

ARTIFICIAL INTELLIGENCE: 7 QUESTIONS (AND ANSWERS)

WHAT IS ARTIFICIAL INTELLIGENCE?

Artificial intelligence (AI) refers to the leveraging of multiple technologies that together create a device or construct that accomplishes certain tasks formerly requiring human input. In higher education, the principles of AI underlie a range of innovative systems, including analytics, robot writers, virtual experiences, and intelligent tutoring systems.

1



WHAT ARE THE IMPLICATIONS FOR TEACHING AND LEARNING?

AI bots can respond to student questions when access to the instructor and teaching assistants is limited or unavailable. AI has the potential to give every student a computer-simulated personal mentor and provide better communication between classrooms worldwide by offering translation services and cultural context. Lectures may be accompanied or augmented by immersive virtual reality environments populated by AI personalities that offer safe opportunities to practice emerging skills.

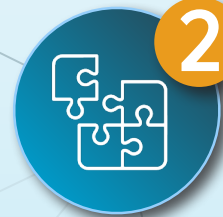
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HOW DOES IT WORK?

To exhibit intelligence, computers apply algorithms to find patterns in large amounts of data—a process called machine learning, which plays a key role in a number of AI applications. AI systems often incorporate human feedback to help calibrate the system's learning.

2



WHERE IS IT GOING?

AI will trend toward devices and constructs that conform more closely to human behavior and systems that are better able to handle conflicting or false information. The use of AI systems and devices will expand further into routine activities. Users may come to understand AI as a system that enhances human capabilities in a partnership between humans and machines, leveraging what each does best.

6



WHO'S DOING IT?

Many colleges and universities are developing AI projects that aid teaching and learning, such as the Pennsylvania State University, Georgia Tech, MIT, and Harvard.

3



WHAT ARE THE DOWNSIDES?

Considerable misunderstanding exists about what AI can and cannot do, resulting in inflated expectations and a risk that users could assign inappropriate kinds and amounts of authority to AI systems. For AI developers, one key issue is an emerging lack of transparency among corporate entities that see their AI programming and algorithmic development as intellectual property.

5



WHY IS IT SIGNIFICANT?

AI opens the possibility of individual tutoring to students who could never otherwise have access to it. AI learning agents have the potential to function like adaptive learning but at a much more sophisticated and nuanced level. AI allows faculty and students to do their work more effectively by providing not just tutors but AI assistants for scheduling, interactive immersive simulations, and human-machine partnerships.

4



This infographic was adapted from *7 Things You Should Know About Artificial Intelligence in Teaching and Learning* (Louisville, CO: EDUCAUSE Learning Initiative, April 2017).
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