



From Unethical to Ethical AI: A Call for Action for K-12 Teachers

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Abstract

Given the increasing application of Artificial Intelligence (AI) in education, investigating its ethical use is timely. The studies which have investigated AI in education tend to lack ethical recommendations for K-12 educators. To address this gap, this post reviews AI literacy opportunities for K-12 students and discusses the impacts of using potentially biased AI-generated content on students' perception and performance, calling for action for the ethical AI application in the classroom.

Keywords

1. Artificial Intelligence
2. Education
3. Ethics

AI Declaration

No artificial intelligence elements were used in the preparation of this blog post.

Conflict of Interest

The author declares no conflicts of interest regarding the content of this blog post.



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Introduction

Artificial Intelligence (AI) has been extensively used in K-12 education. AI refers to machines that imitate functions of human intelligence such as performing creative work, perception, reasoning, learning, language interaction, and problem-solving (Commission on the Ethics of Scientific Knowledge and Technology [COMEST], 2019). Educators and administrators currently use AI to design and develop educational materials, assess knowledge, customize lessons, screen applications, and admit students (Holmes & Tuomi, 2022). At the same time, ethical concerns around AI are also being given increased research attention. While some studies, such as Holmes and Tuomi (2022), have explored the implementation of AI in education few have offered ethical recommendations for K-12 teachers. As such, this blog post reviews AI literacy opportunities for students, looks at the risk of bias in K-12 education, and finally invites heightened awareness of these risks among the educational community.

AI Literacy Opportunities for K-12 Students

To promote AI literacy skills development, several countries offer AI courses at the K-12 level. AI literacy refers to “some level of competency with regard to AI including knowledge, understanding, skills, and value orientation” (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2022, p. 11). AI curricula have been developed by governments (South Korea, China, Kuwait, and Bulgaria), in the government-commissioned private sector (Saudi Arabia and Qatar), among government-directed decentralized networks of schools (Belgium and Germany), and also in the independent private sector (such as IBM MIT, Microsoft, and Intel). AI curricula can be elective or compulsory, which means that students must take the corresponding courses or can take them as electives (UNESCO, 2022). Having AI curricula and guidance provides a structured professional development opportunity for teachers and equips students with the AI knowledge necessary for their future careers. Teachers and students should also develop a critical lens to evaluate AI-generated content and avoid using materials which can marginalize social groups and spread inaccurate information.

Gender Bias in AI Generated Content

A major concern of using AI is the presence of prejudices in the underlying datasets and among the teams who develop and train AI tools. These biases include consistent inaccuracies, distorted outcomes, and flawed assumptions that favor particular groups or promote certain ideologies. While the potential for religious, ethnic, or other biases exists, gender has received significant attention. Some early AI applications, especially in recruitment, have been discontinued due to negative outcomes (Hall & Ellis, 2023). Gender bias refers to “prejudiced actions or thoughts based on the gender-based perception that women are not equal to men in rights and dignity” (European Institute for Gender Equality, n.d.). Although this definition uses a binary female or male gender categorization, this blog



post also acknowledges the potential for bias towards non-binary individuals in AI-generated educational materials. For instance, teachers may use such materials to teach and assess students' competence. However, if that content is biased against certain genders this may shape students' perceptions of roles and characteristics, marginalize non-binary students in the classroom, or perpetuate gender stereotypes in the broader society. For one, repeatedly using AI-generated images of women in sexualized clothing may promote certain beauty standards, or imply that female individuals should dress and look in a certain way to look 'beautiful' and be 'accepted' in the society. Similarly, AI content which only depicts certain genders performing particular activities can reinforce assumptions that jobs and social roles are linked with gender identity - men performing physically and cognitively demanding jobs, women performing housekeeping and office assistant roles, or non-binary individuals going unrepresented. Associating gender identity with social roles, expectations, and skills can influence students' self-image and confidence and limit their options when they seek professional opportunities. Using gender-biased content can also create an environment where non-binary students feel excluded.

Conclusion and Call for Action

AI is used in teaching in K-12 schools across the globe. Teachers, students, and administrators use AI tools to streamline their teaching, learning, and performance. While using AI can enhance teachers' performance, being aware of potential biases in generated content is necessary. Critically examining such content and modifying it to eliminate prejudicial images and information can help promote more inclusive educational environments.

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