

**ETHICAL ISSUES ARISING FROM THE USE OF ARTIFICIAL INTELLIGENCE
IN EDUCATION**

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In recent years, there has been a growing interest in the use of artificial intelligence (AI)-based technologies in education. These technologies are characterized by rapid changes. AI refers to systems that can perform tasks requiring human intelligence, such as learning, decision-making, adaptation to innovations, etc. [1]. These technologies have significant impacts, including creating a personalized learning environment, facilitating learning, and increasing student engagement. AI-based teaching tools are crucial pedagogical instruments for enriching educational experiences. The integration of AI into the educational system not only supports learning through innovative approaches but also plays a key role in preparing individuals for the digital era [3]. However, the rapid development of these technologies has raised several ethical concerns that could pose serious problems in both general and educational contexts. Concerns include the contamination of data created by AI on the internet, the use of content without additional consent, the reduction of diverse opinions, and the creation of fake content.

Although AI tools in chemistry lessons (such as Labster, ChemCollective, and ChatGPT) assist with virtual experiments, task execution, and assessment, they also create several ethical issues, including:

1. Privacy of Data: AI platforms collect students' personal information and learning activity indicators. This increases the responsibility of the teacher and the educational institution in terms of safeguarding this data.

2. Fair Assessment Issue: AI-based assessment systems, while automatically evaluating answers, sometimes fail to consider the context, resulting in assessments that do not fully reflect a student's knowledge level. This violates the principle of "fair assessment".

3. Academic Integrity and Dependency Risks: When students rely on AI to complete homework assignments and reports, it turns the learning process into a formal task. This contradicts the principle of "working with one's own knowledge and skills" and requires supervision by teachers.

4. Teacher's Ethical Responsibility: Teachers should not present AI-generated responses in lessons without verification. Additionally, they must teach students how to use these technologies properly and purposefully. The teacher here not only acts as a knowledge transmitter but also as an ethical guide.

Data suggests that as AI's role in education increases, ethical issues will become more pressing concerns.

References

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