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Transforming Teaching and Learning



AI in Education:

Implications for Homework, Learning and Feedback



AI IN EDUCATION

By InnerDrive



Artificial intelligence (AI) is rapidly reshaping the educational landscape, raising new questions and challenges for teachers. From concerns about academic honesty to the impact of AI on student learning and feedback, recent research paints a complex picture. Studies show that AI-generated work often goes undetected, that students who rely on AI may learn less deeply and that while AI can provide efficient feedback, it risks weakening the vital human connection between teacher and learner. Understanding these dynamics is essential for educators seeking to balance innovation with integrity and meaningful learning.

AI AND HOMEWORK

One of the big questions at the moment is whether teachers can tell if students have completed their homework themselves or if they have instead used AI to do it for them? To test this, Scarfe et al. (2024) injected 100% AI-written exam answers into a university system and found that 94% went undetected.

Similarly, Weber-Wulff et al. (2023) tested AI-detection tools and found that most were unreliable, with an average success rate of less than 70%. This means that, if relying on this, many guilty students would get away with cheating whilst many students who had done the work themselves would be falsely accused. The researchers couldn't have been clearer when they concluded that "Detection tools are neither accurate nor reliable."

Fleckenstein et al. (2024) found that teachers, regardless of experience level, struggled to detect AI-written student essays. The accuracy rates for doing so in this study were only 38%. More concerningly, many were overconfident in their judgements, with the researchers commenting that "teachers can not differentiate between student-written text and AI-generated texts." Casal and Kessler (2023) added further concern: even expert linguists could only distinguish AI from human writing less than 50% of the time.

AI AND STUDENT LEARNING

Do students who use AI as part of their studying do better or worse than their peers who didn't have access to it? In a now seminal study, Bastani et al. (2024) found that students who studied with AI did better during their revision time but did significantly worse on their final exam than those who studied as normal without it.

Why might this be the case? One possibility could be how students were using AI. The most popular prompt for students who used AI was what the researchers termed 'Ask for Answers', with the least popular being 'Ask for Help'. If students are using AI to give them answers, it shortcuts their thinking. As such, if they are not thinking hard, it is unlikely that they will be learning much.

Indeed, in a recent study by Kosmyrna et al. (2025), after completing an essay, students were interviewed about their experiences and the essay content. The most interesting finding was participants' responses to the question "Can you quote any sentence from your essay without looking at it?" Whilst 11% of the participants who wrote it all themselves failed to answer this question, an astonishing 83% of the ChatGPT group couldn't remember a single quote from the essay they had just written.

AI AND FEEDBACK

Steiss et al. (2024) compared feedback from human teachers with ChatGPT-generated feedback on students' writing. They found that although humans generally gave better quality feedback, AI outperformed in structured, criteria-based feedback. The difference between human and AI feedback was small, suggesting that AI can play a meaningful role in formative assessment, particularly when time or resources are limited.

That being said, an interesting recent study by Doyle et al. (2025) offers a different perspective. Through interviews with both students and teachers, the researchers found that although there are potential benefits of saving time and being more objective, there is a real risk that using only AI-generated feedback could damage the teacher-student relationship. As one teacher noted, "They want you to read their work. They want you to know and understand who they are as an individual." Navigating the upside of time-saving and objectivity while maintaining the personal relationship is a challenge each school will have to decide how best to do.

“AI-generated feedback....[has been focused] more heavily with matters of information accuracy and reliability, than with social psychological matters such as relationship-building, rapport and trust.”

FINAL THOUGHTS

As AI tools become increasingly embedded in education, teachers face the dual challenge of harnessing their potential while safeguarding authentic learning experiences. The evidence suggests that while AI can assist with feedback and efficiency, it cannot replace the human insight, care and connection that underpin effective teaching. Instead of relying on detection tools, educators must explore how to connect homework to classroom learning so that students are still prompted to cognitively engage with the material. Navigating this challenge now needs to be at the forefront of every school's thinking.

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ADDITIONAL RESOURCES: BLOGS

InnerDrive’s 8 principles for effective use of AI

www.innerdrive.co.uk/blog/innerdrive-ai-principles/

Does AI make students forget?

www.innerdrive.co.uk/blog/does-ai-make-students-forget/

Does AI harm student creativity?

www.innerdrive.co.uk/blog/does-ai-harm-student-creativity/

Using AI to help students think hard

www.innerdrive.co.uk/blog/ai-students-thinking/

3 ways AI can make your teaching more efficient

www.innerdrive.co.uk/blog/ai-ankita-sengupta/



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