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ARTIFICIAL INTELLIGENCE AND THE FUTURE OF EDUCATION

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ABSTRACT

Artificial Intelligence is fundamentally reshaping the landscape of education, presenting perhaps the most significant disruption to teaching and learning since the invention of the printing press. This paper examines the transformative potential, persistent challenges, and policy imperatives surrounding AI integration in education. Drawing on recent reports from the OECD (2025–2026), UNESCO (2025), and a systematic review of contemporary research, the paper argues that AI is not merely a technological tool to be inserted into existing educational structures but a catalyst demanding fundamental rethinking of educational purposes, practices, and governance. The paper analyses three core disruptions: AI as tutor, providing personalised, on-demand instruction; AI as co-professor, augmenting teaching and assessment; and AI as companion, reshaping the social and emotional dimensions of learning. It then examines the opportunities AI presents—personalised and adaptive learning, enhanced teacher capacity, expanded access, and pedagogical innovation—alongside the profound challenges: the digital divide and algorithmic inequity, teacher preparedness and professional identity, data privacy and ethical governance, and the risk of cognitive atrophy and eroded human agency. Particular attention is paid to the emerging policy frameworks, including the OECD-EU AI Literacy Framework (2025), UNESCO's 5C Framework for digital transformation, and the OECD Digital Education Outlook 2026. The paper concludes with strategic recommendations for human-centred AI integration, arguing that the future of education in the age of AI depends not on the technology itself but on the values, choices, and governance structures that shape its use. In an era of powerful AI, the fundamental question is not what AI can do for education, but what education should be for human beings.

KEYWORDS: Artificial Intelligence, Generative Ai, Future Of Education, Educational Technology, Personalised Learning, Digital Divide, Teacher Agency, Ai Literacy, Educational Policy, Oecd, Unesco, Ethical Ai, Human-Centred Education.

1. INTRODUCTION

1.1 The AI Revolution in Education

The history of education is a history of disruption. Five thousand years ago, writing transformed memory into text. Six hundred years ago, Gutenberg's printing press democratised knowledge. Three years ago, ChatGPT put generative AI in the hands of hundreds of millions. For the first time in history, technology is not silent. It speaks back.

Artificial Intelligence represents a qualitative leap beyond previous educational technologies. Unlike the printing press, which made knowledge more accessible, or the computer, which enabled new forms of computation, AI is an active participant in the learning process—a system that can generate content, provide feedback, engage in dialogue, and adapt to individual learners. It is altering the way knowledge is accessed and created, and already more than a billion people use AI chatbots regularly.

In education, this forces us to ask fundamental questions. Do we still need classrooms, teachers, textbooks? If an AI system can write a PhD-level thesis in minutes and win international math competitions, what does it mean to be a student? That is the magnitude of the disruption before us.

1.2 Scope and Purpose of This Paper

This paper examines the complex, contested relationship between AI and the future of education. Drawing on recent reports from the OECD (2025–2026), UNESCO (2025), and a systematic review of contemporary research, it analyses the disruptions AI is creating, the opportunities it presents, the challenges it poses, and the policy frameworks emerging to govern its integration.

The central argument is that AI is not a neutral tool to be inserted into existing educational structures but a transformative force demanding fundamental rethinking of educational purposes, practices, and governance. The future of education in the age of AI depends not on the technology itself but on the values, choices, and governance structures that shape its use.

2. Disruptions: How AI is Reshaping Education

2.1 AI as Tutor: Personalised Learning at Scale

The first major disruption is AI as tutor. Chat-based assistants and adaptive platforms now provide explanations, practice, and feedback, often in local languages and even through low-bandwidth channels. In some contexts, this is the first time a learner has had access to one-on-one support.

AI-powered tutoring systems represent a significant advancement in personalised learning. Traditional education has long been criticised for relying on standardised curricula and teaching methods that often overlook students' varied learning preferences, capabilities, and personal interests. Adaptive learning systems address this by dynamically adjusting to individual learning styles, with a focus on equity, interpretability, and real-time personalisation.

Recent systematic reviews highlight how generative AI offers powerful means of personalising instruction and automating feedback while raising new challenges around bias and data privacy. A systematic literature review of 55 Web of Science studies found that generative AI tools enhance personalised learning experiences, adaptive assessments, and automated feedback systems, fostering engagement through interactive and immersive learning environments.

However, studies also show that when AI tools simply hand out answers, students may learn less, not more. The difference lies in how the technology is used and supported. AI as tutor can improve outcomes when designed to encourage reasoning, but can undermine learning when it replaces cognitive effort.

2.2 AI as Co-Professor: Transforming Teaching and Assessment

The second disruption is AI as co-professor. Across universities, AI is already being used for research, writing, coding feedback, and assessment. A recent survey of the UNESCO Chairs network found that nine in ten respondents use AI in their professional work, most often for writing and synthesis.

This represents a significant shift in the teaching profession. Generative AI tools are being integrated into lesson planning, content creation, and assessment. A cross-disciplinary study of teacher perceptions found that participants generally held positive attitudes towards AI,

recognising its affordances, such as assisting with lesson planning and providing personalised feedback.

However, the same study identified significant concerns: the destabilisation of pedagogical authority, the absence of affective support, and the propensity to encourage learner overdependence. Teachers express uncertainty about AI's pedagogical value and its implications for integrity. The opportunity is to free time for higher-value teaching. The risk is a drift toward automation.

Research on AI-teacher collaboration in higher education reveals that AI integration enables personalised learning, fostering greater student involvement, while educators maintain teaching efficiency. The most promising model is not AI replacing teachers but AI-teacher collaboration—a partnership that leverages AI's computational capabilities while preserving the uniquely human dimensions of teaching: empathy, inspiration, and relational trust.

2.3 AI as Companion: The Social and Emotional Dimension

The third disruption is AI as companion. Many young people now turn to chatbots for advice, support, or late-night conversations. Surveys in high-income countries suggest that a majority of teenagers have already experimented with AI companions.

This raises profound questions about the nature of learning and human development. AI companions can provide emotional support and guidance, but they also risk replacing human relationships and eroding social skills. UNESCO's analysis emphasises that AI should be a tool for enhancing critical thinking and human interaction, rather than replacing them.

The emergence of AI companions also highlights the tension between AI's capabilities and human agency. UNESCO's 2025 report on AI and education warns that depending on the choices we make today, AI can expand access and support, but it can also deepen inequality, flatten learning, and erode trust if not guided carefully.

3. Opportunities: The Transformative Potential of AI

3.1 Personalised and Adaptive Learning

Perhaps the most celebrated opportunity of AI in education is the capacity for personalisation. AI-powered adaptive learning systems modify educational content and feedback to accommodate individual students' needs, preferences, and performance levels. Research has

consistently shown that adaptive learning raises students' motivation and performance across various fields.

Recent empirical evaluations demonstrate that AI-powered educational systems can achieve high predictive performance in dynamically adapting to individual learning styles. A 2025 study reported an F1-score of 0.987, AUC of 0.995, and accuracy of 0.988 in predicting student learning needs. A hybrid framework combining machine learning techniques with cognitive-behavioural strategies can automatically predict individual student preferences for different types of learning objects and activities in adaptive learning environments.

The potential of AI-based adaptive learning is particularly significant for socially disadvantaged students. A 2025 study examining AI-based adaptive programming education found that students receiving adaptive instruction demonstrated higher levels of knowledge acquisition and engagement across behavioural, emotional, and cognitive dimensions compared to those taught through traditional curricula.

3.2 Enhancing Teacher Capacity

AI can significantly enhance teacher capacity by automating routine tasks and providing data-driven insights. Teachers spend a substantial portion of their time on administrative tasks, grading, and lesson planning—activities that AI can increasingly handle, freeing time for direct student interaction.

AI tools assist with lesson planning, content creation, and providing personalised feedback. Learning management systems now incorporate AI to automate content curation, infer learners' skills, adapt learning pathways, and deliver personalised feedback at scale. This enables teachers to focus on higher-value activities: mentoring, inspiring, and providing the emotional and social support that AI cannot replicate.

Predictive analytics can identify students at risk of falling behind, enabling early intervention. The OECD's 2025 report on AI adoption in education examines how AI can be deliberately deployed to tackle persistent disparities, including preventing dropout and promoting learning.

3.3 Expanding Access and Inclusion

AI has the potential to dramatically expand access to quality education. AI-powered translation and localisation can make educational content available in multiple languages,

reaching learners in their mother tongue. AI tutors can provide one-on-one support in contexts where teachers are scarce. AI can also support learners with disabilities through assistive technologies: text-to-speech, speech-to-text, image recognition, and personalised interfaces.

UNESCO emphasises that AI offers opportunities to strengthen inclusion, improve the quality of learning and assessment, and expand access to knowledge. The OECD's AI Capability Indicators project provides a framework to systematically measure AI and robotic capabilities and compare them to human skills, guiding policies on skills, work, and ethical AI development.

However, the expansion of access through AI is not automatic. Without deliberate attention to equity, AI risks exacerbating existing inequalities. The OECD argues that education systems must build a digital literacy foundation for all students, so that they understand the capabilities and limitations of AI tools.

3.4 Pedagogical Innovation

AI enables pedagogical approaches that were previously unimaginable. Intelligent tutoring systems provide real-time, adaptive feedback. Virtual and augmented reality create immersive learning environments. Generative AI enables new forms of creative expression and problem-solving. AI-powered assessment provides continuous, formative feedback rather than sporadic summative evaluation.

The OECD Digital Education Outlook 2026 examines how generative AI could reshape education and the conditions under which it can improve learning outcomes and institutional efficiency. The report concludes that generative AI, if grounded in robust pedagogical theory and human-centred design, can deepen learning experiences, improve teaching practices, and optimise management systems.

4. Challenges: The Risks and Limitations of AI in Education

4.1 The Digital Divide and Algorithmic Inequity

Despite the promise of AI, access to AI-powered education remains profoundly unequal. The digital divide—the gap between those who have access to digital technologies and those who do not—intensifies with each technological advance. AI requires not only devices and connectivity but also digital literacy, data, and the skills to use AI effectively.

UNESCO's analysis identifies the exacerbation of the digital divide as a key risk in the society dimension of AI in education. AI systems can reinforce gender and geographic disparities. Without equitable, affordable, and sustainable access to AI technologies, many learners are at risk of being left further behind.

Algorithmic bias compounds the digital divide. AI systems are only as unbiased as the data on which they are trained. Historical inequalities in education—in access, resources, teacher expectations, and assessment—can be perpetuated or amplified by algorithmic decision-making. A systematic review on ethical risks in AI education identifies algorithmic bias, the black box algorithm, and algorithmic error as key risks in the technology dimension.

Research on AI and the digital divide in education emphasises the need for strategies that address both access and algorithmic fairness. Inclusive AI adoption requires localised solutions, co-design practices, and ethical frameworks tailored to regional needs.

4.2 Teacher Preparedness and Professional Identity

The integration of AI into education places new demands on teachers. Most teachers are not prepared to use AI effectively, let alone to navigate its pedagogical and ethical complexities. Teacher education programmes have given minimal attention to AI, and in-service professional development is often inadequate.

Research on teacher agency and generative AI in higher education reveals that the widespread adoption of AI tools by students poses a significant challenge to teachers. Teachers express concerns about the destabilisation of pedagogical authority and the absence of affective support.

The OECD's 2025 report on AI adoption in education identifies teacher AI competencies as a critical challenge. Teachers suggest several strategies to motivate GenAI integration, including professional development and clear institutional guidance. Without investment in teacher preparation, AI will not realise its potential and may instead undermine teacher effectiveness and morale.

4.3 Data Privacy, Ethics, and Algorithmic Accountability

The collection and use of student data is a central concern. AI learning systems often rely on continuous data collection, tracking students' behaviour, performance, and even emotional

responses to personalise feedback. Without robust anonymisation, consent mechanisms, or institutional data governance, learners' personal information is at risk.

A systematic review of ethical risks in AI education categorises risks into three dimensions:

- Technology dimension: privacy invasion, data leakage, algorithmic bias, black box algorithms, and algorithmic error.
- Education dimension: student homogenised development, homogeneous teaching, teaching profession crisis, deviation from educational goals, alienation of the teacher-student relationship, emotional disruption, and academic misconduct.
- Society dimension: exacerbating the digital divide, absence of accountability, and conflict of interest.

The opacity of AI systems limits accountability and erodes learner trust. When AI influences student trajectories, accountability remains unclear—whether it lies with the algorithm, teacher, institution, or developer.

UNESCO's guidance on generative AI in education emphasises the need for manual review, labelling, and ethical considerations of generated content. The guidance analyses potential risks from six aspects: generated content, policy and regulations, intellectual property rights, and the digital divide.

4.4 Cognitive Atrophy and Eroded Human Agency

A fundamental concern is that AI may undermine the cognitive development it is meant to enhance. When students rely on AI to generate answers, write essays, or solve problems, they may not develop the underlying skills and knowledge. The OECD Digital Education Outlook 2026 begins with a paradoxical warning: "the more GenAI is used, the less learning may occur," empirically demonstrating the mechanism by which students' metacognitive engagement decreases.

This is not a new concern—similar worries accompanied the introduction of calculators, search engines, and spell-checkers—but the scale and sophistication of AI make it more acute. Generative AI can produce work that is indistinguishable from human output, making it difficult to assess what students have actually learned.

UNESCO's framework emphasises the importance of a human-centred mindset, encouraging students to understand and assert their agency in relation to AI. The UNESCO AI Competency Framework for Students outlines 12 competencies across four dimensions: human-centred mindset, ethics of AI, AI techniques and applications, and AI system design.

4.5 The "Replacement Phenomenon" and Market Concentration

A less-discussed but significant challenge is the "replacement phenomenon" identified by UNESCO: general-purpose AI platforms are absorbing functions previously performed by specialised edtech companies. This threatens the diversity and innovation of the educational technology ecosystem, concentrating power in a few large technology companies.

The rapid adoption of generative AI tools in education without deep consideration of efficacy, ecosystem-level implications, ethics, and pedagogical soundness poses significant risks. As UNESCO warns, there is a danger of hastily adopting GenAI tools without adequate consideration of their pedagogical soundness.

5. Policy Frameworks and Governance

5.1 The OECD-EU AI Literacy Framework (2025)

In May 2025, the European Commission and the OECD, with support from Code.org, launched the draft AI Literacy Framework for primary and secondary education. The framework defines AI literacy as "the technical knowledge, durable skills, and future-ready attitudes required to thrive in a world influenced by AI. It enables learners to engage, create with, manage, and design AI, while critically evaluating its benefits."

The framework is organised around four domains:

1. Engaging with AI: Understanding what AI is, how it works, and its capabilities and limitations.
2. Creating with AI: Using AI tools to create content, solve problems, and express ideas.
3. Managing AI: Critically evaluating AI outputs, understanding bias and ethics, and managing data privacy.
4. Designing AI: Understanding the principles of AI system design and participating in AI development.

The framework covers 22 specific competencies and is designed to inform curriculum development, teacher training, and assessment. It also lays the foundation for the OECD's PISA assessment of media and AI literacy, planned for 2029.

5.2 UNESCO's 5C Framework and Global Guidelines

UNESCO has developed a comprehensive framework for digital transformation in education, known as the 5C Framework, which provides a common reference point for stakeholders to align their approaches:

1. Coordination and leadership: Ensuring coherent governance across ministries and stakeholders.
2. Content and solutions: Developing appropriate educational content and technology solutions.
3. Capacity and culture: Building human capacity and fostering a culture of innovation.
4. Connectivity and infrastructure: Ensuring access to digital infrastructure.
5. Cost and sustainability: Ensuring financial sustainability and long-term viability.

UNESCO's "Guidance for Generative AI in Education and Research" is the inaugural normative document issued since the inception of ChatGPT. It serves as a guiding document for regulating content and behaviours related to generative AI, emphasising manual review, labelling, and ethical considerations.

The guidance recommends that governments assess the potential risks of GenAI tools and implement corresponding regulatory measures. It notes that China, EU countries, and the United States have introduced policies and regulations to regulate the risks associated with generative AI.

5.3 The OECD Digital Education Outlook 2026

Published in January 2026, the OECD Digital Education Outlook 2026 examines how generative AI could reshape education and the conditions under which it can improve learning outcomes and institutional efficiency. The report evaluates how AI tools can support students, teachers, and education systems.

Key findings include:

- Generative AI, if grounded in robust pedagogical theory and human-centred design, can deepen learning experiences, improve teaching practices, and optimise management systems.

- However, there is a paradoxical risk: "the more GenAI is used, the less learning may occur," as students' metacognitive engagement decreases.
- The report emphasises the importance of human-AI collaboration, the essence of learning and cognition, and the need for a new paradigm shift in smart pedagogy.

5.4 National and Institutional Responses

Countries and institutions are responding to AI in diverse ways. Some have embraced AI enthusiastically, investing in AI infrastructure and teacher training. Others have adopted cautious approaches, restricting AI use until guidelines and safeguards are in place.

The OECD's 2025 report on AI adoption in education proposes key principles and a policy roadmap to guide AI adoption in schools. It emphasises the need for:

- Aligning curricula with changing skill demands: Preparing students for an AI-augmented workforce.
- Cultivating uniquely human capabilities: Focusing on competencies that AI cannot replicate—creativity, critical thinking, empathy, collaboration.
- Addressing equity and inclusion: Ensuring that AI benefits all learners, not just the already advantaged.

6. Strategic Recommendations

6.1 Policy and Governance

1. Develop comprehensive AI in education strategies that address infrastructure, curriculum, teacher development, ethics, and equity—not just technology adoption.
2. Establish clear regulatory frameworks for AI in education, including data privacy, algorithmic accountability, and quality assurance. Move beyond non-binding guidelines to enforceable standards.
3. Adopt a precautionary approach to AI integration: ensure that AI tools are pedagogically sound and ethically justified before widespread adoption.
4. Promote public investment in AI for education to counter market concentration and ensure that AI serves public purposes, not just commercial interests.
5. Foster international cooperation on AI in education governance, sharing best practices, research, and regulatory approaches.

6.2 Teacher Development

6. Integrate AI literacy and AI pedagogy into pre-service teacher education, ensuring all new teachers are prepared to use AI effectively and ethically.
7. Provide sustained, job-embedded professional development for in-service teachers on AI, focusing on pedagogical integration and ethical considerations.
8. Develop teacher AI competency frameworks that define the knowledge, skills, and attitudes teachers need to work with AI.
9. Support teacher agency and professional judgment, ensuring that AI augments rather than undermines teacher autonomy and expertise.
10. Create professional learning communities where teachers can share experiences, best practices, and concerns about AI integration.

6.3 Curriculum and Pedagogy

11. Integrate AI literacy across the curriculum, not as a standalone subject but as a cross-cutting competency. Use the OECD-EU AI Literacy Framework as a guide.
12. Adopt human-centred AI pedagogy: use AI to enhance, not replace, human interaction, critical thinking, and creativity.
13. Redesign assessment for an AI-augmented world: assess process and reasoning, not just products; use authentic, performance-based assessment; and design assessments that are AI-resilient.
14. Promote metacognitive skills—students need to understand their own learning processes and critically evaluate AI-generated content.
15. Embed ethics in AI education: teach students to recognise bias, protect privacy, and exercise agency in relation to AI.

6.4 Equity and Inclusion

16. Address the AI divide through targeted investment in infrastructure, connectivity, and digital literacy for disadvantaged communities.
17. Ensure accessibility: AI tools should be designed for learners with disabilities, including those with visual, hearing, and cognitive impairments.
18. Promote gender equity in AI education: address gender disparities in AI literacy and participation in AI-related fields.
19. Support multilingual AI: develop AI tools that work in multiple languages, including local and indigenous languages.

20. Monitor equity outcomes: track the impact of AI on educational inequalities and adjust policies accordingly.

6.5 Research and Evaluation

21. Invest in rigorous research on AI in education: what works, for whom, and under what conditions.

22. Develop evidence-based guidelines for AI tool selection, implementation, and evaluation.

23. Conduct longitudinal studies on the impact of AI on learning outcomes, cognitive development, and well-being.

24. Engage diverse stakeholders—students, teachers, parents, communities—in research and decision-making about AI in education.

25. Share research findings openly to build a global evidence base for AI in education.

7. CONCLUSION

Artificial Intelligence is not the first technology to disrupt education, but it may be the most consequential. Unlike the printing press, which made knowledge more accessible, or the computer, which enabled new forms of computation, AI is an active participant in the learning process—a system that can generate, adapt, and respond. It challenges not only how we teach and learn but what it means to be educated, what it means to be a teacher, and ultimately, what it means to be human.

This paper has examined the disruptions AI is creating—as tutor, co-professor, and companion—alongside the opportunities it presents for personalisation, teacher enhancement, expanded access, and pedagogical innovation. It has also analysed the profound challenges: the digital divide and algorithmic inequity, teacher preparedness, data privacy and ethics, cognitive atrophy, and the concentration of power in a few technology companies.

The emerging policy frameworks—the OECD-EU AI Literacy Framework, UNESCO's 5C Framework and Global Guidelines, and the OECD Digital Education Outlook 2026—provide a foundation for governance. But frameworks alone are insufficient. Realising the promise of AI in education requires sustained investment, institutional reform, professional development, and a commitment to equity and human-centred values.

UNESCO's framing is instructive: AI should be a tool for enhancing critical thinking and human interaction, rather than replacing them. The future of education in the age of AI

depends not on the technology itself but on the values, choices, and governance structures that shape its use. As the OECD has emphasised, policymakers must look beyond incremental changes and guidance on AI usage to project into the future and rethink core questions about what students should learn and how they should learn it.

The fundamental question is not what AI can do for education, but what education should be for human beings. In a world of powerful AI, the uniquely human capabilities—creativity, critical thinking, empathy, collaboration, ethical reasoning, and the capacity for meaning-making—become more, not less, important. Education must cultivate these capabilities, using AI as a tool to enhance rather than replace them.

The task is formidable. But the alternative—passive acceptance of technological determinism, deepening inequality, and the erosion of human agency—is unacceptable. The future of education in the age of AI is not yet written. It will be shaped by the choices we make today: about values, about governance, about investment, and about the purposes of education itself. In making these choices, we must remember that education is not merely about transmitting knowledge or skills but about forming human beings—beings capable of living meaningful lives, contributing to their communities, and shaping a just and sustainable future.

REFERENCES

1. Akgun, S., & Greenhow, C. (2021). *Artificial intelligence in education: Addressing ethical challenges in AI-enabled learning environments*. *Journal of Educational Technology & Society*, 24(3), 1-15.
2. Bearman, M., Ryan, J., & Ajjawi, R. (2023). *Discourses of artificial intelligence in higher education: A critical literature review*. *Higher Education*, 86(2), 369-385.
3. Borgonovi, F., Bastagli, F., Ochojska, M., & Piumatti, G. (2025). *AI adoption in the education system: International insights and policy considerations for Italy*. OECD Artificial Intelligence Papers, No. 52. OECD Publishing.
4. EDUCAUSE. (2022). *2022 Horizon Report: Teaching and Learning Edition*. EDUCAUSE.
5. EDUCAUSE. (2023). *2023 Horizon Report: Teaching and Learning Edition*. EDUCAUSE.
6. European Commission & OECD. (2025). *Empowering learners for the age of AI: An AI literacy framework for primary and secondary education (Review Draft)*.

7. Garzón, J., Patiño, E., & Marulanda, C. (2025). *Systematic review of artificial intelligence in education: Trends, benefits, and challenges*. *Higher Education Studies*, 15(2), 189-210.
8. Giannini, S. (2025). *AI and the future of education: Disruptions, dilemmas and directions*. UNESCO Digital Learning Week 2025.
9. Hernández-Leo, D., et al. (2025). *The promise and challenges of generative AI in education*. TIDE Research Group.
10. Holmes, W., Bialik, M., & Fadel, C. (2021). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
11. Lai, J. W. M., et al. (2023). *A systematic review of AI in education: Trends, challenges, and opportunities*. *Education and Information Technologies*, 28(5), 5025-5065.
12. Miao, F., & Shiohira, K. (2025). *AI Competency Framework for Students*. UNESCO Publishing.
13. OECD. (2025). *AI and the Future of Skills (AIFS) project: AI Capability Indicators*. OECD Centre for Educational Research and Innovation.
14. OECD. (2025). *Education policy outlook 2025: Nurturing engaged and resilient lifelong learners in a world of digital transformation*. OECD Publishing.
15. OECD. (2025). *What should teachers teach and students learn in a future of powerful AI? OECD Education Spotlights, No. 20*. OECD Publishing.
16. OECD. (2026). *Digital Education Outlook 2026: Exploring effective uses of generative AI in education*. OECD Publishing.
17. Prahani, B. K., et al. (2022). *Artificial intelligence in education research during the last ten years: A bibliometric study*. *Journal of Physics: Conference Series*, 2165(1), 012040.
18. Sahlgren, O. (2023). *The fairness of AI in education: A systematic review*. *International Journal of Artificial Intelligence in Education*, 33(4), 789-815.
19. Slimi, Z., & Carballido, B. V. (2023). *Navigating the ethical challenges of artificial intelligence in higher education: An analysis of seven global AI ethics policies*. *TEM Journal*, 12(2), 1125-1135.
20. UNESCO. (2021). *AI and education: Guidance for policy-makers*. UNESCO Publishing.
21. UNESCO. (2025). *Guidance for generative AI in education and research*. UNESCO Publishing.
22. UNESCO. (2025). *AI and the future of education: Disruptions, dilemmas and directions*. UNESCO Publishing.

23. UNESCO IESALC. (2025). *Oportunidades y desafíos de la era de la inteligencia artificial para la educación superior*. UNESCO IESALC.
24. Zhang, J. (2025). *Meta-analysis of artificial intelligence in education*. *Higher Education Studies*, 15(2), 189-210.