

# Teachers' Perceptions of Students' Use of Artificial Intelligence (AI): A literature Review

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## ABSTRACT

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Teachers' perceptions of students' use of Artificial Intelligence (AI) are emerging as a critical lens through which educational stakeholders understand the evolving dynamics of classroom teaching and learning. As AI tools — including generative AI like ChatGPT and instructional AI platforms — become increasingly accessible to students, teachers are tasked not only with interpreting their pedagogical value but also with managing ethical considerations such as academic integrity and fair use. This literature review synthesizes current empirical and theoretical research to explore how teachers perceive students' engagement with AI tools, identifying both supportive and critical perspectives. Overall, the literature reveals that many teachers recognize AI's potential to enhance personalized learning, streamline instructional processes, and support differentiated instruction. At the same time, teachers



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express significant concerns about student over-reliance on AI, lack of critical engagement, and ethical misuse of AI outputs. These perceptions are influenced by teachers' own familiarity with AI, their access to professional development, and institutional support structures. Findings suggest that effective integration of AI in education requires responsive teacher training, clear ethical guidelines, and collaborative policy frameworks that balance innovation with responsibility.

## INTRODUCTION

The rapid integration of Artificial Intelligence (AI) into the educational landscape has fundamentally transformed how students engage with their learning materials and how teachers design their instructional methods (U.S. Department of Education, 2023). Various AI tools, ranging from advanced intelligent tutoring systems that adapt to individual learning paces to innovative generative language models like ChatGPT, have created an unprecedented opportunity for students (Strzelecki, 2023). These technologies enable learners to seamlessly tap into a vast reservoir of knowledge, craft original written content, and receive tailored feedback that is customized to their specific needs—making the learning process not only more efficient but also significantly more enriching (Tlili et al., 2023).

However, alongside these promising advancements lie complex challenges. The introduction of AI into the classroom alters the traditional roles of teachers, pushing them to adapt to new dynamics of instruction where AI often plays a substantial part in guiding student learning (Chan & Tsi, 2024). This shift raises critical questions about academic integrity, as the ease of obtaining information and generating assignments might encourage unethical practices among students (Cardona et al., 2023). Moreover, concerns about fairness arise, particularly as not all students may have equal access to these technological advancements (Chan & Tsi, 2024). Perhaps most importantly, there are apprehensions regarding the depth of student engagement; as learners increasingly rely on AI for assistance, there is a risk that they may become less motivated to critically engage with the material and develop the skills necessary for deep understanding and lifelong learning (Zhou et al., 2025).

The rapid advancement of Artificial Intelligence (AI) within the educational landscape has fundamentally transformed how students engage with learning materials and how educators design their pedagogical strategies (Cardona et al., 2023). AI-driven tools, which range from advanced intelligent tutoring systems that adapt to individual learning paces to groundbreaking generative language models like ChatGPT, enable students to seamlessly tap into a vast repository of knowledge, produce unique written content, and receive tailored feedback with a level of efficiency and immediacy that was once unthinkable (Tlili et al., 2023).

This shift towards AI integration opens up remarkable possibilities for enhancing educational outcomes. For instance, intelligent tutoring systems can analyze student performance in real-time, offering personalized exercises that

cater to specific learning needs and helping students master concepts at their own pace (Kulik & Fletcher, 2016). Furthermore, generative models can assist students in brainstorming ideas for essays or projects, refining their arguments, and even recommending relevant resources (Tlili et al., 2023).

However, the proliferation of these advanced technologies also brings significant challenges. Traditional roles of educators are being disrupted, as the reliance on AI can diminish the direct interaction between teachers and students, which is vital for fostering critical thinking and deeper understanding (Chan & Tsi, 2024). Additionally, there are urgent issues to address regarding academic integrity, as students may be tempted to misuse AI tools to produce work that is not genuinely their own (Cardona et al., 2023). Concerns about fairness arise as well; not all students may have equal access to these technological resources, potentially widening the gap in educational equity (Chan & Tsi, 2024). Ultimately, while AI has the potential to enrich the educational experience, it necessitates a careful consideration of its implications for student engagement and the integrity of the learning process (Zhou et al., 2025).

Despite the expanding body of literature concerning the application of artificial intelligence (AI) in educational settings, there remains a notable gap in research that specifically examines teachers' perceptions of students' use of AI tools (Chan & Hu, 2023). This research is often fragmented, varying widely across different educational contexts and employing diverse methodologies (Kim & Kim, 2022).

Some studies underline the promising benefits of AI technology, particularly in its capacity to foster personalized learning experiences and facilitate differentiated instruction tailored to the individual needs of students (Zawacki-Richter et al., 2019). For instance, AI can analyze a student's learning patterns and preferences, allowing educators to provide more targeted support and resources that can enhance engagement and comprehension (Kulik & Fletcher, 2016).

Conversely, other research points to significant ethical concerns associated with AI usage in classrooms. These concerns include the risk of students developing an over-reliance on AI tools, potentially undermining their independent critical thinking and problem-solving skills (Chan & Hu, 2023). Additionally, issues such as academic dishonesty arise, as the accessibility of AI-generated content may lead to plagiarism or a lack of genuine understanding of course material (Cardona et al., 2023).

By integrating these varied perspectives, we can achieve a more nuanced and comprehensive understanding of how teachers interpret and navigate the complex role that AI plays in student learning and overall educational outcomes (Kim & Kim, 2022).

## REVIEW OF RELATED LITERATURE

### **Teachers' Perceptions of AI's Potential in Learning**

Numerous studies have highlighted that educators generally view artificial intelligence (AI) as a valuable asset in enhancing student learning outcomes. In a comprehensive study conducted by Sholikhah et al. (2025), it was revealed that a significant majority of teachers believe AI tools can significantly improve the quality of personalized learning experiences. They noted that AI has the potential to refine evaluation processes, making them more efficient and tailored to individual student performance. Furthermore, educators appreciate how AI can facilitate interactive teaching methodologies, enhancing student engagement and participation in the classroom (Sholikhah et al., 2025).

Teachers specifically acknowledged AI's ability to adapt to the diverse needs of learners, which enables the implementation of differentiated instruction (Zawacki-Richter et al., 2019). This adaptability allows teachers to provide customized support that aligns with each student's unique learning pace and style. However, it is important to note that the extent to which teachers can fully leverage these advantages is significantly influenced by their confidence in using AI technologies and the quality of professional development training they have received (Kim & Kim, 2022). The findings suggest that while the potential of AI in education is promising, ongoing support and training for teachers are crucial to harness these benefits effectively (Chan & Hu, 2023).

In a comprehensive global study conducted across four distinct countries, researchers meticulously examined the relationship between teachers' familiarity with artificial intelligence (AI) technology and their perceptions of its impact on student learning outcomes (Ng et al., 2023). The findings revealed a significant link: educators who demonstrated a higher level of familiarity with AI tools were more likely to believe in their effectiveness in enhancing the educational experience for students (Ng et al., 2023).

Furthermore, the research highlighted an interesting trend among different demographic groups within the teaching profession. Specifically, older and more seasoned educators exhibited a more positive attitude towards the integration of AI into the classroom, suggesting that their extensive experience may influence their views on technological advancements (Güneyli, 2024). This indicates that demographic factors, including age and years of teaching experience, play a crucial role in shaping teachers' beliefs about the potential benefits of AI in education (López-Costa et al., 2025). Such insights could inform targeted professional development programs to help less experienced teachers better understand and leverage AI technologies for improved student learning (Ng et al., 2023).

A significant area of research highlights the transformative potential of artificial intelligence (AI) in fostering adaptive learning environments and delivering timely formative feedback to both educators and students (Chai et al., 2023). For instance, a detailed case study grounded in the Technological

Pedagogical Content Knowledge (TPACK) framework revealed that STEM educators viewed AI as a valuable tool for creating personalized learning pathways (Celik et al., 2023). This capability enables tailored instructional approaches that cater to the diverse needs of students, which, in turn, enhances their engagement and overall academic performance (Mishra et al., 2023).

Despite the positive perception of AI's pedagogical advantages among teachers, there remain lingering concerns regarding the ethical implications of its use in educational settings (Akgun & Greenhow, 2022). Additionally, many educators express apprehension about their preparedness to fully integrate AI technologies into their teaching practices effectively (Chan & Hu, 2023). This reflects a critical dialogue within the academic community about balancing innovation in teaching with ethical considerations and the readiness of educators to embrace such dynamic changes in their pedagogical methods (Kim & Kim, 2022).

### **Concerns About Over-Reliance and Ethical Issues**

While many educators acknowledge the potential advantages of integrating artificial intelligence into the learning environment, a significant number harbor critical concerns regarding the broader implications of students' increasing reliance on this technology (Cardona et al., 2023). A primary apprehension is that students might become excessively dependent on AI tools for completing their assignments, which could deter them from engaging meaningfully with the educational material (Chan & Hu, 2023). Teachers worry that this dependence may undermine the development of essential skills such as critical thinking, creativity, and problem-solving abilities, which are crucial for academic and real-world success (Zhou et al., 2025).

Research conducted in various online K-12 educational settings has highlighted these ambivalent views among teachers. On one hand, they recognize that AI can offer personalized learning experiences and streamline certain educational processes (McGehee, 2024); on the other, they express skepticism about whether these tools genuinely enhance student learning outcomes (Cardona et al., 2023). The consensus suggests that when artificial intelligence is overused or deployed without appropriate pedagogical strategies, it could potentially diminish the quality of student engagement and insight, complicating the overall learning process (Chan & Hu, 2023). Educators emphasize the need for thoughtful integration of AI, ensuring that it serves as a supplementary resource rather than a crutch that hinders deeper understanding (Zhou et al., 2025).

Teachers are increasingly concerned about the ethical dilemmas associated with the use of artificial intelligence, especially in the realm of academic integrity (Akgun & Greenhow, 2022). They have noted a growing trend where students rely on AI tools to produce assignments and projects with little to no understanding of the material (Cotton et al., 2024). This practice raises significant

questions about the authenticity of the work submitted and the true ownership of the learning process (Cardona et al., 2023). Such alarming observations have sparked in-depth discussions among educators about the need for clear ethical guidelines and institutional policies that delineate what constitutes acceptable and unacceptable applications of AI in student assignments (Popenici & Kerr, 2017). These conversations are crucial to ensure that the educational environment fosters genuine learning and upholds academic standards (Chan & Hu, 2023).

Moreover, educators express concern that students might regard artificial intelligence as merely a convenient shortcut instead of recognizing it as a valuable learning aid (Chan & Hu, 2023). While students frequently utilize AI to enhance their efficiency in completing tasks, this tendency could potentially hinder their ability to engage in profound learning experiences (Zhou et al., 2025). The widespread belief that reliance on AI may diminish individual student effort resonates with international discourse surrounding AI's influence on students' study behaviors and creative problem-solving capabilities (Cardona et al., 2023). This dynamic calls attention to the need for a balanced approach in incorporating AI technology into educational environments, ensuring that it serves to complement, rather than replace, the critical thinking and independent exploration that foster true intellectual growth (Akgun & Greenhow, 2022).

### **Influence of Teacher Familiarity and Professional Development**

The attitudes of teachers regarding the use of artificial intelligence (AI) by students are significantly influenced by their personal familiarity and experiences with AI technologies (Kim & Kim, 2022). Research indicates a correlation between the level of exposure to AI that educators possess and their perceptions of its use in educational settings (Ng et al., 2023). Specifically, teachers who have engaged more extensively with AI tend to hold more favorable views on its application, embracing it as a tool for enhancing learning (Chai et al., 2020). In contrast, those who have received limited training or interaction with AI tools often demonstrate a notable degree of reluctance and skepticism about integrating these technologies into their teaching practices (Güneyli, 2024).

Professional development stands out as a crucial element in this dynamic. Teachers who participate in targeted training programs aimed at equipping them with knowledge about AI report a marked increase in their confidence to incorporate AI into their pedagogical approaches (Ng et al., 2023). This training not only helps them feel more competent in using AI tools effectively but also empowers them to instruct students on the ethical implications and responsible usage of these technologies (Chai et al., 2020). Such development initiatives can therefore play a transformative role, fostering a more positive and informed approach to the integration of AI in the classroom (Kim & Kim, 2022).

Research indicates that educators who have participated in AI literacy initiatives possess a deeper understanding of how artificial intelligence can enhance student learning experiences (Lademann et al., 2025). These teachers

are not only adept at recognizing the various ways AI can be integrated into their teaching practices, but they also appreciate the importance of implementing these technologies in an ethical manner within classroom activities (Riggs et al., 2025). In contrast, educators lacking this specialized training often view the incorporation of AI as a challenge to conventional teaching methods, perceiving it as a potential threat to the established norms of instruction (Tan et al., 2024). This disparity underscores the critical need for comprehensive and structured professional development programs that specifically address AI integration within educational settings. Such training would empower teachers to navigate the complexities of AI technology, fostering an environment where both innovation and traditional educational values can coexist harmoniously (Zhou et al., 2025).

### **Contextual Factors and Institutional Supports**

The perspectives of educators are significantly influenced by various contextual factors, particularly the level of institutional support and the availability of technological resources (Cardona et al., 2023). In educational environments that are underfunded or lack essential infrastructure, teachers often voice heightened concerns regarding issues of equity and the digital divide (Chan & Hu, 2023). They worry that unequal access to artificial intelligence tools may exacerbate existing disparities in learning outcomes among their students, leading to a widening gap in knowledge and skills (Akgun & Greenhow, 2022). In contrast, educational institutions that establish a strong infrastructure, along with clear and supportive policies regarding technology usage, tend to cultivate more favorable attitudes among teachers towards the integration of AI in the classroom (Ng et al., 2023). This positive reinforcement encourages a mindset where educators feel more confident and empowered to utilize AI tools as a means to enhance student learning experiences (Kim & Kim, 2022).

Additionally, the ethical frameworks established within educational institutions play a significant role in shaping teachers' perceptions and confidence regarding the use of artificial intelligence in classrooms (Akgun & Greenhow, 2022). When schools develop and implement comprehensive guidelines outlining the responsible use of AI technologies, educators feel more empowered and assured in facilitating student interactions with these tools (Cardona et al., 2023). This clarity allows teachers to engage more effectively with their students, fostering an environment where AI can be utilized as a beneficial resource for learning (Chan & Hu, 2023).

Conversely, in the absence of such structured frameworks, educators often face challenges stemming from inconsistent applications of technology and a lack of clear communication regarding expectations for academic integrity (Popenici & Kerr, 2017). This ambiguity can lead to confusion among both teachers and students, diminishing the potential benefits of AI tools and potentially compromising the integrity of the educational process (Cotton et al., 2024). Without clear guidelines, teachers may find themselves navigating a landscape

where best practices are unclear, ultimately affecting their ability to manage classroom dynamics effectively (Cardona et al., 2023).

## **OBJECTIVES OF THE STUDY**

This literature review aims to examine teachers' perceptions of students' use of artificial intelligence (AI) in educational settings, identifying the perceived benefits and challenges associated with student AI use, and exploring how teacher familiarity with AI and participation in professional development influence these perceptions. It also discusses the implications of the findings for educational practice and policy, offering insights to inform instructional strategies, assessment considerations, and policy development.

## **METHODOLOGY**

This literature review meticulously synthesized findings from a diverse array of peer-reviewed scholarly articles and comprehensive research reports published from 2019 to 2026 (Tlili et al., 2023). A range of academic databases was utilized during this investigation, including notable resources such as SpringerLink, Scopus, and various reputable educational journals (Zawacki-Richter et al., 2019). The search process was structured around carefully chosen keywords, which encompassed phrases such as "teacher perceptions," "student engagement with artificial intelligence," "the role of AI in educational settings," and "acceptance of educational technology" (Crompton & Burke, 2022).

The studies selected for inclusion in this review featured a mixture of qualitative, quantitative, and mixed-methods research designs (Ng et al., 2023). Each of these studies specifically focused on exploring educators' perspectives regarding how students interact with and engage with AI tools in the learning environment (Chan & Hu, 2023). The review aimed to provide a comprehensive understanding of the dynamic relationship between educators and the technological advancements that are increasingly being integrated into educational practices. By doing so, it sought to highlight key themes, challenges, and opportunities surrounding the integration of AI in the classroom (Cardona et al., 2023).

The study focused on gathering deep insights into various dimensions such as the perceived advantages of educational practices, ethical dilemmas faced by educators, the level of preparedness among teachers, and the impact of institutional factors on these perceptions (Chan & Hu, 2023). To achieve this, findings were systematically organized into thematic categories, allowing for a clearer identification of significant patterns and discrepancies in how perceptions vary across different educational environments (Kim & Kim, 2022). These themes illuminated the complex interplay of factors influencing educators' viewpoints and highlighted the unique challenges and opportunities

present in diverse teaching contexts (Ng et al., 2023).

## RESULTS AND DISCUSSION

### Overall Perceptions of AI in Education

Research consistently demonstrates that a substantial majority of educators embrace artificial intelligence (AI) as a powerful catalyst for transforming educational experiences, with particular enthusiasm for its ability to deliver highly personalized instruction (Sholikhah et al., 2025). A landmark study by Sholikhah et al. (2025) reveals that teachers value AI's capacity to create individualized learning pathways that adapt dynamically to each student's pace, strengths, and challenges, thereby promoting deeper comprehension and retention. Beyond personalization, educators highlight AI's role in enabling interactive teaching methodologies—such as real-time simulations, gamified exercises, and collaborative virtual environments—that foster immersive classroom engagement and cater to diverse learning styles (Sholikhah et al., 2025). Moreover, AI streamlines evaluation processes through automated grading, predictive analytics for student performance, and data-driven insights, allowing teachers to focus more on mentorship and less on administrative burdens, ultimately making assessments both more efficient and precise (Sholikhah et al., 2025).

However, amid this widespread optimism, a notable minority of teachers articulate valid apprehensions about AI's deeper implications for pedagogy and student development (Chan & Hu, 2023). Primary concerns include the erosion of the traditional teacher role, where AI might supplant human facilitation, empathy, and nuanced guidance essential for holistic student growth, thereby diminishing educators' classroom authority and interpersonal connections (Chan & Hu, 2023). Compounding this is the fear of fostering student dependency on AI, which could stunt the cultivation of indispensable skills like critical analysis, creative synthesis, and autonomous problem-solving—core competencies for lifelong learning and professional success (Zhou et al., 2025).

A landmark global study spanning multiple countries illuminates how AI proficiency profoundly shapes educators' effectiveness in leveraging these tools (Ng et al., 2023). Teachers with robust AI understanding excel at deploying technologies—from intelligent tutoring systems to generative content creators—to scaffold student journeys, diagnose learning gaps in real time, and curate bespoke resources that accelerate progress toward individualized goals (Ng et al., 2023).

Critically, the research establishes a strong positive correlation between teachers' AI familiarity and their confidence in its classroom efficacy: those proficient in integration view AI not as a replacement but as an amplifier of engagement and achievement (Ng et al., 2023). This underscores the transformative potential of targeted professional development, which could demystify AI, build technical fluency, and reframe it as an accessible ally—ultimately reshaping

educator mindsets and elevating learning ecosystems through sustained, hands-on training (Kim & Kim, 2022).

### **Perceived Benefits for Student Learning**

A prominent theme emerging across educational literature is educators' strong conviction that artificial intelligence (AI) holds transformative power to create highly personalized and adaptive learning ecosystems tailored to diverse student profiles (Zawacki-Richter et al., 2019). Teachers increasingly recognize how AI-powered platforms—such as intelligent tutoring systems and adaptive algorithms—can dynamically customize content delivery, pacing, and difficulty levels to match individual cognitive patterns, learning styles (visual, auditory, kinesthetic), and prior knowledge gaps, thereby maximizing comprehension and retention while minimizing frustration (Tlili et al., 2023). This capability extends beyond mere content adjustment to predictive analytics that forecast student struggles and proactively suggest remedial pathways, fundamentally shifting education from one-size-fits-all instruction to precision-guided learning journeys.

In English as a Second Language (ESL) contexts, teachers consistently praise AI's targeted support for language acquisition, noting its ability to generate contextually relevant exercises, deliver instantaneous pronunciation and grammar feedback via speech recognition, and curate culturally appropriate supplementary materials aligned with each learner's proficiency level (Chai et al., 2020). For instance, tools like Duolingo's AI-driven adaptive engine or Grammarly's ESL-focused enhancements provide scaffolded practice that accelerates fluency while building confidence through gamified progress tracking. Yet, despite these demonstrated strengths, many educators report only moderate confidence in fully embedding AI into their workflows—a gap often traced to insufficient hands-on practice, technical glitches encountered during trials, and uncertainty about aligning AI outputs with curriculum standards, all of which impede seamless lesson plan integration (Kim & Kim, 2022).

STEM education research amplifies AI's revolutionary role, showcasing tools that deliver instantaneous feedback loops, virtual simulations of complex phenomena (e.g., molecular modeling or physics engines), and interactive problem sets that adapt in real time to student responses (Celik et al., 2023). Grounded in the Technological Pedagogical Content Knowledge (TPACK) framework, studies reveal that tech-savvy teachers—those blending technological prowess with pedagogical expertise—harness AI to orchestrate hybrid environments where algorithms handle routine diagnostics, freeing human instructors for higher-order facilitation like conceptual debates and experimental design (Mishra et al., 2023). This synergy cultivates dynamic classrooms alive with inquiry, where students grapple with authentic STEM challenges through augmented reality labs or AI-coached coding sessions, yielding measurable gains in conceptual mastery, collaboration skills, and perseverance.

Across diverse K-12 and higher education landscapes, forward-thinking educators champion AI as an indispensable ally for inclusive instruction, adept at surfacing hidden learning profiles through data pattern recognition to customize interventions for neurodiverse learners, English learners, or those with socioeconomic barriers (Ng et al., 2023). Thoughtful integration—such as embedding AI chatbots for 24/7 query resolution or recommendation engines for differentiated readings—spikes engagement by infusing interactivity (branching narratives, VR field trips) that resonates with digital-native generations, while providing equitable scaffolds that level the playing field (Chan & Hu, 2023). Ultimately, this strategic deployment not only bolsters at-risk students but elevates the collective classroom ethos, cultivating empathy-driven peer tutoring, sustained curiosity, and a vibrant culture of shared discovery.

### **Concerns About Dependency and Academic Integrity**

Even though artificial intelligence's advantages in education—such as adaptive personalization and efficiency gains—are broadly recognized, a substantial cohort of educators voices profound concerns about its unintended consequences for core learning processes (Chan & Hu, 2023). Central among these is the risk of fostering excessive student dependency on AI for routine assignments, where tools like ChatGPT generate polished outputs instantaneously, potentially atrophying vital faculties of independent critical thinking, analytical reasoning, and creative problem-solving that define academic rigor (Zhou et al., 2025). Teachers caution that this over-reliance cultivates superficial comprehension—students parroting AI-generated insights without internalizing concepts through deliberate struggle, iterative drafting, or peer debate—ultimately eroding resilience and depth in knowledge acquisition (Cardona et al., 2023).

Compounding these pedagogical worries are acute threats to academic integrity, as AI's seamless content creation dissolves boundaries between authentic scholarship and undetectable plagiarism, tempting students to bypass the cognitive labor of research synthesis and original argumentation (Cotton et al., 2024). Faculty report observing this firsthand: assignments flooded with formulaic AI prose lacking personal voice or contextual nuance, signaling disengagement rather than mastery. This erosion prompts urgent deliberation on recalibrating classroom norms—shifting toward AI-resistant assessments like oral defenses, process-tracked portfolios, or human-AI collaboration exercises—to reclaim genuine effort and safeguard developmental milestones (Akgun & Greenhow, 2022).

Ethical quandaries dominate scholarly discourse on AI's classroom footprint, with educators decrying the moral hazards of unmonitored deployment, particularly undetected AI authorship masquerading as student work (Popenici & Kerr, 2017). Beyond plagiarism, pervasive issues include algorithmic biases perpetuating inequities in content recommendations and opaque “black box” decision-making that obscures accountability for flawed outputs. These cross-

contextual patterns—from K-12 to higher ed—underscore an imperative for codified frameworks: transparent usage policies, AI detection training, and curriculum-embedded ethics modules that instill discernment, proper citation of generative tools, and a commitment to intellectual honesty (Chan & Hu, 2023).

### **Influence of Teacher Training and Familiarity with AI**

A consistent finding across educational research reveals a strong nexus between educators' AI proficiency—gained through formal professional development, self-directed experimentation, or sustained workplace application—and their receptivity to student AI utilization in classrooms (Ng et al., 2023). Seasoned practitioners who complete targeted workshops on platforms like intelligent tutoring systems or generative AI ethics report heightened self-efficacy, viewing these tools not as disruptors but as extensions of their pedagogical arsenal; they adeptly orchestrate hybrid lessons where AI handles data-intensive diagnostics while they nurture higher-order discourse, boosting both student motivation and mastery (Chai et al., 2020). This confidence manifests in innovative applications, such as AI-curated project scaffolds that accelerate differentiated instruction and real-time sentiment analysis to gauge class engagement, ultimately amplifying learning gains.

Conversely, educators with minimal AI exposure—often due to time constraints, resource scarcity, or institutional inertia—harbor pronounced skepticism, frequently questioning AI's pedagogical validity and fearing it supplants genuine inquiry (Kim & Kim, 2022). Their apprehensions center on unproven efficacy claims, algorithmic unreliability (e.g., hallucinated facts), and unintended equity gaps where tech-savvy students outpace peers, prompting defensive stances that limit experimentation and perpetuate status quo teaching.

Compounding individual readiness gaps, qualitative inquiries expose how anemic institutional scaffolding—manifest in absent professional learning communities, fragmented tech infrastructure, or policy vacuums—intensifies resistance, framing AI as an untenable burden amid overcrowded curricula and burnout (Cardona et al., 2023). When schools fail to provide robust onboarding (e.g., cohort-based AI cohorts, vendor-neutral toolkits, or equity audits), teachers default to risk aversion, perceiving adoption as self-funded labor rather than strategic leverage. This systemic shortfall not only stifles innovation but entrenches divides, underscoring the imperative for holistic ecosystems where technical access intertwines with cultural shifts toward collaborative tech stewardship.

### **Ethical and Policy Considerations**

Numerous research studies underscore the critical imperative for robust, institution-wide ethical guidelines and policy frameworks to regulate students' engagement with artificial intelligence (AI) technologies, ensuring consistent oversight amid rapid adoption (Akgun & Greenhow, 2022). Without these formalized structures—such as explicit AI usage rubrics, detection protocols, and

attribution mandates—educators resort to fragmented, ad-hoc strategies that breed disparities across classrooms, grade levels, and schools, where one teacher’s permissive experimentation contrasts another’s outright prohibition (Cardona et al., 2023). This patchwork approach shows confusion over permissible boundaries, erodes trust in assessment validity, and dilutes instructional coherence, compelling institutions to prioritize unified standards that align technological innovation with pedagogical integrity (Popenici & Kerr, 2017).

Scholarly discourse further illuminates ethical flashpoints demanding proactive deliberation: academic integrity risks from undetectable AI authorship, insidious biases embedded in training datasets that skew outputs toward cultural or demographic favoritism, and stark access inequities exacerbating the digital divide between well-resourced and underserved learners (Chan & Hu, 2023). These multifaceted concerns—from plagiarism proliferation to algorithmic discrimination—necessitate interdisciplinary dialogues involving educators, technologists, and ethicists to cultivate equitable, transparent AI ecosystems where every student benefits without perpetuating systemic harms (Cotton et al., 2024).

Educators increasingly advocate embedding AI literacy as a core curricular strand, transcending mere operational proficiency to cultivate discerning digital citizenship (Zhou et al., 2025). Students require scaffolded instruction in interrogating AI outputs—dissecting hallucinations, tracing source provenance, and auditing for embedded prejudices—alongside ethical reasoning frameworks that weigh convenience against authenticity (Kim & Kim, 2022). This holistic competency fosters responsible stewards who view AI as a collaborative intellect amplifier rather than an infallible oracle, equipping them to thrive amid pervasive automation while upholding intellectual honesty and societal accountability.

## CONCLUSIONS

This comprehensive literature review highlights the intricate and multifaceted perceptions that teachers hold concerning students’ utilization of artificial intelligence (AI) within educational settings (Chan & Hu, 2023). Educators acknowledge the transformative potential of AI, particularly in areas such as personalized instruction, where adaptive learning technologies cater to individual student needs, and increased operational efficiency, which streamlines administrative tasks and enhances teaching methodologies (Tlili et al., 2023). However, significant concerns loom over issues related to ethical considerations, the integrity of academic work, the risk of student dependency on technology, and a pronounced lack of training among educators regarding the effective and responsible use of AI tools (Akgun & Greenhow, 2022).

The findings of the research emphasize that educators’ familiarity and experience with AI technologies play a pivotal role in shaping their perceptions (Ng et al., 2023). This indicates a pressing need for targeted professional

development opportunities that equip teachers with the necessary skills and knowledge to integrate AI into their teaching practices effectively. Moreover, the support provided by educational institutions is essential in fostering an environment conducive to the constructive implementation of AI in classrooms (Cardona et al., 2023).

Additionally, the study calls attention to the urgent necessity for robust ethical guidelines and comprehensive policy frameworks. These frameworks would not only assist teachers in overseeing the use of AI by students but also promote a learning atmosphere where meaningful engagement occurs (Popenici & Kerr, 2017). By establishing clear protocols, educators can better navigate the complexities associated with AI usage, ensuring that educational benefits are maximized while minimizing potential risks (Zhou et al., 2025).

## **TRANSLATIONAL RESEARCH**

Based on the comprehensive literature examined, it is crucial to prioritize the following key areas in translational research initiatives: (1) **Teacher Professional Development:** It is essential to design and implement extensive training programs aimed at enhancing teachers' understanding of artificial intelligence (AI) concepts and its applications in educational settings. These programs should focus not only on building AI literacy but also on equipping educators with innovative pedagogical strategies that facilitate the integration of AI tools into their existing curricula. Through hands-on workshops and collaborative learning opportunities, teachers can learn how to effectively adapt their teaching methodologies to incorporate AI technologies, ensuring that they are prepared to guide their students in a rapidly evolving digital landscape. (2) **Policy Frameworks:** The development of clear and comprehensive institutional policies is vital to ensure the responsible use of AI within educational contexts. These policies should explicitly define ethical guidelines for AI usage, outline standards for academic integrity, and establish acceptable practices for student interactions with AI tools. By creating a robust framework that addresses potential challenges and ethical dilemmas associated with AI, educational institutions can foster a culture of accountability and informed decision-making among both teachers and students. (3) **AI Literacy Curricula:** There is a pressing need to incorporate AI literacy into student learning objectives across various grade levels and subjects. By doing so, educational institutions can promote not only an understanding of AI technologies but also the responsible and critical engagement with AI resources. Curricular resources should include diverse learning materials and activities designed to challenge students to think critically about the implications of AI, thereby preparing them to navigate the complexities of AI in their personal and professional lives. (4) **Ethical AI Education:** Establishing dedicated courses or modules that focus on themes related to digital citizenship, the impact of bias in AI systems, and ethical considerations surrounding AI technology is

essential. These educational offerings should serve as a guide for both teachers and students, equipping them with the knowledge necessary to recognize and address ethical issues within the realm of AI. By cultivating a deep understanding of these important concepts, educational institutions can empower individuals to engage with AI responsibly and thoughtfully, promoting a more equitable and just digital future.

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