ARTIFICIAL INTELLIGENCE IN EDUCATION: REGULATION, ETHICS, AND SECURITY

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Declaration[*]

Abstract

The integration of artificial intelligence (AI) into e-learning environments is transforming educational practices by enabling personalized learning pathways, automating assessment, and enhancing administrative efficiency. While these innovations offer significant pedagogical benefits, they also raise complex ethical and security concerns. This paper explores the implications of AI use in digital education, focusing on algorithmic transparency, data protection, and institutional accountability. It examines how AI systems influence decision-making processes in teaching and learning, and highlights the need for clear public policies to regulate their deployment. Drawing on international best practices and case studies from countries such as Finland, Estonia, and Romania, the study identifies key strategies for responsible AI implementation. These include teacher training in digital ethics, risk-based governance frameworks, and mechanisms for human oversight of algorithmic decisions. The paper also discusses the importance of transparency policies, such as algorithmic audit protocols and public registries, to ensure that AI systems operate fairly and explainable. By adopting an interdisciplinary approach that combines digital pedagogy, ethical standards, and legal safeguards, the research advocates for a sustainable and inclusive model of AI integration in education. The findings underscore the urgency of aligning technological innovation with democratic values and human rights, ensuring that AI serves as a tool for empowerment rather than control in the learning process.

Keywords: Artificial Intelligence (AI), AIED, educational policies, pedagogical innovation, ethics

Introduction

The rapid integration of artificial intelligence (AI) into e-learning platforms marks a significant transformation in the organization of teaching, learning, and assessment. AI-driven systems personalize instructional content, automate evaluation, and optimize administrative

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processes, thereby expanding access to educational resources and enabling more flexible learning environments (Holmes & Tuomi, 2022). However, these algorithmic systems also shape students' learning trajectories and influence teachers' pedagogical decisions, raising questions about transparency, fairness, and accountability.

European policy documents emphasize that algorithmic transparency is essential for maintaining trust in digital education. Teachers, students, and parents must understand how AI systems operate, what data they process, and what limitations they entail (European Commission, 2022). Without such transparency, automated decisions risk becoming opaque, potentially reinforcing biases or undermining pedagogical autonomy. The European Union's AI Act classifies educational AI systems as "high-risk," requiring strict standards of auditability, documentation, and human oversight (European Commission, 2023). Complementing this, the Council of Europe's Framework Convention on AI (2024) introduces legally binding obligations for risk assessment, data protection, and stakeholder participation.

Despite these advances, national regulatory frameworks—particularly in countries such as Romania—remain fragmented. The absence of clear guidelines on algorithmic governance, data protection in educational contexts, and teacher training creates uncertainty for institutions seeking to adopt AI responsibly (Adăscăliței, 2025). This paper addresses these gaps by analyzing international good practices and proposing a coherent framework for ethical and secure AI integration in education.

Methodology

This study employs a qualitative research design grounded in documentary and comparative analysis. The methodological approach integrates multiple sources of evidence to construct a comprehensive understanding of the ethical, legal, and pedagogical implications of AI adoption.

Data Sources

The analysis draws on:

- **Academic literature** on AI in education, algorithmic ethics, and digital pedagogy (Holmes & Tuomi, 2022; Bostan, 2024).

- **Policy documents** including the EU AI Act (European Commission, 2023), the Council of Europe Convention (2024), and UNESCO reports (2019, 2025).
- **Empirical surveys** on teachers' perceptions of AI integration (Sămărescu et al., 2024).
- **Case studies** of AI-driven educational platforms such as Carnegie Learning, eKool, Ariadna, and Școala Nouă.

Analytical Strategy

The analysis identifies recurring themes in policy documents and academic literature, contrasts national approaches to AI governance, and synthesizes insights from international case studies. The comparative dimension highlights divergences between countries with mature digital ecosystems (Finland, Estonia) and those at earlier stages of development (Romania).

Research Objectives

The study is designed to:

- **Map the regulatory landscape** of AI in education at national and international levels.
- **Identify ethical challenges** related to transparency, data protection, and and algorithmic bias in AI-assisted learning environments.
- **Assess cybersecurity risks** associated with the use of AI in e-learning platforms.
- **Formulate policy recommendations** for equitable, responsible, and sustainable AI governance in education.

Legislative context

The regulation of the use of AI in education is at an early stage in Romania, being influenced by the European directives on artificial intelligence and data protection. The draft European Regulation on Artificial Intelligence (AI Act) proposes to classify AI applications according to the risk they pose, and AI-based educational systems are considered "high risk", requiring transparency, auditability and protection of personal data (European Commission, 2023). In parallel, national legislation on digital education and cybersecurity is fragmented, without a unitary framework explicitly regulating the use of AI in schools and universities.

Theoretical framework

The theoretical foundation of this study rests on an interdisciplinary synthesis that integrates educational, ethical, and governance perspectives. Four complementary pillars provide the conceptual scaffolding: *AI-assisted personalized learning*, *algorithmic ethics*, *digital governance in education*, and *digital pedagogy*. Together, these dimensions enable a comprehensive analysis of both the opportunities and risks associated with artificial intelligence in e-learning environments.

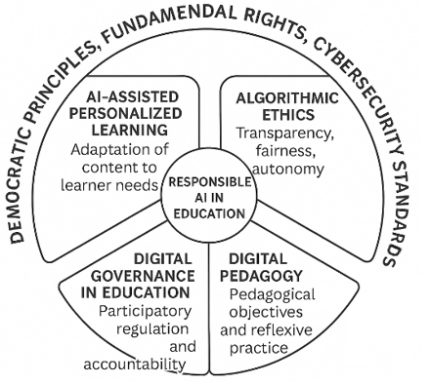

Figure: 1 A visual diagram of this conceptual framework

AI-Assisted Personalized Learning

AI systems can adapt instructional content to learners' needs through recommendation algorithms, predictive analytics, and adaptive feedback, enhancing engagement and supporting differentiated instruction (Holmes & Tuomi, 2022). By leveraging recommendation systems, predictive analytics, and adaptive feedback, AI can foster inclusivity and differentiated instruction. This theoretical perspective highlights the pedagogical potential of AI to enhance engagement and improve learning outcomes.

Algorithmic Ethics

Algorithmic ethics examines the moral implications of automated decision-making, including risks of bias, opacity, and reduced student autonomy. Ethical deployment requires transparency, fairness, and mechanisms for human oversight (European Commission, 2022). Central concerns include the risk of bias embedded in algorithms, the opacity of decision-making processes, and the potential erosion of student autonomy. Ethical analysis in this domain underscores the necessity of transparency, accountability, and fairness in the design and deployment of educational technologies.

Digital Governance in Education

Digital governance highlights the need for participatory regulatory models involving policymakers, educators, and technology developers (Adăscăliței, 2025). Effective governance must integrate democratic principles, accountability mechanisms, and clear institutional responsibilities.

Digital Pedagogy

Digital pedagogy argues that technological innovation must be guided by pedagogical objectives rather than technological enthusiasm. Teachers must critically assess how AI tools influence cognitive development, learning processes, and student autonomy (Bostan, 2024). Digital pedagogy insists that the integration of emerging technologies must be guided by explicit pedagogical objectives rather than enthusiasm for innovation. It calls for a reflexive approach to understanding how AI tools influence cognitive development, learning processes, and student autonomy. Teachers, therefore, must consciously decide when and how to employ AI, considering its impact on both intellectual growth and emotional formation.

Integrated Lens

By combining these four pillars, the study adopts an *interdisciplinary lens* that bridges educational theory, ethical reflection, and governance frameworks. This integrated approach ensures that the analysis captures the full spectrum of implications—pedagogical, ethical, and legal—while promoting a vision of AI in education that respects democratic values, fundamental rights, and cybersecurity standards.

Results: International Good Practices in AI for E-Learning

To understand the concrete impact of artificial intelligence (AI) in e-learning, it is essential to analyze international good practices that highlight both pedagogical benefits and ethical and security challenges. This section presents a comparative analysis of AI implementation in education across various national and international contexts, focusing on policy frameworks, technological innovations, and practical applications.

European Union: Ethical Guidelines for Teachers. The European Union has taken proactive steps to guide educators in the ethical use of AI. The 2022 guidelines emphasize algorithmic transparency, data protection, and the development of digital competencies among teachers (European Commission, 2022. Concrete examples include AI applications in language

learning, personalized task assignment, and automated assessment. These initiatives promote a culture of responsibility and critical reflection, encouraging educators to engage with AI tools ethically and effectively.

United States: Carnegie Learning's Smart Tutoring System. Carnegie Learning exemplifies the use of AI in personalized mathematics instruction. Its smart tutoring system provides real-time feedback by analyzing student responses and behavior. While studies report improved academic performance, concerns persist regarding algorithmic transparency and data privacy (Holmes & Tuomi, 2022). This case underscores the need for balancing technological innovation with ethical safeguards.

Finland: National Strategy for Digital Education. Finland's comprehensive strategy integrates AI through adaptive learning platforms, continuous teacher training, and regular impact assessments. Initiatives such as EduCluster Finland and EduExcellence offer immersive learning environments and professional development programs. These platforms connect education with professional life, fostering holistic learning and safe technology adoption. Finland's approach demonstrates how national policy can align technological advancement with pedagogical integrity (UNESCO, 2025).

Estonia: eKool Platform. Estonia's eKool platform showcases advanced digital infrastructure and AI integration. It facilitates secure data access, predictive analytics for dropout risk, and real-time communication among students, parents, and educators. Despite its effectiveness, critiques highlight risks of stigmatization and surveillance, emphasizing the importance of robust privacy regulations. eKool's interoperability and user-centric design offer valuable insights into scalable AI deployment (Council of Europe, 2024).

Romania: Ariadna and Scoala Noua Platforms

The *Ariadna* experiment, coordinated by Romanian experts in digital education, proposes: using AI for personalized instruction, automated grading, and data-driven decision-making; addressing challenges related to privacy, algorithmic bias, and technological costs, as well as promoting a critical pedagogy that encourages discernment in the use of AI (Istrate, 2022). The Ariadna project, developed within the Digital Education platform, explores the use of AI in automated assessment and instructional personalization. Teachers were involved in testing tools such as ChatGPT and Grammarly in teaching activities. The study highlighted the need

for ethical and digital training, as well as the risks related to excessive reliance on algorithms in educational decision-making

The *Școala Nouă* platform in Romania (https://scoalanoua.ro/offer) is a significant digital tool designed to enhance the educational experience by providing a comprehensive digital catalog that allows real-time tracking of student grades and facilitates seamless communication between parents and teachers. Beyond its core functionalities, *Școala Nouă* integrates artificial intelligence-based features designed to personalize learning paths, identify student strengths and weaknesses, and provide personalized recommendations to support academic development. The platform supports educators in efficiently managing and automating administrative tasks as well as promoting a collaborative environment between students, teachers, and parents. Its user-friendly interface and accessibility contribute to increased transparency and inclusion within the educational ecosystem. Furthermore, *Școala Nouă* emphasizes data privacy and security, aligning with national regulations to protect students' sensitive information. The continuous development of the platform includes incorporating feedback from educators and stakeholders to adapt to evolving educational needs and technological advances.

In addition to *Școala Nouă*, Romania benefits from complementary digital solutions such as *ADMA* and *Edu Apps*, which further support the management of online courses and the development of digital infrastructure. Together, these platforms contribute to building a modern, inclusive and transparent education system that uses artificial intelligence responsibly to improve learning outcomes and stakeholder engagement. The ADMA application, (managed by Edu Apps on the Google Cloud Platform within the European Union) together with Future Class (Clasa Viitorului): Google Workspace for Education and Office 365 A1 (hereinafter referred to as "the Applications"), are available free of charge to students, parents, and teachers. These applications enable each teacher to manage classes and lessons online through a professional account created by the school. Edu Apps (https://www.eduapps.ro/) develops and implements solutions for innovation in education for any level of education such as: applications (school management, teaching and learning), equipping the school space with devices and the Internet, training and consulting services.

Comparative Insights

Across these contexts, several common themes emerge:

- Pedagogical Innovation: AI enhances personalization, feedback, and engagement.
- Ethical Challenges: transparency, bias, and data protection remain critical concerns.
- Policy and Governance: national strategies and international guidelines shape responsible AI use.
- Teacher Empowerment: continuous training and ethical literacy are essential for effective implementation.

Discussions

The documentary analysis highlights several essential dimensions regarding the integration of artificial intelligence (AI) in education. Empirical studies indicate that teachers show increasing openness toward adopting AI, particularly in assessment practices and personalized learning, provided that adequate training frameworks and professional support are available. This underscores the importance of continuous professional development as a prerequisite for effective and responsible AI implementation.

At the same time, significant legislative gaps persist both internationally and nationally. Currently, no specific regulatory framework fully addresses the use of AI in education. In Romania, existing legislation on data protection and cybersecurity does not sufficiently cover the specificities of educational algorithms, generating uncertainty for schools and learners. This situation reinforces the need for coherent public policies that ensure transparency, accountability, and equity in AI-assisted educational environments.

Ethical risks also remain central. The opacity of algorithmic decision-making, the potential for automated bias, and challenges related to equitable access to digital technologies require an interdisciplinary approach that combines technological expertise with ethical and pedagogical principles. Ensuring fairness, explainability, and human oversight is essential for maintaining trust in AI-supported learning processes.

International models provide valuable insights for addressing these challenges. Finland and Estonia have adopted national strategies that explicitly integrate AI into education, emphasizing teacher training, transparent governance, and clear regulation of high-risk applications. By contrast, Romania is at an early stage of development: although interest among teachers and institutions is growing, the absence of a coherent legislative framework limits the potential for responsible and sustainable AI integration. Adapting international good

practices to the national context can support the development of a balanced ecosystem that promotes innovation while safeguarding fundamental rights.

Overall, the successful integration of AI in e-learning requires robust data protection measures, algorithmic transparency, and the active involvement of teachers in evaluating and adapting technologies. These elements are essential for ensuring that AI contributes positively to educational ecosystems and supports a safe, equitable, and sustainable digital transformation.

The Need for Responsible Integration of AI in E-Learning

The case studies analyzed demonstrate that the integration of artificial intelligence in e-learning must be approached responsibly, with attention to both pedagogical value and potential risks. AI systems can enhance personalization, feedback, and learning efficiency, but their benefits depend on transparent design, ethical use of data, and mechanisms that ensure human oversight. Without these safeguards, automated decisions may become opaque, reinforce biases, or undermine trust in digital learning environments. Responsible integration therefore requires clear institutional policies, robust data protection measures, and continuous monitoring of algorithmic impact.

The Romanian educational context illustrates clearly why AI integration must be approached responsibly. Although digitalization has accelerated in recent years, schools continue to face disparities in infrastructure, uneven access to technology, and limited institutional capacity to evaluate AI tools. These conditions make the risks associated with opaque algorithms, data misuse, or unregulated automated decision-making particularly acute. Responsible integration in Romania therefore requires not only technical safeguards but also clear national guidelines, transparent procurement processes, and mechanisms that ensure that AI supports pedagogical goals rather than replacing professional judgment.

Teachers' Openness and Professional Development

Empirical evidence shows that teachers are increasingly open to adopting AI tools, particularly for assessment and personalized instruction. However, this openness is conditional on the availability of adequate training and institutional support. Educators need opportunities to develop both technical competencies and ethical literacy, enabling them to

critically interpret algorithmic outputs and make informed pedagogical decisions. Professional development programs that address digital ethics, data protection, and AI-supported instructional design are essential for ensuring that teachers can use these technologies effectively and responsibly.

Romanian teachers demonstrate growing openness toward AI, especially in assessment, feedback, and personalized learning. However, this openness is strongly conditioned by their confidence in digital skills and the availability of structured training programs. Current professional development opportunities remain fragmented, and many educators report uncertainty about how to evaluate AI outputs or how to use such tools ethically. Strengthening teacher training in Romania—through national programs focused on digital ethics, data protection, and AI literacy—is essential for ensuring that educators can critically and effectively integrate AI into their practice.

Legislative Gaps and Policy Challenges

The ethical implications of AI in education remain a central concern. Key risks include algorithmic opacity, potential bias in automated decisions, and unequal access to digital technologies. Addressing these challenges requires an interdisciplinary approach that integrates technological expertise with ethical, legal, and pedagogical perspectives. Ensuring fairness, explainability, and respect for student autonomy must be core principles guiding the design and deployment of AI systems. Ethical governance frameworks should also include mechanisms for appeal, human review, and transparent communication with stakeholders.

Romania lacks a coherent legislative framework regulating the use of AI in education. Existing laws on data protection and cybersecurity offer only partial coverage and do not address the specificities of educational algorithms, such as transparency requirements, auditability, or the governance of high-risk systems. This regulatory vacuum places schools in a vulnerable position, as they must navigate complex ethical and legal issues without clear national guidance. Developing a unified policy framework—aligned with European standards but adapted to local realities—is crucial for ensuring safe and equitable AI adoption in Romanian education.

Ethical Risks and Interdisciplinary Approaches

Ethical risks remain central to the debate on AI integration in education. The most significant concerns include the opacity of algorithmic decision-making, the potential for automated bias,

and persistent inequalities in access to digital technologies. These risks highlight the need for an interdisciplinary approach that brings together technological expertise, ethical reflection, and pedagogical judgment. Algorithmic ethics emphasizes transparency, fairness, and explainability, while digital pedagogy insists that AI tools must serve clearly defined educational objectives rather than replace human decision-making.

In Romania, ethical challenges are amplified by disparities in digital infrastructure and varying levels of institutional preparedness. Limited teacher training, inconsistent data governance practices, and the absence of national ethical guidelines increase the likelihood that AI systems may reinforce existing inequities or generate opaque automated decisions. Addressing these vulnerabilities requires coordinated efforts to establish ethical standards for AI use in schools, including mechanisms for human oversight, transparent communication with stakeholders, and clear procedures for contesting algorithmic outcomes.

Insights from International Models

International models provide valuable insights into how AI can be responsibly integrated into education.

- Finland has adopted a national strategy that explicitly integrates AI, emphasizing teacher training, adaptive platforms, and equity assessments. Its initiatives, such as Virtual Life Labs, connect education with professional life, ensuring that AI serves both pedagogical and societal goals.
- Estonia has developed advanced digital infrastructure through platforms like eKool, which enable secure data access, predictive analytics, and real-time communication. While effective, Estonia's model also highlights risks of surveillance and stigmatization, underscoring the need for privacy safeguards.
- Romania, by contrast, is at an early stage of development. Projects such as Ariadna and Scoala Noua demonstrate growing interest among teachers and institutions, but the absence of a coherent legislative framework limits the potential for responsible integration.

The following table synthesizes the main differences across the three national contexts.

Table: 1 Comparative Table: AI in Education – Finland, Estonia, Romania

Dimension	Finland	Estonia	Romania
Policy Framework	National Strategy for Digital Education explicitly integrates AI; strong emphasis on teacher training and equity.	Advanced digital infrastructure supported by national e-governance strategy; AI embedded in platforms like eKool.	No coherent national AI strategy in education; reliance on general data protection and cybersecurity laws.
Teacher Training	Continuous professional development in AI and digital ethics; immersive programs (EduCluster, EduExcellence).	Training focused on digital literacy and platform use; less emphasis on ethics.	Limited training; pilot projects (Ariadna) highlight need for ethical and digital literacy development.
Platforms & Tools	Adaptive learning platforms, Virtual Life Labs, immersive simulations; strong link to professional readiness.	eKool platform integrates AI for monitoring progress, dropout prediction, and communication.	Scoala Noua (digital catalog), ADMA/Edu Apps for class management; Ariadna project tests AI tools like ChatGPT.
Ethical Safeguards	Regular assessment of AI's impact on equity and inclusion; clear guidelines for responsible use.	Privacy concerns raised over surveillance and stigmatization; ongoing debate on safeguards.	Ethical risks identified (bias, opacity, overreliance); lack of clear national guidelines.
Cybersecurity Measures	Integrated into national strategy; proactive monitoring of risks.	Secure access via digital ID; strong interoperability but vulnerable to surveillance risks.	General cybersecurity laws apply; insufficient coverage of educational AI systems.
Stage of Development	Mature, strategic, and holistic integration of AI in education.	Advanced infrastructure with strong digital identity systems; AI widely adopted.	Early stage; fragmented initiatives, strong interest but limited regulation and coherence.

Comparative analysis suggests that Romania could benefit significantly from adapting international best practices to its local context. This would involve not only importing technological solutions but also embedding them within a framework of ethical reflection, teacher empowerment, and policy coherence.

Building a Balanced Ecosystem

The overarching lesson from these case studies is that AI in education must be integrated within a balanced ecosystem. This ecosystem should promote innovation while safeguarding fundamental rights. Key components include:

- Coherent policies that regulate high-risk applications and ensure accountability.
- Adequate teacher training that combines technical skills with ethical literacy.
- Active involvement of all educational actors, including students, parents, policymakers, and technologists.
- Continuous evaluation of AI's impact on equity, inclusion, and academic integrity.

Such an ecosystem would not only enhance learning outcomes but also strengthen trust in digital education, ensuring that AI contributes to sustainable development rather than exacerbating existing inequalities.

For Romania, building a balanced AI-supported educational ecosystem requires coordinated efforts across multiple levels: national policy, institutional governance, teacher training, and community engagement. AI tools must be evaluated not only for their technical performance but also for their pedagogical relevance and ethical implications. Ensuring equitable access to digital resources, strengthening cybersecurity, and promoting a culture of critical engagement with technology are essential steps toward a sustainable digital transformation. When these conditions are met, AI can contribute to a more inclusive and learner-centered Romanian education system.

Conclusion of the Discussion

The discussion highlights that the integration of AI in education involves interconnected challenges related to ethics, governance, teacher preparedness, and infrastructural disparities. International models demonstrate that coherent strategies, transparent regulation, and sustained professional development can support responsible AI adoption. In Romania, the

growing interest in AI-assisted learning is accompanied by significant vulnerabilities, including legislative gaps, uneven digital infrastructure, and limited training opportunities. Addressing these issues requires coordinated efforts that balance innovation with ethical safeguards and institutional accountability. Overall, the discussion shows that AI can contribute meaningfully to educational transformation only when embedded within a transparent, equitable, and pedagogically grounded framework.

Conclusion

The analysis conducted in this study demonstrates that artificial intelligence has the potential to reshape educational ecosystems by enhancing personalization, supporting data-informed teaching, and improving administrative efficiency. However, the transformative promise of AI can only be realized when technological innovation is embedded within a coherent framework of ethical safeguards, transparent governance, and pedagogical purpose. The comparative examination of Finland, Estonia, and Romania reveals that the maturity of national digital strategies, the robustness of regulatory frameworks, and the quality of teacher training significantly influence the extent to which AI contributes to equitable and sustainable educational development.

Finland and Estonia illustrate how long-term investments in digital infrastructure, continuous professional development, and clear national strategies can create favorable conditions for responsible AI integration. Their experiences show that AI adoption is most effective when aligned with democratic values, human rights, and participatory governance. These models also highlight the importance of transparency, explainability, and systematic evaluation of AI tools—elements that help maintain trust and ensure that automated systems support, rather than constrain, pedagogical autonomy.

In contrast, Romania's emerging initiatives reveal both opportunities and vulnerabilities. Teachers and institutions display increasing interest in AI-assisted learning, yet the absence of a dedicated national strategy, limited ethical guidelines, and uneven digital infrastructure create significant barriers to responsible implementation. The Romanian context underscores the need for coordinated national policies that address algorithmic transparency, data protection, and the governance of high-risk educational systems. Strengthening teacher training in AI literacy and digital ethics is equally essential, as educators play a central role in mediating the pedagogical and ethical implications of AI tools.

The findings of this study suggest that the successful integration of AI in education requires a holistic, human-centered approach. This includes:

- **robust regulatory frameworks** that ensure accountability and protect fundamental rights,
- **continuous professional development** that empowers teachers to critically evaluate and adapt AI tools,
- **ethical governance mechanisms** that promote fairness, transparency, and explainability,
- **equitable access to digital infrastructure**, ensuring that technological innovation does not exacerbate existing inequalities.

Ultimately, AI should not be viewed as a substitute for human judgment but as a tool that can enhance the quality of teaching and learning when used responsibly. By aligning technological capabilities with pedagogical objectives and ethical principles, educational systems can harness the potential of AI to support inclusive, transparent, and future-oriented learning environments. For Romania, this alignment represents both a challenge and an opportunity: a chance to build a coherent, equitable, and sustainable digital education ecosystem that reflects European standards while responding to local needs.

Limitations of the Study

Despite its comprehensive documentary and comparative approach, the study presents several limitations that should be acknowledged. First, the analysis relies exclusively on secondary sources, without incorporating primary empirical data such as interviews, classroom observations, or surveys with educators and students. This limits the ability to capture lived experiences and contextual nuances regarding AI adoption in educational settings. Second, the focus is predominantly on European policy frameworks and case studies, which may reduce the generalizability of the findings to non-European contexts with different regulatory, cultural, or infrastructural conditions. Third, the rapidly evolving nature of AI technologies and regulations means that some policy references may become outdated, requiring continuous updates. Future research could address these limitations by integrating empirical fieldwork, expanding the geographical scope, and conducting longitudinal analyses of AI implementation in education.

Policy Recommendations

Governance and Regulation

- Develop a *coherent national strategy* for AI in education, aligned with European frameworks (AI Act, Council of Europe Convention).
- Classify educational AI systems as *"high risk"*, requiring audits, transparency reports, and accountability mechanisms.
- Establish *interdisciplinary regulatory bodies* including educators, policymakers, technologists, and civil society.
- Mandate *continuous evaluation* of AI's impact on equity, inclusion, and academic integrity, with public reporting.

Teacher Training and Professional Development

- Integrate *AI literacy and digital ethics* into teacher education programs.
- Provide *continuous professional development* through workshops, online modules, and immersive labs.
- Empower teachers as *co-designers of AI tools*, involving them in testing and adaptation.
- Develop *ethical classroom guidelines* to help teachers decide when and how AI should be applied.

Data Protection and Cybersecurity

- Implement *strict data protection protocols* tailored to educational contexts, beyond general GDPR compliance.
- Require *explainable AI systems* to ensure transparency in algorithmic decision-making.
- Introduce safeguards against *surveillance and stigmatization*, limiting predictive analytics to supportive interventions.
- Invest in *secure digital infrastructure*, including encryption and robust identity verification systems.

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