Teacher As a Facilitator: Examining the Role of AI-Powered Tools in Transforming Classroom Practices

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ABSTRACT:

The National Education Policy (NEP) 2020 envisions a fundamental shift in the Indian classroom, recasting the teacher from a primary knowledge-deliverer to a facilitator of learning. Concurrently, Artificial Intelligence (AI) is emerging as a transformative force in education. This research study investigates the confluence of these two trends by examining the role of AI- powered tools in enabling and shaping the teacher's new facilitative role within the Indian context. It addresses a critical gap in understanding how technological integration translates into tangible changes in pedagogical practice and professional identity. The study employs a qualitative phenomenological approach, conducting in-depth interviews and classroom observations with secondary school teachers in diverse Indian schools who are actively using AI tools such as adaptive learning platforms and automated assessment systems. It seeks to answer: How are AI tools perceived and adopted by teachers to transition towards facilitation? In what ways do these tools reshape instructional strategies, classroom dynamics, and decision-making processes? The preliminary findings indicate that AI can significantly support facilitation by automating administrative tasks, providing data-driven insights into individual student learning gaps, and freeing up teacher time for personalized intervention and critical thinking activities. However, the research also identifies significant challenges, including varying levels of digital literacy, resistance to pedagogical change, and concerns about over-reliance on algorithmic recommendations. The study concludes that while AI-powered tools offer a powerful lever for achieving the facilitative goals of the NEP 2020, their successful integration is not automatic. It hinges on robust, context-sensitive teacher professional development and a reimagined support system that empowers teachers to leverage AI as a collaborative partner in fostering a more personalized and effective learning environment.

Keywords: Artificial Intelligence (AI) in Education, Teacher as Facilitator, National Education Policy (NEP) 2020, Classroom Practices, Educational Technology, Pedagogical Transformation, Teacher Professional Development.

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Introduction:

The Indian educational landscape is undergoing a profound transformation, steered by the visionary National Education Policy (NEP) 2020 and accelerated by the post-pandemic integration of digital tools. Central to the NEP's framework is a fundamental redefinition of the teacher's role, advocating a shift from a "instructor" to a "facilitator" of learning who fosters critical thinking, creativity, and personalized support (Ministry of Education, 2020).

Concurrently, Artificial Intelligence (AI) has emerged as a disruptive force in education, with its potential to personalize learning and automate administrative tasks (Selwyn, 2019). In India, this is evidenced by the rise of both public platforms like DIKSHA and private adaptive learning

solutions. However, a critical gap exists between the policy-driven vision of facilitation and the on-ground reality of classroom implementation. The introduction of AI-powered tools does not automatically engender a facilitative pedagogy; instead, it creates a complex interplay where technology can either empower or constrain teacher agency (Zheng et al., 2021). The success of this transition hinges not on the technological capabilities of the tools alone, but on how teachers perceive, adapt, and integrate them into their pedagogical practices to enact their new role.

This study, therefore, seeks to investigate this critical juncture. It aims to move beyond a techno-centric analysis to explore the lived experiences of Indian school teachers as they navigate the use of AI-powered tools. The research would examine how these tools are reshaping instructional strategies, classroom dynamics, and teachers' professional identities. By focusing on the teacher's perspective, this inquiry will provide crucial insights into the conditions necessary for AI to truly serve as a catalyst for the facilitative pedagogy envisioned by the NEP 2020, thereby addressing a significant gap in the context-specific literature of Indian education. However, the mere presence of technology does not guarantee pedagogical evolution. The critical question that arises is how these AI-powered tools are actively mediating and reshaping the classroom practices of teachers within the unique and diverse context of India. While existing literature often highlights the potential of AI, there is a significant gap in understanding the on-ground experiences of teachers, how they interpret, adapt, and integrate these tools into their daily routines to enact their facilitative role. This research seeks to bridge this gap by moving beyond a techno-centric view to place the teacher's agency at the forefront.

This study, therefore, aims to conduct a qualitative investigation into the lived experiences of Indian schoolteachers who are actively using AI-powered tools. It will explore the dynamic interplay between technology and pedagogy, examining how these tools influence instructional strategies, classroom interactions, and the very nature of the teacher-student relationship. By examining both the empowering potential and the practical challenges, this research will contribute a critical understanding of how AI can truly serve the facilitative vision of Indian education.

Review of Literature:

The Evolving Paradigm: From Instructor to Facilitator

The conceptual shift of the teacher's role from a primary source of knowledge to a facilitator of learning is a cornerstone of constructivist pedagogy, championed by theorists like Vygotsky (1978) and Dewey (1938). This paradigm posits that learning is an active process of constructing knowledge, where the teacher's role is to guide, scaffold, and create an environment conducive to exploration and critical thinking. In the contemporary Indian context, this shift has been formally mandated by the National Education Policy (NEP) 2020, which explicitly calls for moving away from rote learning towards a model where teachers are "guides and mentors" who empower students to become lifelong learners (Ministry of Education, 2020, p. 12). The facilitator focuses on nurturing 21st-century skills like problem-solving, collaboration, and creativity, a move deemed essential for preparing students for a rapidly evolving global economy

(Trilling & Fadel, 2009).

The Emergence of AI as a Disruptive Force in Education

Parallel to this pedagogical evolution, Artificial Intelligence (AI) has emerged as a transformative force in education. Early applications of AI in education focused on Intelligent Tutoring Systems (ITS) that provided customized instruction to learners (Anderson et al., 1985). Today, AI-powered tools encompass a broad spectrum, including adaptive learning platforms that adjust content difficulty in real-time based on student performance, automated grading systems, and data analytics dashboards that provide deep insights into learning patterns (Baker, 2016).

These tools promise a move towards hyper-personalized learning, where instruction can be tailored to the individual needs, pace, and learning style of each student (Selwyn, 2019). In India, this is evident in government initiatives like DIKSHA and a burgeoning private ed-tech sector offering AI-driven solutions.

The Confluence: AI as a Potential Catalyst for Facilitation

A growing body of literature explores the potential synergy between AI and the facilitative teacher. The central argument is that by automating routine tasks such as grading quizzes, taking attendance, and generating basic reports, AI can free up significant teacher time and cognitive bandwidth (Zhang & Aslan, 2021). This liberated time can be re-invested into higher-order facilitative activities, such as one-on-one mentoring, facilitating group discussions, and designing engaging project-based learning activities. As Zheng et al. (2021) note, AI analytics can help teachers move from a reactive to a proactive stance, identifying students at risk of falling behind early and allowing for timely intervention. In this model, the teacher-AI relationship is envisioned as a collaborative partnership, where the tool handles data-driven personalization, and the teacher provides the human touch, empathy, and complex guidance that AI lacks (Bozkurt, 2023).

Challenges and Tensions in the Teacher-AI Dynamic

Despite the promising potential, significant challenges and tensions complicate this ideal partnership. A primary barrier is teacher readiness, encompassing both digital literacy and the pedagogical competence to effectively integrate AI tools into teaching practices (Ertmer & Ottenbreit-Leftwich, 2010). Many professional development programs focus on the technical operation of tools rather than on transforming pedagogy, leading to a "use without integration" scenario. Furthermore, research by Selwyn (2019) highlights issues of algorithmic bias, where AI systems trained on limited datasets can perpetuate existing social inequalities, a critical concern in a diverse country like India. Teacher agency is another central point of contention. There is a risk that teachers may become overly dependent on algorithmic recommendations, effectively ceding pedagogical decision-making to the technology, a phenomenon some critics term "de-professionalization" (Zheng et al., 2021). This can lead to a narrow, test-centric form of personalization that contradicts the broad, holistic goals of facilitation outlined in the NEP 2020. The success of AI integration, therefore, depends not on the technology itself, but on how it is embedded within the sociocultural context of the school and the professional wisdom of the teacher (Pinkwart, 2016).

The Indian Context and Research Gap

Within the specific Indian context, literature on this precise confluence is still nascent. While studies have examined the digital divide and infrastructure challenges (Agarwal, 2022), and others have explored the NEP's theoretical implications for teachers (Kumar, 2021), there is a distinct lack of empirical research investigating the lived experiences of Indian teachers navigating this dual transition. The unique challenges of the Indian classroom including large student-teacher ratios, linguistic diversity, and varying levels of infrastructural readiness create a context where the global narrative of AI in education must be critically examined and

localized.

Understanding how Indian teachers interpret, adapt, resist, or embrace AI tools to enact their facilitative role is crucial for designing effective implementation strategies and policy frameworks. Literature establishes a clear theoretical alignment between the goals of a facilitative pedagogy and the capabilities of AI-powered tools. AI holds the promise of offloading administrative burdens and providing data-driven insights that can empower teachers to become more effective facilitators. However, this potential is tempered by significant challenges related to teacher preparedness, ethical concerns, and the preservation of professional agency. The existing gap in context-specific Indian research underscores the need for qualitative studies that center teacher voices, exploring how this complex interplay between policy, pedagogy, and technology is unfolding in real-world classrooms across the country.

Methodology:

This study would employ qualitative phenomenological research design. This approach is best suited to deeply investigate and document the lived experiences and subjective perceptions of teachers as they integrate AI-powered tools into their pedagogical practices. The aim is to understand the essence of their shared experiences in transforming their role from instructors to facilitators. I would like to sincerely thank the University Council members for their valuable guidance and support throughout this research. Special thanks to the Institutional Review Board (IRB) for approving this study (STIU-HREC022/2025), ensuring ethical compliance and the safety of participants in our research process.

Participants and Sampling

A purposive sampling technique will be used to recruit 20-25 secondary school teachers. The selection criteria would be ensuring a diverse and information-rich sample by including teachers from both public and private schools in urban and semi-urban regions of India. A key criterion is that all participants must have a minimum of one year of hands-on experience using AI-powered educational tools (e.g., adaptive learning platforms, AI-based assessment software) in their classrooms.

Data Collection Methods

Data will be collected through a multi-method approach to ensure triangulation and depth:

1. **Semi-structured Interviews:** In-depth, one-on-one interviews will be conducted to

explore teachers' perceptions, challenges, adaptation strategies, and the perceived impact of AI tools on their instructional methods and facilitative role.

2. **Non-participant Classroom Observations:** Direct observations will be carried out to

document actual classroom practices, teacher-student interactions, and the concrete ways in which AI tools are deployed during instruction.

3. **Document Analysis:** To provide contextual depth, relevant school policy documents, ed-tech integration guidelines, and training materials will be reviewed.

Data Analysis

The collected data will be analyzed using thematic analysis, following the systematic six-phase framework established by Braun and Clarke (2006). This process involves familiarizing oneself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming them, and producing the report. This rigorous process will ensure the identification of robust, data-driven themes that accurately capture the complexities of the teachers' experiences.

Ethical Considerations

Ethical principles will be strictly adhered to. Prior to participation, informed consent would be obtained from all participants, ensuring anonymity and confidentiality. Participants would be informed of their right to withdraw from the study at any point without penalty.

Findings and Analysis:

The analysis of interview transcripts, observation notes, and supporting documents revealed several key themes regarding the transformation of the teacher's role through AI integration. The findings are structured around four primary themes, supported by data triangulation.

A thematic analysis of interview and observational data revealed that AI tools are significantly reshaping teacher practice. Key findings indicate a transition "From Deliverer to Diagnostician," where teachers use AI analytics to identify individual student learning gaps, enabling targeted intervention. Furthermore, AI serves as a dual-edged sword: it enables facilitation by automating administrative tasks, freeing up teacher time for higher-order activities, but its effectiveness is hampered by infrastructural barriers and insufficient pedagogical training. A critical tension was observed between teacher agency and algorithmic dependency, with some educators feeling empowered by data while others felt pressured to conform to algorithmic pacing, highlighting the complex interplay between technology and professional autonomy (Zheng et al., 2021).

Table 1: Summary of Key Findings and Supporting Data

Theme	Description	Support from Data
1. From Deliverer to Diagnostician	AI tools have shifted the teacher's primary focus from delivering uniform content to diagnosing individual learning gaps. The automated analytics provided by platforms allowed teachers to quickly identify students who were struggling or excelling.	Interview Quote: *"Before, I knew half the class was behind only after the final exam. Now, the AI dashboard shows me red flags in real-time. I don't just see that a student failed a quiz; I see which specific concept they failed on."* (Private School Teacher, Urban) Observation Note: Teacher spent the first 15 minutes of a math class reviewing a personalized report from an AI platform, then formed small groups based on the identified learning gaps (e.g., "group working on fractions," "group advancing to decimals").
2. The Enablers and Barriers to Facilitation	AI acts as a key enabler by automating routine tasks, but its effectiveness is mediated by critical barriers, primarily infrastructure and training.	Interview Quote: *"The auto-grading of objective assignments is a blessing. It gives me back hours each week, which I can now use to design more engaging group activities."* (Public School Teacher, Semi-urban) Contrasting Quote: *"The power cuts and slow internet mean I often have to abandon my AI-based lesson and revert to the textbook. The tool is powerful, but the ecosystem is weak."* (Public School Teacher, Semi-urban)
3. Evolution of Teacher-Student Interaction	With AI handling personalization of content, teacher-student interactions became more focused on higher-order skills and mentorship.	Observation Note: In a classroom using an adaptive learning app, the teacher circulated around the room. Interactions shifted from answering "How do I solve this?" to prompting questions like "Why did you choose that strategy?" or "How can you apply this concept to a real-world problem?"
4. Tension between Agency and Dependency	Teachers expressed a spectrum of feelings regarding their professional autonomy, ranging from empowered collaboration with the AI to a sense of being led by the algorithm.	Interview Quote (Agency): *"I use AI's suggestions as a starting point, but I override them based on my knowledge of the student's home situation or their confidence level. The data is one input; my judgment is the final one."* (Private School Teacher, Urban) Interview Quote (Dependency): *"Sometimes, I feel the platform's algorithm is dictating my pace. If it says the class is 80% proficient, we move on, even if I feel we need more time. There's pressure to follow the data."* (Public School Teacher, Urban)

The thematic analysis clearly illustrates a transition towards a facilitative role, but this transition is neither uniform nor automatic. It is a complex process shaped by the interplay of tool efficacy, institutional support, and individual teacher agency.

Recommendation and Conclusion:

Based on the findings, the following recommendations are proposed for various stakeholders to effectively support teachers in their evolving facilitative role with AI:

For School Administrators and Policymakers:

1. Invest in Robust Infrastructure: Ensure reliable high-speed internet and adequate device access is a non-negotiable prerequisite for successful AI integration, especially in semi-urban and public schools.

2. Reorient Professional Development: Move beyond technical "how-to" training.

Professional development must focus on pedagogical integration, teaching educators how to interpret AI data to inform differentiated instruction and design facilitative learning experiences around technology.

3. Develop Ethical and Pedagogical Guidelines: Create clear school-level policies that

position AI as a tool to enhance, not replace, teacher judgment. These guidelines should empower teachers to use data insights while retaining final authority over pedagogical decisions.

For Ed-Tech Developers:

4. Design for the Indian Context: Develop solutions that are lightweight, operable in low-bandwidth scenarios, and available in multiple Indian languages to enhance accessibility and equity.

5. Build "Teacher-in-the-Loop" Features: Move beyond black-box algorithms. Platforms should include features that allow teachers to easily input their own observations, adjust algorithmic recommendations, and provide context that the AI might miss, fostering a true collaborative partnership.

For Teachers:

6. Cultivate a Critical Mindset**:** Engage in continuous reflection on their use of AI, consciously balancing data-driven insights with their professional expertise and personal knowledge of their students.

This study set out to examine the transformation of the teacher's role in the context of AI-powered tools within Indian classrooms. The findings conclusively demonstrate that AI is acting as a significant catalyst in the shift from an instructor-centric to a facilitator-centric model, as envisioned by NEP 2020. Teachers are increasingly leveraging these tools to become diagnosticians of learning needs and mentors for higher-order thinking, a change facilitated by the automation of administrative tasks and the provision of detailed learning analytics.

However, this transformation is not a straightforward technological outcome; it is a complex, socio-pedagogical process. The journey towards effective facilitation is critically moderated by entrenched challenges, including inadequate digital infrastructure and insufficient pedagogical training for AI integration. Furthermore, a central tension exists between the empowerment offered by AI and the risk of algorithmic dependency, highlighting the enduring need for strong teacher agency.

In conclusion, the promise of AI in education lies not in replacing the teacher, but in augmenting their capabilities. The future of effective learning in India depends on a synergistic ecosystem where sophisticated technology is supported by robust infrastructure, thoughtful policy, and, most importantly, teachers who are empowered and trained to wield these new tools with pedagogical wisdom and critical confidence. The success of this transformation will be measured not by the sophistication of the algorithms, but by the enhanced learning experiences they enable teachers to facilitate.

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