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Teachers' Lived Experiences of Using AI Tools in Curriculum Delivery: A Phenomenological Study

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ABSTRACT

Artificial Intelligence (AI) is increasingly transforming the field of education by supporting teachers in curriculum delivery, lesson planning, assessment, and instructional design. Despite the rapid integration of AI tools in educational settings, most existing research has focused on teachers' perceptions, attitudes, and acceptance of AI technologies, with limited attention to their lived experiences in authentic classroom contexts. In particular, there is a lack of qualitative studies exploring how teachers experience the use of AI tools in their day-to-day instructional and curriculum delivery practices. This study aims to explore teachers' lived experiences of using AI tools in curriculum delivery. A qualitative research design based on a phenomenological approach will be employed to gain in-depth understanding of teachers' experiences. Approximately ten school teachers will be selected using purposive sampling, ensuring that participants have direct experience of integrating AI tools into their teaching practices. Data collected through structured interviews, allowing participants to provide rich and detailed accounts of their experiences and perceptions of AI use in education. The data analyzed to using thematic analysis, following a systematic process of coding and theme development. The study is expected to contribute to the existing literature by providing contextualized insights into how AI tools influence curriculum delivery in real classroom settings. Aims of the study is to inform policymakers, curriculum developers, and teacher educators about the practical implications of AI integration and the need for professional trainings for teachers.

Introduction

Artificial Intelligence (AI) has rapidly transformed various sectors, including education, healthcare, business, and industry. In the field of technology and computing, AI has established a significant role by enabling machines and computer systems to perform tasks that traditionally require human intelligence. AI integration into different aspects of society, it has enhanced efficiency, productivity, and decision-making processes. In education, AI serves as a valuable tool for teachers by supporting lesson planning, content development, assessment, and administrative tasks. As a result, AI helps reduce teachers' workload and enables them to focus more on teaching and student learning. The use of AI has the potential to make teaching more effective, efficient, and personalized.

AI use is increasing in now days and AI is very helpful for teachers at primary level. Teachers can make easier teaching to use AI tools. Like one hour teacher is making lesson plan, it's reduce the time. Now we have lots of tools of artificial intelligence that make the work easier than the earlier time. Teachers can make worksheets and plan the activities for the students that is relevant to their studies that make better understandings of the students. AI is really helpful in their teaching because it gives lots of options to the teacher and somehow is that how not come to the human's mind because the explorer of AI is almost bigger than the humans because when we agree about the creativity of humans, but the AI is also very important that helps the humans because AI always gives lots of options to you and teacher pick one and make with their own creativity to change and to create something new that is effective for the students. AI is also very beneficial for reducing teachers' workload and helps to save the time that is good for teachers' focus and quality learning for students.

AI has been widely discussed in educational research, there remains a need to help teachers understand how AI can be effectively integrated into curriculum delivery. Teachers need guidance on how to interpret AI data , adapt them to their instructional contexts, and apply them appropriately in classroom teaching. Developing teachers' AI literacy and pedagogical competence is essential to ensure that AI is used not merely as a technological innovation but as a meaningful tool for enhancing teaching and learning. According to Kohout-Diaz (2026).Artificial Intelligence (AI1) is increasingly transforming educational systems, not only through the proliferation of algorithmic tools and predictive platforms, but also by reshaping expectations around teaching, assessment, and professional identity. While research into AI applications in fields such as medicine and business is rapidly advancing, its pedagogical integration in teacher education remains uneven and underexplored. In parallel with international debates on this subject, France is undergoing a significant reform of its initial teacher education system in 2025.

This study focuses on teachers' experiences of using AI tools in curriculum delivery. It seeks to understand how teachers use these tools, what benefits they gain from them, what challenges they face, and how AI is influencing their instructional practices. The findings are expected to contribute to the growing discussion on the role of AI in education and to inform future curriculum planning, teacher development, and policy decisions.

Statement of the Problem

Although SNC 2020 and recent policy documents encourage digital innovation, there is no clear national framework guiding teachers on ethical and effective use of AI in classrooms. Teachers are adopting tools like ChatGPT and AI image generators independently, often without training or institutional support. This creates a gap between policy expectations and ground realities. Without understanding teachers' lived experiences including benefits, challenges, and coping strategies — it is difficult to design teacher training or policy that makes AI integration sustainable. Therefore, this study explores how secondary school teachers in Pakistan experience the use of AI tools for curriculum planning, instruction, and assessment.

Objectives of the Study

1. To explore primary school teachers' perceptions and experiences of using AI tools for curriculum delivery.
2. To identify opportunities and challenges teachers face when integrating AI tools in classroom teaching and assessment.

Significance of the Study

- **For Teachers:** Findings will give voice to teacher experiences and provide peer-tested strategies for using AI without increasing workload.
- **For Policy Makers:** The study will inform the Ministry of Education and SNC implementation teams about ground-level gaps in AI policy and training needs.

Literature Review

With the rapid development of generative AI, teachers are experiencing a new pedagogical challenge, one that promises to forever change the way we approach teaching and learning. As a response to this unprecedented teaching context, this collection Teaching and Generative AI: Pedagogical Possibilities and Productive Tensions provides interdisciplinary teachers, librarians, and instructional designers with practical and thoughtful pedagogical resources for navigating the possibilities and challenges of teaching in an AI era. Because our goal with this edited collection is to present nuanced discussions of AI technologies across disciplines, the chapters collectively acknowledge or explore both possibilities and tensions including the strengths, limitations, ethical considerations, and disciplinary potential and challenges of teaching in an AI era. (Buyserie & Thurston, 2024)

A study by Kokoç (2024) found that teachers perceive generative AI as a valuable resource for enhancing instructional practices and reducing workload. Teachers reported that AI-assisted tools support content creation, activity design, and curriculum implementation. However, concerns regarding the accuracy of AI-generated content, ethical issues, and insufficient training were identified as significant barriers to effective adoption.

Similarly, Shi, Ding, and Choi (2024) examined teachers' perceptions of AI integration in science classrooms and found that AI tools supported lesson planning, personalized instruction, feedback provision, and assessment practices. Teachers generally viewed AI positively but emphasized the importance of human judgment when evaluating AI-generated outputs.

AI can also enhance teachers' skills by providing them with access to a range of tools and resources that can help them become better educators. For example, AI-powered assessment tools can provide teachers with real-time feedback on student performance, enabling them to adjust their teaching strategies to better meet the needs of their students. AI can also help teachers to personalize learning, creating lessons that are tailored to the individual needs of their students(Buyserie & Thurston, 2024).

Research also indicates that AI can contribute to teacher professional development. A systematic review published in 2025 reported that AI technologies facilitate instructional innovation and support teachers in improving teaching effectiveness. The review highlighted that professional development opportunities and AI literacy are critical factors influencing successful implementation in educational settings.

International organizations have also recognized the growing role of AI in education. UNESCO emphasizes the importance of developing teachers' AI competencies and ensuring ethical, transparent, and equitable use of AI technologies in educational settings. UNESCO's frameworks highlight the need for teacher training, digital literacy, and governance mechanisms to support effective AI integration into curriculum delivery.

Overall, the recent literature suggests that teachers generally perceive AI tools as beneficial for enhancing curriculum delivery, reducing workload, and supporting innovative teaching practices. Nevertheless, challenges related to training, ethics, reliability, privacy, and policy implementation remain significant considerations for successful integration.

Gaps in the Literature

Although recent studies have provided valuable insights into AI integration in education, several gaps remain.

First, much of the existing literature focuses on teachers' perceptions and attitudes toward AI rather than their lived experiences in actual curriculum delivery contexts. There is limited qualitative research exploring how teachers experience AI integration in their daily teaching practices.

Second, most studies have been conducted in technologically advanced educational settings, particularly in Europe, North America, and East Asia. Research focusing on developing countries, including Pakistan, remains limited. As educational contexts vary significantly, findings from developed countries may not fully reflect the experiences of teachers in resource-constrained environments.

Third, existing studies often examine AI use broadly without specifically focusing on curriculum delivery processes. More research is needed to understand how AI influences lesson planning, instructional practices, classroom interactions, and curriculum implementation.

Finally, there is limited evidence regarding the long-term impact of AI on teachers' professional roles, pedagogical decision-making, and instructional autonomy. These areas warrant further investigation through qualitative studies that capture teachers' experiences in depth.

Research Methodology

This study is grounded in the interpretivist paradigm, which seeks to understand participants' subjective experiences and the meanings they attach to them. Accordingly, a qualitative research approach was adopted to explore teachers' perceptions and experiences regarding the use of artificial intelligence (AI) in curriculum delivery. An phenomenological research design was employed to gain an in-depth understanding of teachers' practices and perspectives within their educational contexts. The study involved ten teachers selected through purposive sampling. 10 teachers are involved in this study. The study will be conducted in schools, where teachers have experience using AI tools for instructional purposes. Data were collected through structured interviews, allowing participants to share their experiences and views in detail. The collected data were analyzed using thematic analysis, whereby interview transcripts were coded and organized into themes to identify recurring patterns and meanings related to teachers' use of AI in curriculum delivery.

Data Analysis and Findings

The qualitative data collected from teacher participants were analyzed using an inductive thematic analysis approach (Braun & Clarke, 2006). Interview responses were transcribed, coded line-by-line, and grouped into recurring patterns of meaning. Codes with conceptual similarity were clustered into broader categories, which were then refined into nine distinct themes representing teachers' perceptions of Artificial Intelligence (AI) integration in their professional practice. These themes capture both the perceived benefits of AI adoption (Themes 1–7) and the perceived challenges and support needs associated with its use (Themes 8–9). Representative participant quotations are presented verbatim to preserve the authenticity of participant voice, followed by an interpretive narrative situating each theme within the broader research context.

A summary of the identified themes is presented in Table 1, followed by a detailed discussion of each theme.

Table 1: Summary of Emergent Themes from Teacher Interviews

#	Theme	Core Focus
1	Resource Development and Lesson Preparation	Efficiency in generating instructional materials
2	Creativity, Innovation, and Professional Growth	AI as a stimulus for pedagogical innovation
3	Time Efficiency and Quick Access to Information	Reduced workload and faster information retrieval
4	Enhancing Student Learning and Future Readiness	Preparing students for a technology-driven future
5	Access to Modern, Motivated, and Comprehensive Knowledge	Engagement and motivation through AI-enriched content
6	Enhanced Teaching Quality and Effectiveness	Improved pedagogical delivery
7	Curriculum Alignment and Scheduling Support	Structuring instruction around curricular timelines
8	Need for Advanced AI Training	Professional development gaps
9	Challenges and Limitations of AI in Education	Concerns over accuracy and reliability

Theme 1: Resource Development and Lesson Preparation

Participants consistently described AI as a valuable tool for streamlining the preparation of instructional resources. One teacher noted that AI "helped me to prepare lessons more effectively," while another emphasized its role in helping to "create learning material." This theme suggests that AI functions primarily as a productivity-enhancing tool at the planning stage of teaching, reducing the manual burden of designing worksheets, activities, and daily lesson plans. The reduction in preparation time appears to allow teachers to redirect their effort toward instructional delivery and student engagement rather than administrative content creation.

Theme 2: Creativity, Innovation, and Professional Growth

A second theme centered on AI as a catalyst for creative and professional development. Participants reported that AI tools "have given me inspiration for pursuing my creative ideas" and helped them "find new teaching ideas." This finding indicates that teachers do not view AI merely as a mechanical aid but as a collaborative source of inspiration, exposing them to global educational trends and alternative pedagogical strategies that might otherwise be inaccessible within their immediate professional context.

Theme 3: Time Efficiency and Quick Access to Information

Time efficiency emerged as one of the most strongly and frequently articulated benefits. Teachers described how they could get an answer "within a time," noting that the tool "helps me to save time" and that its "speed is easy to use." Another participant simply stated that it "enhanced my speed of work." Collectively, these responses point to AI's role in accelerating routine cognitive and administrative tasks, allowing teachers to complete work in a fraction of the time previously required: a factor with direct implications for reducing teacher workload and burnout.

Theme 4: Enhancing Student Learning and Future Readiness

Beyond personal efficiency, participants framed AI adoption as an investment in students' long-term development. One teacher explained a desire for students "to explore this new technology of AI" in order to "build an intellectual mindset for their upcoming future." Others emphasized "providing better learning tools for students." This theme reflects a forward-looking pedagogical orientation, in which teachers position AI literacy as a foundational skill necessary for students' academic and professional success in an increasingly digital world.

Theme 5: Access to Modern, Motivated, and Comprehensive Knowledge

Participants also highlighted AI's capacity to deliver contemporary and comprehensive content that increases student motivation and engagement. Teachers noted that AI tools employ "modern techniques" and provide "comprehensive answers and lots of things." Importantly, participants linked this content quality to affective outcomes, observing that students' "motivation level increased" and that "students are very happy while sharing unique ideas." This suggests a perceived link between the novelty and richness of AI-generated material and improvements in classroom engagement and student enthusiasm.

Theme 6: Enhanced Teaching Quality and Effectiveness

Closely related to the previous themes, participants directly attributed improvements in their instructional quality to AI use. One respondent stated plainly that AI "has improved the quality of my teaching," while another described incremental progress, noting they were "day by day doing good." This theme reinforces the perception that AI integration is not a one-time efficiency gain but an ongoing, cumulative improvement process in teaching effectiveness.

Theme 7: Curriculum Alignment and Scheduling Support

Several participants valued AI's role in supporting structural and organizational aspects of teaching. One teacher explained that AI "provides me with the timetable format according to the curriculum," while another emphasized the goal to "cover within given time." A further comment noted having "the materials for arranging proper schedule." This theme illustrates AI's utility not only for content generation but also for logistical and curricular planning, helping teachers pace instruction in alignment with institutional timelines and learning objectives.

Theme 8: Need for Advanced AI Training

In contrast to the predominantly positive themes above, participants identified a clear gap in their current competencies. Teachers expressed a need for "training on advanced AI features" and a desire "to understand more functions." One participant specifically requested that "training should be in working with difficult AI tools." This theme signals that while basic AI use is perceived positively, teachers' proficiency plateaus at a foundational level, and sustained professional development is necessary to unlock more sophisticated applications of AI in the classroom.

Theme 9: Challenges and Limitations of AI in Education

Finally, participants raised concerns regarding the reliability and trustworthiness of AI-generated content. One teacher noted that "verifying the content can also take time," while another observed that "sometimes AI provides inaccurate information." This theme tempers the overwhelmingly favorable perceptions expressed elsewhere in the data, indicating that teachers remain critically aware of AI's limitations and continue to exercise professional judgment by cross-checking AI-generated outputs before instructional use.

Conclusion

This phenomenological study explored teachers' lived experiences of using AI tools in curriculum delivery. Findings revealed that teachers experience AI as a source of efficiency, creativity, and professional growth, reducing the burden of lesson preparation while opening new avenues for innovative, student-centered teaching. Participants described feeling more motivated and better equipped to prepare students for a technology-driven future, with AI enriching both the quality and pace of instruction through curriculum-aligned planning support.

However, this positive experience was accompanied by an undercurrent of caution. Teachers expressed uncertainty about the accuracy of AI-generated content and a felt need for deeper training to use more advanced AI functions confidently. The essence of teachers' lived experience can therefore be characterized as one of empowered but cautious adoption: teachers embrace AI's efficiency and creative potential while exercising professional judgment to verify its outputs and calling for structured support to strengthen their competence.

Recommendations

1. Schools may encourage and formally support AI-assisted lesson planning and resource development, given its clear efficiency benefits.
2. Institutions may offer tiered, ongoing professional development in advanced AI functionalities, moving teachers beyond basic use.

3. Simple verification protocols may be introduced to help teachers efficiently check AI-generated content before classroom use.
4. Clear institutional guidelines on appropriate AI use in curriculum delivery should be developed to reduce ambiguity and ensure responsible integration.
5. Longitudinal and discipline-specific studies are recommended to track how teachers' experiences with AI evolve over time and vary across subject areas.

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