AI Research in Education | Jan – Sept 2025

What research really teaches us about learning with AI

The latest international studies show that AI in education is not merely a technological challenge, but above all a human one. What works, what causes friction, and what we can learn from practice: less promise, more understanding, and room for reflection.

Roles of teachers and institutional double standards

Study/news: *"When students push back on professors using AI…"*
(*Le Monde*, Sept 2025 | LeMonde.fr)

- Around 49 % of higher education lecturers use AI tools weekly to prepare their lessons.
- Students note that teachers often use AI themselves while prohibiting it for learners — creating tension and mistrust.

Why this is interesting

- AI integration is not only about technology, but also about culture, consistency and credibility.
- It reveals a moral asymmetry: who is allowed to use AI, and for what purpose?

Implications for practice

- Formulate coherent institutional policies: both staff and students should know how AI is being used.
- Include ethical communication and role-modelling in teacher professional development.
- Build a culture of openness: talk with students about how and why AI is used so that rules remain transparent and trusted.

ChatGPT use is “wholesomer” than expected

Study: *David Deming (Harvard) with OpenAI – “Patterns of ChatGPT Use at Scale”*
(Sept 2025 | NBER)

Surprising insight

- Analysis of billions of ChatGPT messages shows that its use at work and in education is more practical, creative and learning-oriented than expected.
- ChatGPT reached over 1 billion daily messages in less than two years, with 18- to 25-year-olds as the largest user group.
- Young people use AI not primarily for cheating, but to deepen understanding, improve writing and streamline workflows.

Why this is new

- The moral panic around academic dishonesty appears overstated.
- Young people seem AI-native in a positive way: they use AI as a thinking partner, not a shortcut.

Lessons for practice

- Encourage constructive AI use: let students employ AI for explanation, structure or self-checking — not just for producing output.
- Reward transparency: users should indicate how and for what AI was used.
- Design learning situations where AI acts as a learning coach, not an answer machine.

AI tutors outperform active learning classrooms

Study: *Kestin, Miller et al. (Harvard University) – “AI Tutoring Outperforms In-Class Active Learning”*
(June 2025 | Research Square)

What was studied

- A comparison between an AI tutor and best-practice active learning classes using the same pedagogical principles.

- A two-week crossover design: students alternated between AI-supported home learning and active classroom learning.

Key findings

1. More than twice the learning in 20 % less time with AI tutoring.
2. Higher motivation and engagement, despite less human interaction.
3. No link between study time and results — self-paced learning proved decisive.
4. Learning at home produced better outcomes than in-class learning.

Why this offers new insight

- Pedagogical design outweighs the medium: AI can facilitate active learning when grounded in proven learning principles.
- Self-paced learning is crucial: students perform better when they can ask unlimited questions and control their tempo.

Lessons for practice

- AI does not replace teachers but redistributes time: use AI tutors for foundational knowledge; reserve class time for deeper discussion and mentorship.
- Design is everything: results appear only with carefully developed AI tutors using Socratic questioning, feedback loops and anti-hallucination safeguards.
- Re-evaluate social interaction: group learning remains important, but AI tutoring may be more effective for individual knowledge acquisition.

Students' main concern: job prospects, not cheating

Study: *Jisc – "Student Perceptions of AI 2025"*
(May 2025 | Jisc)

Surprising insight

- Students are less worried about academic penalties and more about AI making their future jobs obsolete.
- Their chief concern: *"Will the skills we're learning still be valued?"*

Why this matters

- Shifts the discussion from academic integrity to labour-market relevance.
- Highlights the need for education that develops AI-resilient skills.

Lessons for practice

- Prioritise creativity, critical thinking, problem-solving and empathy — skills that remain uniquely human.
- Involve employers in curriculum design around AI-related competencies.
- Use AI tools to help students articulate their distinct human contribution.

AI does not automatically reduce effort — sometimes it increases it

Study: *HEPI Student Generative AI Survey 2025*
(Feb 2025 | HEPI)

Surprising findings

- 34 % of students said they would work harder if exams were partly AI-graded.
- Only 29 % said they would put in less effort.
- 53 % worry about being wrongly accused of AI misuse.

Why this is new

- It nuances the cliché that AI causes laziness: motivation depends on design and fairness of assessment systems.

Implications for practice

- Emphasise transparent marking criteria.
- Combine AI-based feedback with human judgement.
- Use AI to enhance quality, not to offload workload.

Where technology ends, education begins

The latest studies make one thing clear: the future of learning with AI is not about technology — it's about people.
Learners want guidance, transparency, and meaningful use.
Teachers and lecturers seek direction, clear policies, and pedagogical frameworks that leave room for creativity and reflection.

Would you like to use AI in your school as a thinking partner rather than an answer machine?
Symbio6 helps teams use AI consciously, practically, and human-centrically — through **on-the-job coaching, team training, and programmes on AI literacy, policy, and didactics.**

More information: symbio6.nl/en/our-services

Further Reading

➡ [Research in october 2025]()
📚 All monthly reports: symbio6.nl/en/trends