



HAL
open science

Research Results of the Pilot Study: Will AI Teachers Replace Human Educators?

Oksana Strutynska, Chengcheng Li, Margarida Romero

► **To cite this version:**

Oksana Strutynska, Chengcheng Li, Margarida Romero. Research Results of the Pilot Study: Will AI Teachers Replace Human Educators?. 7th International AI Conference "SophI.A Summit", Nov 2024, Sophia Antipolis, France. 2024. hal-04860181

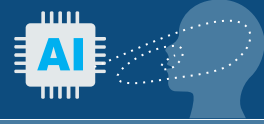
HAL Id: hal-04860181

<https://univ-cotedazur.hal.science/hal-04860181v1>

Submitted on 31 Dec 2024

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Oksana Strutynska^{1,2**}, Chengcheng Li^{1***}, Margarida Romero^{1,3*}

* margarida.romero@univ-cotedazur.fr / <https://margaridaromero.blog/>,
** oksana.strutynska@univ-cotedazur.fr
*** Chengcheng.LI@univ-cotedazur.fr

1. Smart EdTech & LINE, Université Côte d'Azur, Nice, France
2. Dragomanov Ukrainian State University, Kyiv, Ukraine
3. Universitat Internacional de Catalunya, Barcelona, Spain



CreaMaker.WordPress.com



Augmented Intelligence
for Pedagogically Sustained Training and Education



AI trends in 2024

- Generative AI (#GenAI) can support co-creative practices (#ppAI6, Urmeneta & Romero, 2024) and **hybrid intelligence** approaches, but also higher procrastination and lower academic performance and long-term memorisation (Abbas et al., 2024).
- Analytical AI / Multimodal AI / Explainable AI
- Ethics and regulation (#AIAct)



The AI in education market



● Learning Platform & Virtual Facilitators ● Intelligent Tutoring System (ITS)
● Smart Content ● Fraud And Risk Management ● Others

AI In Education Market Size, Share & Trends Analysis Report By Component (Solutions, Services), By Deployment, Technology, By Application, By End-use, By Region, And Segment Forecasts, 2022 – 2030.
URL: <https://www.grandviewresearch.com/industry-analysis/artificial-intelligence-ai-education-market-report>

Abbas, M., Jam, F. A., & Khan, T. I. (2024). *Is it harmful or helpful? Examining the causes and consequences of generative AI usage among university students*. *International Journal of Educational Technology in Higher Education*, 21(1), 10.
McKinsey Global Institute (2024, May 30). *The state of AI in early 2024: Gen AI adoption spikes and starts to generate value*. IBM (2024, February 9). *The most important AI trends in 2024*.
Ernst & Young (2023, December). *How organizations can stop skyrocketing AI use from fueling anxiety*. URL: https://www.ey.com/en_us/consulting/businesses-can-stop-rising-ai-use-from-fueling-anxiety
Urmeneta, A., & Romero, M. (2024). *Creative Applications of Artificial Intelligence in Education* (p. 181). Springer Nature. <https://link.springer.com/book/10.1007/978-3-031-55272-4>

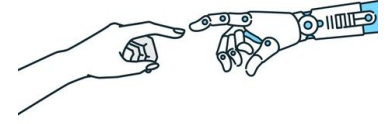
Will AI Teachers Replace Human Educators?

Mathematicians were not replaced by calculators. Can you say, then, that AI won't take the place of people?

Future generations of innovators, sympathetic citizens, and critical thinkers are shaped by education. Can these models be supported in the classroom by AI?



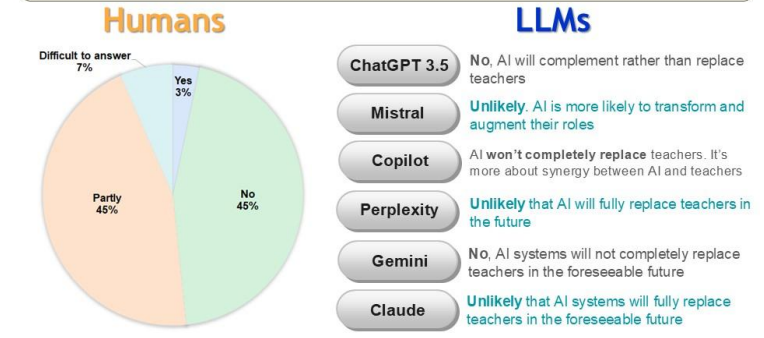
Give your opinion



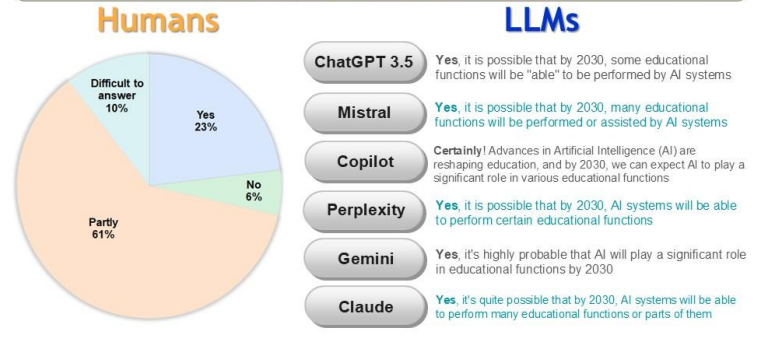
We asked humans and AI (LLMs)

Results

Do you think AI systems will be able to replace teachers in the future? (182 participants, 84% of them are educators)

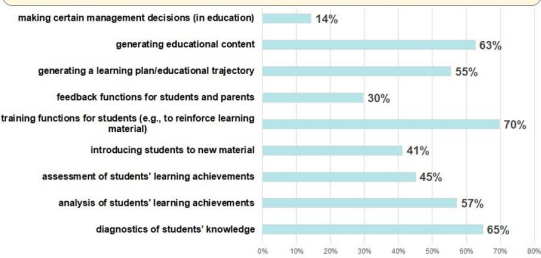


Is it possible that in the coming years (e.g. by 2030), educational functions (or part of them) will be "able" to be performed by AI systems? (182 participants, 84% of them are educators)



Humans

What functions do you think a teacher (educator) could delegate to an AI-based system? (182 participants, 84% of them are educators)



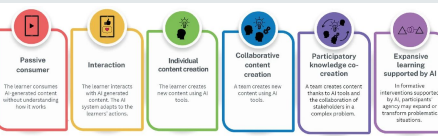
LLMs

What functions do you think a teacher (educator) could delegate to an AI-based system? (182 participants, 84% of them are educators)

| | ChatGPT | Mistral | Copilot | Perplexity | Gemini | Claude |
|--|---------|---------|---------|------------|--------|--------|
| Automated Grading and Assessment | | | | | | |
| Administrative Tasks | | | | | | |
| Personalized Learning | | | | | | |
| Tutoring and Remediation | | | | | | |
| Content Creation and Curation | | | | | | |
| Data Analysis and Reporting | | | | | | |
| Communication and Engagement | | | | | | |
| Accessibility and Inclusion | | | | | | |
| Feedback and Recommendations | | | | | | |
| Classroom Management | | | | | | |
| Language Translation and Accessibility | | | | | | |
| Adaptive Learning Platforms | | | | | | |
| Intelligent Tutoring Systems | | | | | | |
| Chatbots for Student Support | | | | | | |
| Educational Games | | | | | | |
| Homework assistance | | | | | | |
| Language practice | | | | | | |
| Routine communications | | | | | | |
| Lesson planning assistance | | | | | | |

The future of education doesn't lie in sterile, roboticized classrooms, but rather in co-creative uses of AI in Education

#ppAI6



Level 1. Passive consumer. The learner consumes AI-generated content without understanding how it works. **Level 2. Interactive consumer.** The learner interacts with AI-generated content. The AI system adapts to the learners' actions. **Level 3. Individual content creation.** The learner creates new content using AI tools. **Level 4. Collaborative content creation.** A team creates new content using AI tools. **Level 5. Participatory knowledge co-creation.** A team creates content thanks to AI tools and the collaboration of stakeholders in a complex problem. **Level 6. Expansive learning supported by AI.** AI tools can be used to assist in the modelling of activity systems as well as in the simulation of new actions, facilitating the expansive visualization process.

