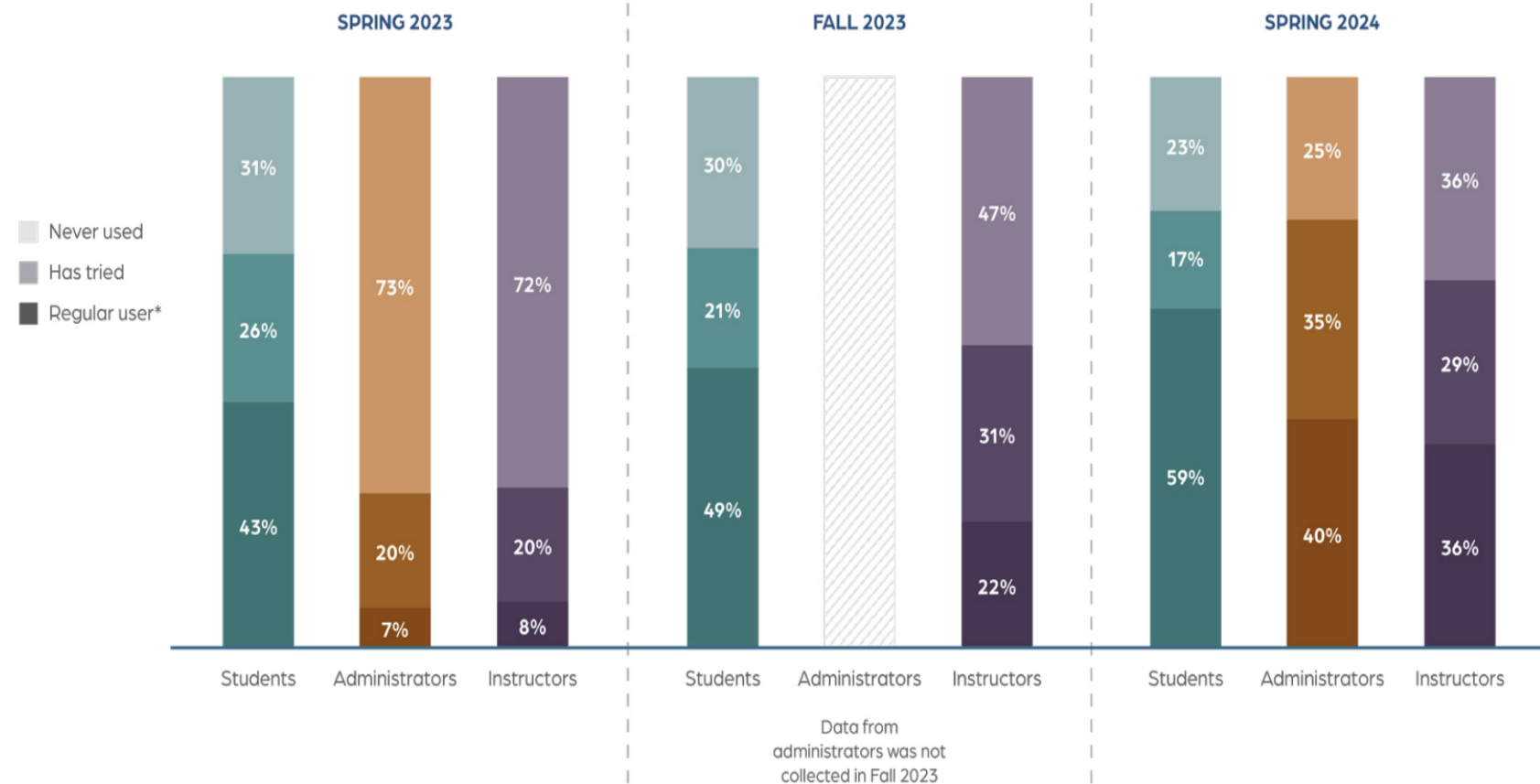# AI and Pedagogy: What's the real threat to learning from Gen AI?

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Use of AI tools is increasing, faster for students

- Faster for students than teachers (59% v 36% in 2024)

- Spring 2024, 36% teachers had not used AI tools, compared with 23% students

- 44% students are using paid AI solutions, compared with only 13% of teachers

- HEPI Student Experience Study suggests that there is inequity in use of AI tools across student groups, likely also across access to paid AI tools

Time series of generative AI tool adoption

- Increasing use of AI tools by students has been perceived as a fear that AI could or even will replace educators, spiral up cheating, destroy learning and create a "dystopia is now" perspective for HE

- Quality of Learning and Its Impacts

- Ethical Behaviours

- Equity

What's the real threat to learning from Gen AI?

- **REDUCES CRITICAL THINKING SKILLS**

  Easy access means learners don't need to engage

- **CREATES OVER-RELIANCE**

  AI does the grunt work and learners skip over the hard steps

- **ERODES FOUNDATIONAL KNOWLEDGE**

  Learners struggle to build upon knowledge they never fully acquired in the first place.

- **IMPACTS HIGHER ORDER THINKING, STIFLING CREATIVITY**

  Default to AI-generated ideas rather than exploring own creative and original thought

What's the real threat to learning from Gen AI?

- **INCREASES MISINFORMATION AND LOW-QUALITY CONTENT**
  Learners not trained to verify and mis/dis-information is internalised.

- **WEAKENS WRITING AND ABILITY TO EXPRESS**
  Ability to express complex ideas through language is diluted

- **DECREASES ABILITY TO FOCUS AND PERSIST**
  Instant availability of answers from AI reinforces a culture of immediacy

- **SHIFTS THE ROLE OF EDUCATORS**
  Educators can bring emotional intelligence, contextual understanding, and mentorship that AI cannot replace. Role replaced by content mediation

Ethical Behaviours and Equity Matters

- **ETHICAL CONSIDERATIONS AROUND INTELLECTUAL HONESTY**

  AI-generated work submitted as students' own challenges integrity of learning process

- **INEQUITY OF ACCESS TO TECHNOLOGIES**

  Existing educational inequalities are widened

- **BIASED OUTPUTS LEAD TO INEQUITY**

  LLMs trained on current information corpora not only produce 'hallucinations', but information biased against certain groups

Future Proofing Learning Methods

- **FOCUS ON PROCESS NOT ON PRODUCT**
  - **Assess Journey, not Endpoint**

- **ESTABLISH IN-CLASS ASSESSMENT AND BASELINE PERFORMANCE**
  - **Assess understanding in real time through Oral or Closed Book Exams or Interviews**
  - **Verify Students' Independent Abilities**

Future Proofing Learning Methods

- **ESTABLISH STRONG FOUNDATIONAL KNOWLEDGE**
  - **Focus on Core Principles and Big Ideas; Teach across Subjects**
  - **Use Regular Low Stakes Assessment for Learning not for Marks**
  - **Develop learning and Assessment that Require Perseverance**

- **EMPHASISE HIGHER ORDER THINKING THAT REWARDS CREATIVITY AND ORIGINALITY**
  - **Design Assessments that Apply Problem- and Scenario-Based Learning**
  - **Use Alternative Formats**

Future Proofing Learning Methods

- **USE PREDICTIVE LEARNING ANALYTICS**
  - To understand and improve learner engagement
  - To understand and improve engagement with deeper learning (what, how)

- **INCLUDE MORE PERSONALISATION AND REFLECTION**
  - Authentic Assessment that Require Personal Insights and Connections
  - Use Learning Journals and Portfolio-Based Assessment, document growth over time (Education Gains, btw)

- **(EVEN) MORE DIVERSIFIED ASSESSMENT**

  - **Cumulative and Iterative Assessment, Building over time**
  - **Collaborative Learning that requires students to work together**
  - **Peer Review and Feedback as part of the assessment process**
  - **Open-Ended and Real-World Assignments**
  - **Field Research and Practical Engagement**
  - **Mix Assessment Formats**

- **TEACH AI LITERACY AND RESPONSIBLE USE**

    - Have a Policy on Ethical Use of AI that applies across Institution and Units

    - Encourage Ethical AI Use: Teach students to see AI as a tool, not as a crutch

    - Help Students to Value the Learning Process, More Invested in Learning

- **ENSURE THAT EQUITY IS AT THE HEART OF AI TECHNOLOGY USE**

  - Institutions must Level the Playing Field

  Ensure that all students have access to AI tools, not just students with the most means, and that all have foundational knowledge of how to use them.

  - Be Aware of Biases:

  Ensure students and staff understand parameters of AI learning tools and inherent bias in learning materials, including in AI detection software.

The real threat to learning is if we do not respond to how Gen AI is changing learning

- Quality of Learning and Its Impacts

- Ethical Behaviours

- Equity