

Teachers' Perceptions of Artificial Intelligence in the Classroom

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We conducted an online survey to analyze how teachers view and use Artificial Intelligence (AI) tools to answer the following research questions: 1. What are teachers' perceptions of AI? 2. What are the characteristics of the teachers using AI in the classroom? 3. How often are teachers using AI in the classroom? 4. How are teachers using AI in the classroom?

Keywords: Artificial Intelligence, Teacher Perception, Curriculum Development

Artificial Intelligence (AI) is "a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments" (US Department of State, 2023, p. 21). According to the US Department of Education, AI is a problem because it can show discrimination and bias in its answers. It is often not helpful when giving answers because it is not human (2023). However, individuals still use it for teaching and suggest its use in the field, with some preservice teachers even considering "It's (AI) like a calculator for math resources" (Sawyer, 2024, p. 20). Yet, the field does not know how teachers perceive AI and how often they use it in their classrooms. Thus, we conducted an online survey to analyze how teachers view and use AI.

We distributed the online survey through a link on Instagram and X, using hashtags such as #eledteachers, #teachersandai, #teachersofX, #teachers, #AI, and #lessonplanning. From the survey, we gained 40 participants from 10 different US states. We analyzed the data using a grounded theory approach (Tie et al., 2019) using thematic analysis (Gibbs, 2007).

Findings

Teachers viewed AI as being able to create some activities. Still, the data stated that 84 % of participants said it needed editing, with only 16% stating it could use editing to create meaningful materials. Of the teachers who use AI, younger teachers are more likely to use AI than older teachers. The teachers identified using AI of any kind, on average, monthly. The participants identified that there are many ways that they are using AI in the classroom. For example, one teacher said they use it when creating multiple-choice tests and answer keys. In another instance in our survey, a teacher also said they use AI to give them ideas for what to write for discussion posts and/or assignments.

The data indicates that younger teachers use AI in the classroom. Thus, they must be trained in their preservice years to be critical of this new technology tool. Another important finding is that everyone believed that AI needed to be edited for the classroom; thus, individuals are already skeptical about using the tools. Mathematics Teacher Educators (MTEs) should use the young teacher's skepticism by providing examples of inaccurate mathematics and inappropriate responses by AI tools like Sawyer and Aga's (2024) paper, "Counterexample to Demonstrate Artificial Intelligence Chatbot's Lack of Knowledge in the Mathematics Classroom". If younger teachers are not educated on AI's abilities, they may end up using it in a way that could harm students. The data demonstrates that MTEs must take responsibility for supporting this vulnerable population.

Reference

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