

Towards a university of hybrid intelligence

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ABSTRACT

The integration of Generative Artificial Intelligence into higher education represents a structural transformation in how knowledge is created and transmitted. This paper argues for a shift from a “replacement” mentality to an “enhancement” approach, where AI challenges and elevates unique human skills. Drawing on evidence from the OECD and UNESCO, it explores the “mirage of false mastery”, where immediate performance gains can mask the erosion of deep learning and critical thinking. To mitigate these risks, the paper advocates for a “Slow AI” strategy - using AI as a Socratic partner to refine creative thinking rather than an oracle for quick answers. Furthermore, it emphasizes the necessity of developing “hybrid human-AI skills” to address the digital skills gap, where only 56% of Europeans currently possess basic digital literacy. The conclusion proposes a move toward “pedagogical sovereignty” through specialized “EdGPT” models and “Teacher-AI Teaming” to ensure that universities foster critical hybrid intelligence rather than passive technological execution.

Keywords: generative AI, education, pedagogical sovereignty, human-in-the-loop, hybrid skills, slow AI

INTRODUCTION

The introduction of Generative Artificial Intelligence in education is not simply the arrival of a new technology in our classrooms.

It is a structural transformation in the way we create, validate and transmit knowledge.

The university is faced with the challenge of navigating this transition, not by undergoing it, but by governing it.

From this perspective, it is useful to look at the most recent evidence from the OECD's Digital Education Outlook 2026 and UNESCO's Guidance for Generative AI.

The central message that emerges is this: AI should not replace human intellect, but challenge us to enhance the skills that make us unique. We need to move from a “replacement” mentality to one of “enhancement”.

THE PERFORMANCE PARADOX AND THE OECD EVIDENCE

The OECD Digital Education Outlook 2026 warns us against what is called the “mirage of false mastery” (OECD, 2026).

Generative AI tools, such as ChatGPT or Gemini, are now ubiquitous. In universities, students and faculty use them to

summarize texts, generate ideas, and even write code or essays.

However, the OECD warns of a critical risk: the use of AI can dramatically improve the immediate performance - the result of the task - but can simultaneously damage profound learning if used as a cognitive shortcut.

Studies cited by the OECD show that when students delegate critical thinking to AI – what is called “cognitive offloading” – they stop engaging in the metacognitive processes necessary for learning.

In one experiment, students who used AI got better grades in the short term, but performed worse than others when access to the AI was removed (OECD, 2026).

However, the OECD also offers a positive perspective, especially for universities. AI can act as an “AI Teaching Assistant” that support teachers and students by answering logistical questions and providing training feedback 24 hours a day (Baker et al., 2026).

This does not replace the teacher, but frees him/her from repetitive tasks, allowing him or her to focus on high-value activities, such as tutoring and critical discussion.

Furthermore, at the institutional level, AI can revolutionize university administration: from analyzing curricula to facilitate student transfers and credit recognition, to creating items for more fair and efficient standardized assessments (Pardos & Borchers, 2026).

UNESCO'S HUMANISTIC APPROACH AND RESEARCH

If the OECD talks to us about effectiveness, UNESCO reminds us of ethics and human agency, i.e., the individual's ability to act autonomously and make free decisions.

The [Guidance for Generative AI in Education and Research](#) stresses that artificial intelligence must be designed to protect human agency, not usurp it (UNESCO, 2023).

For universities, the epicenter of research, the implications are profound. AI is already transforming scientific research: it's used to write code, analyze massive datasets, and generate hypotheses (Guellec & Vincent-Lancrin, 2026).

However, UNESCO warns us: AI does not understand the real world; it operates on statistical patterns and can produce distorted content or "hallucinations".

For this reason, UNESCO recommends a "human-in-the-loop" approach, with humans at the center of the decision-making cycle. We must not accept AI as an oracle.

Instead, we need to promote what a well-known scholar of the relationship between human creativity, AI, and educational contexts, Ronald Beghetto, interviewed by the OECD, calls "Slow AI".

Instead of using AI to get an immediate answer ("Fast AI"), students and researchers should use it as a Socratic partner: a dialogue partner to explore possibilities, challenge their ideas, and refine creative thinking (Beghetto, 2026).

The university must therefore become the place where one teaches not only to use IA, but to *question* her critically.

ARTIFICIAL INTELLIGENCE, WORK AND HYBRID SKILLS

This brings us directly to the connection with the world of work. The market no longer seeks just technical or soft skills. It seeks what the OECD calls "hybrid human-AI skills".

These include:

- i. *Metacognitive Awareness*: knowing when to use AI and when your own cognitive effort is needed.
- ii. *Creative Co-Creation*: Use AI to generate different perspectives, not to replace your voice.
- iii. *Evaluative Judgment*: the ability to discern the quality and accuracy of machine output.

In Europe, the mismatch between the skills provided by education and those required by businesses is already critical, especially in the ICT sector where specialists are lacking (Eurostat, 2018, 2024, 2025).

Only 56% of Europeans aged 16–74 possess at least basic digital skills, meaning nearly half the population still lacks the fundamental ability to use email, productivity software, or online tools.

Although the EU has set an ambitious target to increase this share to 80% of adults by 2030, meeting this goal will require doubling down on education to bridge the gap.

If we don't integrate these hybrid skills into university curricula, we risk producing graduates who compete *against* AI, instead of working *with* it. And in a competition based on pure procedural efficiency, humans will always lose.

CONCLUSION: A "SLOW AI" STRATEGY FOR GENERATIVE EDUCATION

In conclusion, let's connect the international evidence to some proposals for a strategic vision to maximize the benefits of AI for education while managing its risks.

From Access to "Epistemic Infrastructures"

UNESCO highlights that it is not enough to regulate access to generic business models. We must aim to the development of what are called "EdGPT": models trained on data specific to the educational domain, cleansed of bias and aligned with the curricula (UNESCO, 2023).

For Italy, this means that universities should not only use existing software, but build - or better, collaborate to build - dedicated models based and trained on reliable academic data corpora.

Only in this way can we pursue a "pedagogical sovereignty" that mitigates hallucinations and guarantees the cultural relevance of the contents.

Beyond Technical Training: "Teacher-AI Teaming"

The OECD tells us that it is not enough to just teach how prompting works. We need to train teachers in what's called "Teacher-AI Teaming".

We need to move from a "substitutive" level, where AI does the work in place of the teacher, to a "synergistic" level, where AI learns from the teacher's feedback and vice versa (Cukurova, 2026).

Training must enable the teacher to maintain control in the decision-making cycle, so-called human-in-the-loop, using AI to enhance their own agency, not to delegate it.

If we don't make this leap in pedagogical quality, we risk what the OECD calls the "mirage of false mastery": an increase in apparent performance at the expense of real learning.

"Slow AI" as a Model of Generative Education

Instead of using AI to get quick answers ("Fast AI"), universities must become places where interaction with the machine is designed to slow down thinking, to force the student to iterate, to doubt and to refine ideas, based on the Socratic method and questioning skills ("Slow AI") (Beghetto, 2026).

In short, the key mission of universities in the AI scenario should be not to pursue bureaucratic efficiency, but to build what we might define as a "critical hybrid intelligence".

Only in this way will universities be able to manage the transition, avoiding training passive executors of technologies they don't understand.

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