



A Review of the Ethics and Legal Principles of the Use of Artificial Intelligence in Student Learning in the Digital Era

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ABSTRACT

This article discusses the ethical and legal implications of the use of Artificial Intelligence (AI) by students in the learning process in the digital era. The rapid development of AI technology, such as ChatGPT, Grammarly, and similar platforms, has changed the educational paradigm by providing ease of access to information and completion of assignments. However, this phenomenon also poses serious challenges, including potential violations of academic integrity, misuse of technology, risks to personal data protection, and the digital access gap. This study uses a normative juridical method with a conceptual and legislative approach to analyze the legal and ethical basis for the use of AI in educational settings. The results of the study indicate that the lack of regulations specifically governing the use of AI by students can create a normative vacuum and legal vulnerabilities. Therefore, the integration of digital ethics literacy into the curriculum, the development of data protection policies in educational institutions, and multi-stakeholder collaboration are needed to ensure that the use of AI aligns with the principles of legality, justice, child protection, benefit, and accountability in the national education system.



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INTRODUCTION

The Industrial Revolution 4.0, which subsequently evolved into Society 5.0, has driven major transformations across various sectors, including education. One of the main pillars of this transformation is the use of Artificial Intelligence (AI) in various life processes, particularly in learning activities. AI enables the creation of more adaptive, interactive, and personalized learning environments. This technology has been widely used in the form of learning analytics, chatbots, adaptive learning systems, and writing and thinking aids such as Google Gemini, ChatGPT, Grammarly, Canva, and other similar platforms, which are now highly accessible to students at various levels of education (Alimuddin & Kurniawan, 2023). Students are now no longer merely passive recipients of technology but are now active actors utilizing AI to complete academic assignments, understand course material, and produce written work. On the one hand, this development presents a strategic opportunity to significantly improve the quality of learning. However, on the other hand, there are serious issues related to academic honesty, dependence on technology, the misuse of AI for plagiarism, and the risk of violations of children's personal data protection (Handayani, 2022).

The use of AI by students also presents unequal access. Not all students have the devices, internet connectivity, or adequate digital literacy to optimally utilize this technology. This inequality has the potential to widen the educational gap between students in developed and underdeveloped regions (UNESCO, 2021). Furthermore, AI used in education often operates with algorithms that are not fully transparent and may contain bias, which in turn can lead to inequities in the teaching and learning process (Eubanks, 2018).

From a legal perspective, Indonesia does not yet have specific regulations governing the use of AI in education, particularly by students. Although Law Number 20 of 2003 concerning the National Education System provides a basic framework for the implementation of education, there are no explicit norms governing the ethics and limits of the use of AI-based technology in the learning process. Similarly, Law Number 27 of 2022 concerning Personal Data Protection regulates the principles of data collection and processing, but its implementation in the context of digital education still requires further elaboration. Therefore, it is important to conduct a study on the ethics of AI use by students and the application of legal principles, such as legality, justice, child protection, utility, and accountability, to ensure that the technology used truly supports national education goals and does not violate fundamental values of law and public morality.

Based on the background outlined, the research questions to be examined in this article can be formulated as follows: What are the forms and scope of AI use by students in the learning process? What ethical issues arise from AI use by students? How can legal principles serve as a normative framework for regulating the use of AI in learning?

RESEARCH METHODS

This research employs a normative juridical method with a conceptual and legislative approach. This study focuses on the ethical and legal aspects of AI use by students in digital education. Legal data sources include relevant laws and regulations, academic literature, and policy documents. This method allows for a systematic interpretation of legal principles such as legality, justice, accountability, child protection, and the principle of benefit as the normative basis for the use of AI in education.

RESULTS AND DISCUSSION

The Concept of Artificial Intelligence in Education

Artificial Intelligence (AI) is a branch of computer science that aims to create systems capable of mimicking human intelligence, such as the ability to learn, infer, understand language, and solve problems autonomously (Russell & Norvig, 2016). In the educational context, AI is utilized to automate the learning process, personalize materials, provide instant feedback, and improve the efficiency of academic administration. The use of AI in education can be classified into several forms, including: Adaptive Learning Systems that can adjust learning materials based on students' abilities and pace. Virtual Assistants and Educational Chatbots such as Google Gemini and ChatGPT, which students use to ask questions, find out about material, and even create assignments. Language and Writing Correction Tools, such as Grammarly, which help students structure text correctly and avoid grammatical errors. Visualization and Presentation Support Tools, such as Canva and Magic Write, which make it easier for students to present ideas in engaging visuals. Learning Analytics, which is AI that analyses learning data to provide feedback to teachers and students on learning progress. This phenomenon of AI use indicates a shift from conventional learning systems to digital learning systems based on data and algorithms. AI is no longer merely a teaching aid for teachers, but has become a partner in students' independent learning (Holmes, Bialik & 2019). However, the adoption of AI in learning by students is not always accompanied by ethical and regulatory readiness. Many students use AI freely without understanding its limitations, including the risks of plagiarism, over-reliance, and intellectual property violations (Floridi et al., 2018). Furthermore, not all schools systematically provide digital literacy and ethical AI use to students.

From a legal perspective, artificial intelligence as a technological entity does not yet have its own legal entity. Therefore, responsibility for the use of AI remains with users (in this case, students), educators, and platform providers. This reinforces the urgency of regulating the use of AI in the national education system, especially those that directly involve students as active users.

Ethical Theory in Educational Technology

Ethics is a branch of philosophy that discusses good and bad, as well as the morality of human actions. In the context of technology, ethics is an important measuring tool for assessing whether the use of a technology is in accordance with the values of humanity, justice, and social responsibility. The application of Artificial Intelligence (AI) technology in education by students cannot be separated from ethical considerations, especially considering the relationship between humans (students) and machines that are autonomous, complex, and in many cases not fully understood by the user. Several ethical

theories can be used as a framework for analysing the use of AI by students, including: a) Deontological Ethics: This theory emphasizes that an action is judged right not by its consequences, but by the underlying moral obligation or norms. b) Utilitarianism: This ethic judges the goodness or badness of an action based on the amount of benefit or happiness it produces for the greatest number of people. c) Justice Ethics: Developed by philosophers such as John Rawls, this theory emphasizes that justice is a primary principle in social arrangements, including education. d) Ethics of Care: This ethic highlights the importance of interpersonal relationships, empathy, and responsibility towards others, including the relationship between teachers and students. From these ethical theories, it can be concluded that the use of AI in learning by students is not only about technical aspects and convenience, but must also be guided by moral principles.

Relevant Legal Principles

In the context of students' use of Artificial Intelligence (AI) in the learning process, a thorough examination of the legal principles that serve as the normative basis for policy formulation and ethical regulation of the use of this technology is necessary. Legal principles are the fundamental principles that underpin a country's legal system, including in responding to new phenomena such as digitalization and the adoption of AI in the education sector. The following are some relevant legal principles: a) Principle of Legality: This principle states that all actions with legal implications must have a clear legal basis. The absence of clear regulations creates a legal vacuum that risks creating legal disorder in digital learning practices. b) Principle of Justice: This principle requires equal access, proportional treatment, and fair distribution of benefits. The use of AI in education that is only accessible to students from certain groups (for example, students in urban areas or from wealthy families) has the potential to violate the principle of distributive justice. c) Principle of Child Protection: In accordance with Article 59 of Law Number 35 of 2014 concerning Child Protection, the state is obliged to provide special protection for children exposed to developments in information technology. Therefore, it is necessary to apply the principle of caution and legitimate consent to the use of AI applications by minors. d) Principle of Accountability: Any use of technology that has legal implications must be accompanied by an accountability mechanism. Accountability must be designed to be proportional and not burden parties who do not have full control (Floridi et al., 2018). e) Principle of Benefit: This principle emphasizes that every legal norm and policy must provide the greatest benefit to society. Therefore, the use of AI must be facilitated educationally and not leave students completely dependent on machine intelligence (Raharjo, 2011).

By examining these five principles, it can be concluded that the use of AI in student learning requires serious legal attention. Without legally based regulations, there is a risk of violations of academic ethics, social injustice, and violations of children's rights, which could ultimately undermine the primary goals of national education as mandated by the constitution.

A Study of AI Use by Students and Its Implications

In the digital era, students are not only objects in the education system but also active subjects who use technology, including the use of Artificial Intelligence (AI) in daily learning activities. Students' use of AI has evolved from a mere learning aid to a thinking partner and, in some cases, even a substitute for certain cognitive functions, such as writing essays, analysing data, or writing papers (Holmes, Bialik & Fadel, 2019). The following are some implications based on the varying characteristics of students' academic conditions, technological adaptation, critical thinking skills, and geographic location: a) Implications for Academic Ethics: The use of AI to complete assignments without the student's intellectual involvement can be categorized as a form of digital plagiarism. Although not explicitly plagiarizing another's work, students appropriate the machine's creation without their own cognitive contribution, which contradicts the values of academic honesty and responsibility. b) Cognitive Dependence and Reduction of Thinking Processes: Dependence on AI has the potential to weaken students' critical thinking and analytical abilities. If this habit persists for a long time, the learning process will become mechanistic and lack depth (surface learning), thus contradicting the principle of lifelong learning in the national education system. c) Risk of Bias and Misinformation: AI, although sophisticated, is not always accurate. Algorithms used in AI systems often have data biases, provide erroneous information, or are inappropriate for local contexts. Students who lack adequate digital literacy may receive AI information raw without verification, potentially forming

misconceptions (O'Neil, 2016). d) Access and Equity Gap: Not all learners have the devices, internet connection, and sufficient digital literacy to access AI technology. This inequality widens the gap between tech-savvy students and those left behind, leading to inequities in learning opportunities and academic outcomes (UNESCO, 2021).

Therefore, while AI offers numerous opportunities to support the learning process, its use by learners must be accompanied by ethical awareness, educator oversight, and strengthened legal policies. Without adequate regulation and digital literacy, this technology could backfire and damage the essence of education itself.

Legal Protection of Student Data and Rights

With the increasing use of Artificial Intelligence (AI) in learning activities, the issue of protecting students' personal data is becoming increasingly crucial. AI technology, particularly machine learning-based technology, generally works by collecting, analyzing, and processing user data to provide personalized results or recommendations. In the educational context, this data can include students' identities, learning habits, preferences, location, and even digital traces of their activities on online platforms (Floridi & Taddeo, 2016). Based on this, several important points to prepare for and be aware of when using AI in the learning process include the importance of protecting students' personal data.

Students, especially children, are considered vulnerable legal subjects. They do not fully understand the consequences of sharing their data online and often use technology without adequate supervision. When they access AI applications, whether web-based or mobile, there is the potential for their data to be collected without explicit consent and without understanding the intended use (Livingstone & Third, 2017). This issue becomes more complex when the AI platform originates overseas and isn't directly subject to Indonesian data protection regulations. In this situation, students may be exposed to data commercialization or digital profiling practices that violate their rights to privacy and security.

Data Protection Regulations in Indonesia

Indonesia has passed Law Number 27 of 2022 concerning Personal Data Protection (PDP Law), which regulates the rights of data subjects, the obligations of data controllers and processors, and administrative and criminal sanctions for violators. This law explicitly states that children's personal data requires special protection, and all data processing must be based on the principles of transparency, lawfulness, and fairness.

Article 58 of the Personal Data Protection Law (PDP Law) states: "Personal data controllers are obliged to ensure that the collection and processing of children's personal data is carried out with the consent of parents or guardians and with additional safeguards".

Legal Responsibility of Educational Units and Third Parties.

In the context of administrative and civil law, educational institutions act as controllers of personal data when introducing or facilitating the use of AI applications in school settings. Therefore, they have a responsibility to: Conduct risk assessments of the AI applications used; Provide transparent information to students and parents; Ensure that third parties (AI providers) comply with the principles of the PDP Law and conduct regular audits of digital systems connected to student learning activities.

Failure to fulfill these obligations can result in administrative sanctions or legal action from the aggrieved party. From an ethical perspective, such failure also reflects an educational institution's neglect of safeguarding the best interests of the child, which should be a primary principle in educational policymaking.

Therefore, legal protection of personal data and students' rights in the use of AI is not merely a technical issue, but also concerns dimensions of justice, security, and human rights in the digital education era. Without strong policies and legal implementation, students are at risk of becoming victims of data exploitation and systemic digital rights violations.

CONCLUSION

The integration of Artificial Intelligence in education presents both opportunities and significant ethical-legal challenges. While AI enhances learning efficiency and personalization, it also

raises concerns about digital plagiarism, academic integrity, and unequal access to technology. To address these challenges, this study recommends several key actions: First, the government must develop specific AI regulations for education through collaboration between the Ministry of Education and Ministry of Communication and Informatics. Second, digital literacy and AI ethics should be systematically integrated into the national curriculum. Third, educational institutions must establish comprehensive data protection policies and provide intensive teacher training on ethical AI use.

Additionally, the government needs to ensure equitable access by expanding digital infrastructure and subsidizing AI learning devices for students in remote areas. Finally, multi-stakeholder collaboration between schools, government, NGOs, technology providers, and parents is essential to create an ethical and legally sound AI-based educational ecosystem. Through these coordinated efforts, AI implementation in Indonesian education can align with national education goals while upholding academic integrity and protecting students' rights in the digital age.

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