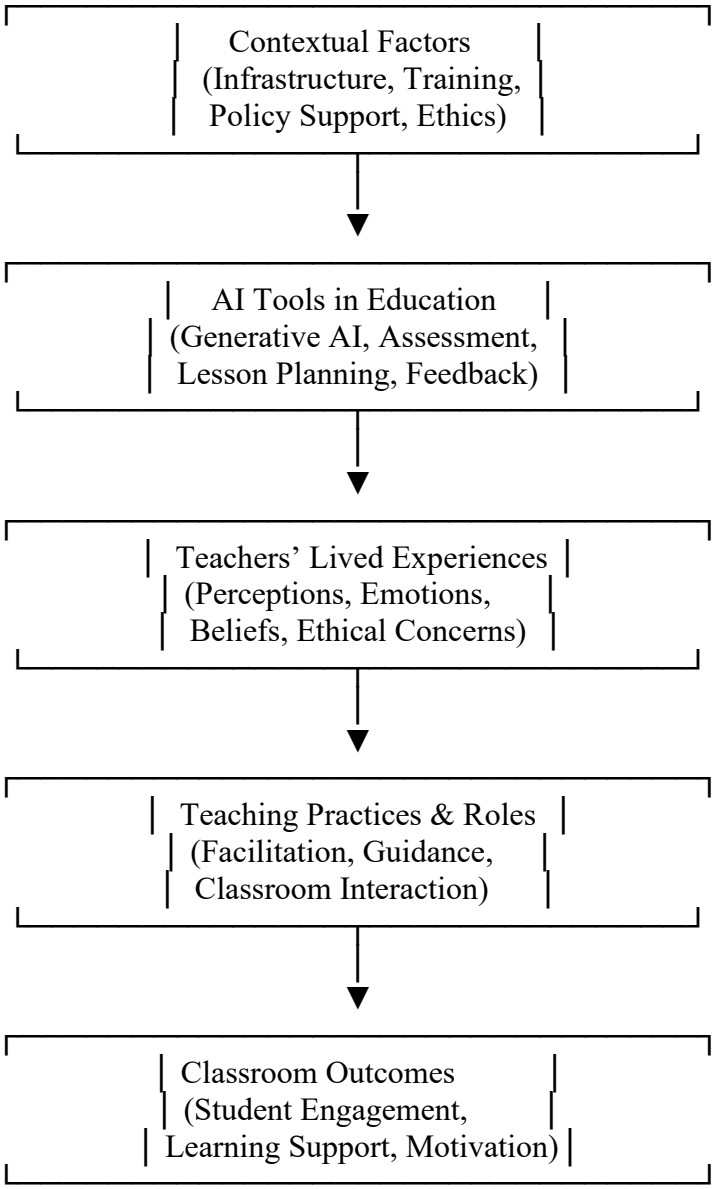
Most AI-in-education research originates from high-income contexts, limiting its applicability to developing regions (Holmes et al., 2022). In Pakistan, infrastructural disparities, digital divides, and uneven teacher training significantly shape AI experiences (Ameen et al., 2023).

Studies show that teachers in semi-rural districts often use personal devices, informal learning networks, and self-experimentation to access AI tools (Shah & Khan, 2024). While this demonstrates agency and innovation, it also creates inconsistent practices and ethical ambiguity.

This study contributes to addressing this geographic and contextual gap by providing empirically grounded insights from Kamber Shahdadkot.

2.6. Conceptual Framework

The conceptual framework illustrates how teachers' use of AI tools influences their teaching practices**,** professional experiences, and classroom outcomes**,** while being shaped by contextual factors**.** The framework is grounded in recent AI-in-education literature (Selwyn, 2023; Zhai et al., 2024; UNESCO, 2023).



Explanation of the Conceptual Framework

The framework positions AI tools as the central phenomenon influencing teachers' classroom practices. However, teachers' lived experiences act as a mediating layer through which AI impacts teaching. These experiences include emotional responses, ethical reflections, and professional identity negotiations (Selwyn, 2023).

Contextual factors—such as infrastructure, institutional support, training opportunities, and ethical guidelines—shape how teachers access and use AI tools (UNESCO, 2023; Rizvi & Nabi, 2022). Teachers' experiences then influence their instructional roles, shifting them from traditional knowledge transmitters to facilitators and mentors (Holmes et al., 2022). Ultimately, these changes affect classroom outcomes, including student engagement and learning support.

3. Research Methodology

3.1 Research Design

The study employed a qualitative phenomenological design to capture teachers' lived experiences with AI tools. This approach is appropriate for exploring subjective meanings and shared experiences (Creswell & Poth, 2018). An interpretivist paradigm guided data collection and analysis.

3.2 Research Population

The population consisted of public high school teachers in Kamber Shahdadkot who had experience using AI-based tools. Twenty teachers were selected through purposive sampling to ensure diversity in gender, subject area, and teaching experience (Guest et al., 2024).

3.3 Research Instrument

Data were collected using a semi-structured interview protocol (see Appendix A). Questions focused on AI use, perceptions, emotional responses, ethical concerns, and professional impact. The instrument was reviewed by experts to enhance credibility.

3.4 Research Site

The research was conducted in government high schools across Kamber Shahdadkot district, reflecting a semi-rural educational context with emerging digital practices.

3.5 Research Paradigm and Epistemological Positioning

This study is grounded in an interpretivist epistemology, which assumes that reality is socially constructed and best understood through participants' subjective meanings (Creswell & Poth, 2018). AI use in classrooms is not treated as a fixed intervention but as a lived, evolving practice shaped by context, emotion, and professional judgment.

Phenomenology is particularly appropriate for examining emerging technologies where standardized practices have not yet stabilized (Braun & Clarke, 2021).

3.6 Reflexivity Statement

The researchers acknowledge their positionality as educators and technology researchers, which informed sensitivity to teachers' professional concerns while necessitating reflexive awareness to avoid technological bias. Reflexive journaling and peer debriefing were used throughout analysis to enhance analytic rigor and transparency (Braun & Clarke, 2021).

3.7 Trustworthiness of the Study

To ensure qualitative rigor, the study employed Lincoln and Guba's (1985) trustworthiness criteria:

- **Credibility:** Prolonged engagement, verbatim transcription, and member reflections.
- **Transferability:** Thick contextual description of Kamber Shahdadkot.
- **Dependability:** Transparent documentation of analytic procedures.
- **Confirmability:** Reflexive notes and audit trails.

Such practices align with expectations of Scopus-indexed qualitative research (Guest et al., 2024).

4. Data Collection and Analysis (Qualitative)

Interviews were audio-recorded, transcribed verbatim, and analyzed using reflexive thematic analysis following Braun and Clarke (2021). Five themes were generated and are interpreted below.

Theme 1: AI as an Instructional Augmentation Tool

Teachers perceived AI as a supportive resource that enhanced lesson preparation, assessment design, and content explanation. AI tools were viewed as time-saving and pedagogically supportive (Kasneci et al., 2023).

Theme 2: Reconfiguration of Teacher Roles

Participants reported a shift from content transmission to facilitation and guidance, aligning with learner-centered pedagogies (Holmes et al., 2022).

Theme 3: Emotional and Ethical Ambivalence

Teachers expressed mixed emotions, including enthusiasm and anxiety. Ethical concerns related to plagiarism, over-reliance on AI, and data privacy were prominent (UNESCO, 2023).

Theme 4: Contextual and Infrastructural Constraints

Limited internet access, lack of training, and absence of institutional policies constrained effective AI use (Ameen et al., 2023).

Theme 5: Professional Learning and Future Aspirations

Teachers expressed strong interest in structured AI training and policy guidance, viewing AI as integral to future teaching (Zhai et al., 2024).

5. Discussion

The findings illustrate that teachers' lived experiences with AI are shaped by a dynamic interplay of pedagogical opportunity, emotional negotiation, ethical responsibility, and contextual limitation. AI emerges neither as a simple solution nor a deterministic threat, but as a socially mediated practice.

Consistent with global literature, AI functions as an augmentative pedagogical force while simultaneously redistributing professional labor (Selwyn, 2023; Kasneci et al., 2023). In Kamber Shahdadkot, these dynamics are intensified by infrastructural scarcity and examination pressures.

The phenomenological lens reveals that teachers' acceptance of AI is not merely technical but deeply moral and emotional. Teachers frame AI adoption as a responsibility to students' futures, reflecting professional ethics rooted in care and accountability.

5.1 Policy and System-Level Implications

- AI integration policies must be context-responsive, not imported wholesale from high-income systems.
- Teacher professional development should emphasize ethical AI literacy, not only technical skills.
- Examination boards must clarify AI-related academic integrity standards.

- School leadership should institutionalize collaborative AI practices rather than individual experimentation.

6. Conclusion

This study provides a nuanced, experience-based account of how high school teachers in Kamber Shahdadkot engage with AI tools in classroom contexts. Teachers' lived experiences reveal AI as a pedagogical ally, an ethical challenge, and a catalyst for professional transformation.

The findings highlight the necessity of grounding AI-in-education initiatives in teachers' experiential realities, particularly in semi-rural and resource-constrained contexts. Sustainable AI integration requires systemic support, ethical clarity, and recognition of teachers as central agents in educational innovation.

Future research should employ longitudinal and participatory designs to further explore how teachers' AI experiences evolve over time.

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