
7

The Hidden Costs of Student Use of AI: Employers' Perspectives on Employability

*Los costes ocultos del uso de la IA por parte de los Estudiantes:
Perspectivas de los Empleadores sobre la Empleabilidad*

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Abstract

This chapter explores the role of artificial intelligence in the employability of future graduates. Based on an exploratory study of employer perceptions, it analyses how intensive AI use during university studies may influence the development of transversal skills. The findings suggest a dual dynamic. While AI integration can strengthen digital literacy, information management, and autonomous learning, it may simultaneously undermine critical thinking, teamwork, communication, and ethical responsibility. Through a synthesis of literature review and empirical evidence, this chapter argues that the future of graduate education depends on achieving a balanced integration of AI technologies that enhances both technical and human competences. Recommendations are proposed for educators and policymakers to design AI-supported learning systems that preserve creativity, collaboration, ethics, and digital proficiency.

Keywords: Artificial intelligence, higher education, employability, transversal competences, graduate skills, digital transformation, critical thinking, pedagogy.

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Resumen

Este capítulo explora el papel de la inteligencia artificial en la empleabilidad de los futuros graduados. A partir de un estudio exploratorio de las percepciones de los empleadores, analiza cómo el uso intensivo de la IA durante los estudios universitarios puede influir en el desarrollo de competencias transversales. Los hallazgos sugieren una dinámica dual. Si bien la integración de la IA puede fortalecer la alfabetización digital, la gestión de la información y el aprendizaje autónomo, también puede socavar el pensamiento crítico, el trabajo en equipo, la comunicación y la responsabilidad ética. Mediante una síntesis de la revisión bibliográfica y la evidencia empírica, este capítulo argumenta que el futuro de la educación de posgrado depende de lograr una integración equilibrada de las tecnologías de IA que mejore tanto las competencias técnicas como las humanas. Se proponen recomendaciones para que educadores y responsables políticos diseñen sistemas de aprendizaje apoyados por IA que preserven la creatividad, la colaboración, la ética y la competencia digital.

Palabras clave: Inteligencia artificial, educación superior, empleabilidad, competencias transversales, habilidades de posgrado, transformación digital, pensamiento crítico, pedagogía.

Introduction

The global education landscape is undergoing a profound transformation driven by the rapid integration of artificial intelligence (AI). This revolution extends beyond technology itself. It represents a paradigm shift in how university students construct, access, and evaluate knowledge. Its speed and scale underscore the need to examine not only its pedagogical, social, and ethical implications, but also its potential impact on students' skill development and future employability. For students, this paradigm shift may redefine not only how they learn, but also the competences they bring to an increasingly AI-mediated labour market.

This transformation has also reactivated debates about which competences higher education should prioritise in preparing students for the labour market. Employers continue to emphasize that technical proficiency and transversal competences, such as problem-solving, communication, creativity, and teamwork, remain essential for professional success (OECD, 2021). Nevertheless, evidence from recent studies indicates an ongoing misalignment between university training and labour market expectations (AQU Catalunya, 2023; Jackson, 2022). This divergence may intensify as AI plays an increasingly central role in the learning process.

As Ruano-Borbalan (2025) argues, automation and algorithmic mediation risk narrowing opportunities for students to develop independent judgment, critical reasoning, and social collaboration. In line with this, Xie, Wu and Xie (2024) observed that frequent engagement with AI tools decreased students' sense of social presence and autonomy in learning. Similarly, Groothuijsen *et al.* (2024) found that sustained AI support limited peer collaboration and reduced students' capacity to tackle problems independently. Consistent with these findings, Gao *et al.* (2024) reported that students who relied heavily on ChatGPT exhibited a decline in their independent problem-solving abilities. Together, these studies suggest that excessive AI use may have unexpected impacts on the development of key transversal competences.

Despite the growing body of literature examining the pedagogical uses of AI in higher education (e.g., Zawacki-Richter *et al.*, 2019; Kuri, 2023; Batista, Mesquita & Carraz, 2024), empirical evidence on how these technologies influence the development of transversal competences remains scarce. In this context, understanding employers' perspectives becomes crucial for anticipating how AI-driven learning environments may redefine graduate professional profiles.

The purpose of this chapter is to examine how intensive use of AI during university studies may influence the development of transversal competences. Drawing on a preliminary exploratory study of employers' perceptions, the discussion seeks to illuminate both the opportunities and challenges posed by AI-enhanced learning environments. In doing so, it contributes to ongoing scholarly debates on how higher education institutions can balance technological innovation with the cultivation of fundamentally human capabilities. Ultimately, this employer-focused study informs academic and policy debates, providing insights into how AI integration may modify graduates' competences and employability.

The following sections outline the study's conceptual framework, methodology, main findings, and conclusions, exploring how AI adoption in higher education relates to the development of employability competences.

Conceptual framework

Artificial intelligence in higher education

AI in higher education includes a broad range of applications: adaptive courseware, natural-language processing tools, predictive analytics for student support, and generative systems for content creation (Holmes *et al.*, 2022). These innovations transcend administrative efficiency; they fundamentally redefine the pedagogical relationship between teacher, student, and knowledge (Luckin *et al.*, 2016). Generative AI models, such as ChatGPT, are used by students to draft essays, to solve problems, and to simulate professional scenarios (Kasneci *et al.*, 2023). This growing dependence on automated support tools reshapes key cognitive processes involved in learning, as students may increasingly delegate reasoning, analysis, and idea generation to AI systems, reducing opportunities

to practise independent judgment and sustained cognitive effort. In this context, the concept of cognitive offloading or the delegation of cognitive tasks to external supports (Morrison & Richmond, 2020) becomes especially relevant, as it helps explain how frequent reliance on AI systems can reduce students' engagement in the mental processes, such as analysis, memory consolidation, and idea generation, that are essential for developing higher-order competences.

One of AI's main educational promises lies in its capacity for personalisation. Research indicates that AI tools can improve personalised instruction and assessment while also fostering student engagement and offering guidance that enhances learning outcomes (Msambwa, 2025). By analysing learner behaviour and performance, AI can tailor feedback, pacing, and resources to individual needs, thereby supporting differentiated instruction and inclusive learning (Zawacki-Richter *et al.*, 2019). Nonetheless, this personalization may risk reducing social dimensions of learning, narrowing opportunities for collaboration and peer interaction. Furthermore, highly individualised pathways may reduce students' exposure to diverse viewpoints and limit the cognitive challenge that emerges from engaging with others, thereby constraining the development of transversal competences such as critical thinking, communication, and teamwork.

These different uses of AI have direct implications for competence development. Tools that streamline writing may limit students' communication skills, automated problem-solving can weaken analytical reasoning, and individualized support may reduce engagement in collaborative learning processes. As AI takes over tasks traditionally embedded in exploratory or interactive learning activities, the nature of academic work changes and reduces the frequency of tasks that foster discussion, inquiry, and hands-on knowledge construction. In addition, students' own evaluation of AI-assisted work often differs from the criteria used by instructors, which may create a misalignment between perceived and actual competence development (Torres-Coronas, 2025). Over time, this discrepancy can reduce students' awareness of their learning gaps and adversely affect the development of key competences.

Employability and transversal competences

Transversal competences, often referred to as soft skills, include critical thinking, communication, collaboration, creativity, and ethical awareness (OECD, 2021). Several European frameworks, such as the Tuning Project and the European Key Competences for Lifelong Learning Framework, have systematically contributed to defining these competences as core components of the graduate profile. These attributes enable graduates to adapt, learn, and innovate in rapidly changing workplaces. According to AQU Catalunya (2023), employers in Catalonia identify consistent deficits in areas such as teamwork, problem-solving, and practical application of knowledge, even among technically proficient graduates. These results are consistent with international studies that point to a similar mismatch between university education and labour-market needs (e.g., World Economic Forum, 2023). These weaknesses are especially relevant in the context of AI, since many

transversal competences rely on cognitive effort, social interaction, and experiential learning, dimensions that may be negatively affected when students delegate reasoning or production tasks to automated systems.

Scholars have long argued that universities should not only deliver disciplinary expertise but also develop these transversal abilities as integral learning outcomes (Andrews & Higson, 2008; Jackson, 2016). The integration of AI could either mitigate or aggravate this challenge depending on how it is implemented. For example, AI-driven simulations may enhance decision-making skills, while automated essay generation could reduce over time students' independent reasoning (Del Cisne Loján *et al.*, 2024).

More broadly, different uses of AI have differentiated effects on competence development. Tools that streamline writing may reduce opportunities to practise communication skills. Generative assistants that provide ready-made solutions can limit analytical depth, and highly individualised learning environments may weaken collaboration and interpersonal adaptability. Such consequences help explain why transversal competences, particularly those requiring reflection, negotiation, and ethical judgement, may be more vulnerable in AI-mediated contexts.

At the same time, the increasing presence of AI in professional settings is reshaping employer expectations about graduate profiles. Competences once considered secondary, such as critical evaluation of automated outputs and ethical decision-making, are becoming essential in AI-intensive workplaces. From a business perspective, ensuring that AI competence is balanced with ethical responsibility and reflective judgment is emerging as a priority, precisely because organisations fear a decline in graduates' critical thinking capacities as AI becomes more omnipresent (Pisica, Giurca & Zaharia, 2025). This evolving landscape reinforces the need to understand how higher education can cultivate not only technical abilities but also the human-centric competences required to interpret, supervise, and complement AI systems effectively.

The double-edged nature of AI

AI's educational influence can be conceptualized as a double-edged phenomenon. On one side, it democratizes access to information, encourages self-paced learning, and supports adaptive learning. On the other, it can promote intellectual passivity and dependence on algorithmic suggestions (Zhang *et al.*, 2024). This ambivalent dynamic has direct implications for competence development, as the same tools that facilitate access and efficiency may also replace or weaken the cognitive, social, and ethical processes through which transversal competences are typically cultivated.

The theoretical model underlying this study posits that competence development in AI-mediated environments is determined by three interacting factors:

- Degree of cognitive delegation (how much thinking is outsourced to AI);
- Level of human-AI collaboration (how tools are integrated into authentic problem-solving); and
- Pedagogical intentionality (how educators frame and contextualize AI use).

A balanced configuration of these factors may enhance both technical and human competences, whereas imbalance may reinforce one at the expense of the other. For example, excessive cognitive delegation may reduce the mental effort required to evaluate evidence, generate original ideas, or sustain analytical reasoning—skills essential for critical thinking and problem-solving. Similarly, highly individualized AI-mediated learning environments may diminish opportunities for dialogue, negotiation, and shared meaning-making, thereby affecting competences such as teamwork, communication, and interpersonal adaptability.

These risks extend also to the ethical domain: reliance on automated outputs can obscure issues of authorship, reduce personal accountability, and limit students' exposure to morally complex dilemmas, weakening the development of ethical and social responsibility.

At the same time, the growing integration of AI in the labour market is reshaping the competences required for employability. Graduates are increasingly expected not only to use AI tools but to supervise, interpret, and critically assess automated outputs. This shift positions ethical judgement, digital discernment, and the ability to interrogate algorithmic decisions as emerging competences that complement traditional transversal skills. Understanding how these new demands intersect with classroom practices is essential for anticipating the broader implications of AI-mediated learning.

Methodology

Research design

This exploratory study followed an interpretative qualitative approach aimed at understanding employer perceptions regarding AI's expected impact on graduate competences. The research design involved two sequential steps. First, data from AQU Catalunya (2023) were examined to identify the transversal competences that employers currently value most in graduate recruitment. Second, an online survey was conducted in September 2025 with professionals who had experience supervising junior graduates. Building on the competences highlighted in the AQU dataset, respondents were asked to evaluate how they expect the use of AI in higher education to affect the development of these key competences.

The final sample consisted of 20 professionals representing diverse economic sectors—technology, human resources, finance, healthcare, engineering, marketing, the chemical industry, and corporate training. All participants had been directly involved in graduate recruitment or selection processes within the past three years, and held positions such as senior managers, team leaders, technical specialists, and healthcare professionals, ensuring a broad cross-section of perspectives.

Data analysis

The analysis follows the two-step research design outlined in the previous section. First, the analysis of AQU Catalunya (2023) data provides an overview of employers' perceptions of competence gaps among recent graduates. Second, the questionnaire gathers feedback from professionals on how the use of AI in higher education may affect the development of these key competences. Together, these datasets offer a comparative perspective on current skill deficiencies and the anticipated impact of AI on graduate employability.

Figure 1 illustrates the percentage of employers who perceive a lack of specific competences among recent university graduates. The figure includes the set of competences that employers most value when assessing candidates for graduate positions. For this analysis, three adequacy levels were defined and colour-coded: red indicates inadequate competences (over 50% of employers reporting a lack), orange represents intermediate levels (20–50%), and green denotes adequate competences (below 20%).

The results show that problem-solving (53.5%), practical training (46.3%), and planning and organisation (40.5%) are the areas where employers most frequently identify deficiencies. Other transversal skills, such as critical thinking (35.9%), teamwork (34.0%), and autonomous learning (33.8%), are also perceived as requiring further development. In contrast, competences related to English proficiency (18.8%), ethical and social responsibility (17.5%), and digital and technical skills (17.4%) are seen as comparatively less critical gaps.

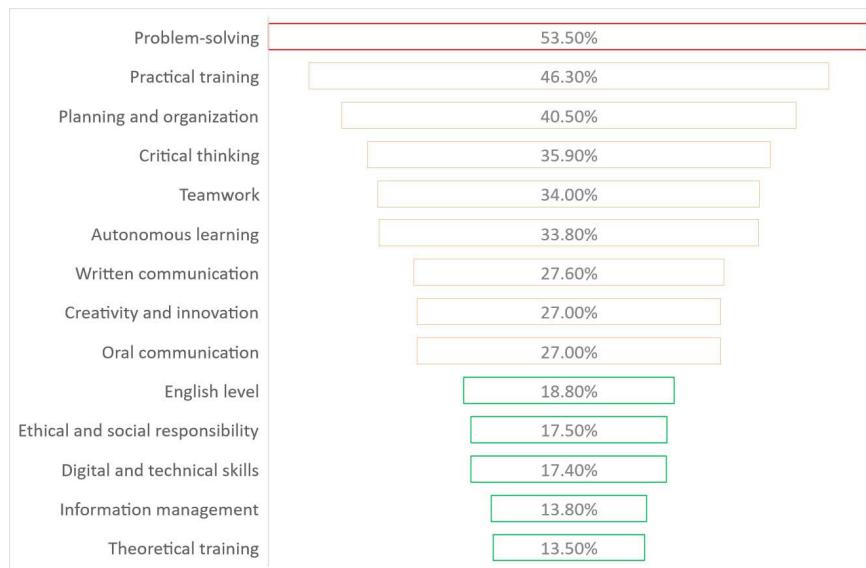


Figure 1. Percentage of employers who perceive a lack of competence level

Source: AQU Catalunya (2023)

These results are consistent with Bachmann *et al.* (2024), who point out a persistent imbalance between academic training and labour market demands. Similarly, the TRAILS Project (2025) reports that, despite some progress, skills mismatch remains widespread across Europe. Overeducation still affects more than one in five employees, and workers in rapidly changing sectors often face underskilling. These patterns reinforce the need for continuous upskilling and stronger alignment between higher education outcomes and labour market needs.

Building on this contextual evidence, the second part of the analysis focuses on the survey conducted with professionals. The aim was to explore how employers expect the use of AI in higher education to influence the development of key competences among future graduates. Participants rated 13 competences identified by AQU Catalunya (2023) on a five-point Likert scale (1 = very negative, 5 = very positive). These included problem-solving, critical thinking, teamwork, communication, creativity, digital skills, and ethical responsibility. The results allow for comparison between current competence gaps and perceived future effects of an intensive use of AI on skill development.

For interpretation, mean scores on the 5-point scale were colour-coded to represent three levels: red for negative impact (1.0–2.49), orange for neutral or uncertain impact (2.5–3.49), and green for positive impact (3.5–5.0).

Figure 2 shows employers' expectations regarding the impact of AI use in higher education on competence development. Results indicate a positive outlook for technical and self-directed skills such as digital and technical skills (4.5), information management (4.4), and autonomous learning (4.2). In contrast, teamwork (2.2), ethical and social responsibility (2.0), and oral communication (2.1) are viewed negatively, suggesting potential erosion of interpersonal and ethical competences. Intermediate ratings for problem-solving (2.5), planning and organisation (3.4), and theoretical training (3.0) reflect uncertainty about AI's role in these areas. Overall, employers foresee AI strengthening technical proficiency but weakening collaborative and communicative skills.

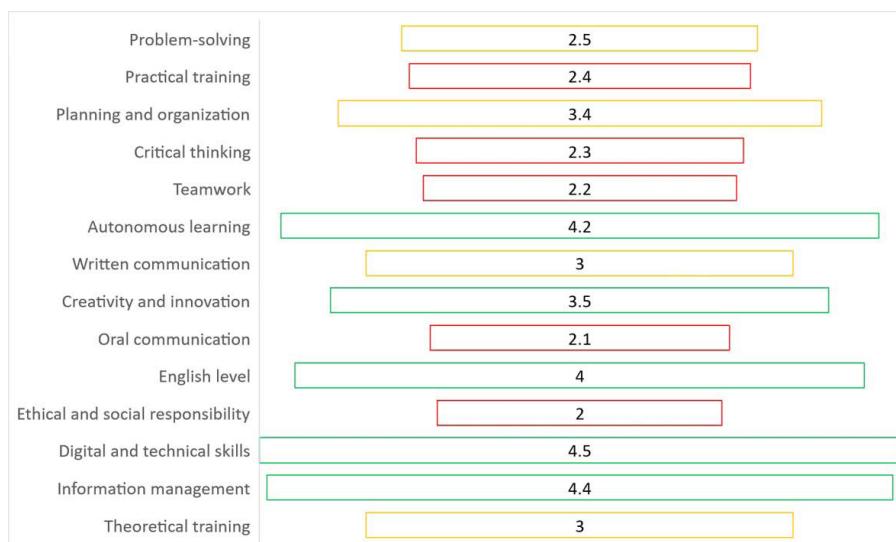


Figure 2. Expected impact of AI use on competence development (professionals' views)

Source: Own elaboration

The comparative analysis reveals both convergences and divergences between employers' current perceptions of competence gaps (AQU Catalunya, 2023) and experts' expectations regarding the impact of AI on future skill development.

Limitations

The limited sample size ($n = 20$) and the non-probabilistic nature of the sample restrict the potential for statistical generalization. As the study targeted professionals with recruitment and supervisory experience, the findings should be interpreted as indicative rather than representative of all labour sectors.

Additionally, the comparative approach combining AQU Catalunya data with expert perceptions introduces contextual variation that limits direct inferential validity, but enhances interpretative depth. Despite these constraints, the research provides valuable exploratory evidence on how employers conceptualize the competence implications of AI in higher education. Future studies should broaden the sample, include longitudinal tracking, and incorporate the perspectives of students and educators to capture the evolving dynamics of AI-mediated competence development. It would also be worthwhile to conduct analyses differentiated by disciplinary or knowledge domains, as AI's impact on competence development may vary substantially across fields.

Results

This section presents the study's findings on employers' perceptions of AI's impact on graduate competences. The results are presented in four parts: general trends, competence-specific analyses, educational and institutional implications, and a final discussion outlining a balanced approach to AI integration.

General trends

Overall, employers perceive AI's impact on graduate competences as uneven and varying across competence domains. Positive expectations tend to concentrate on technical and self-regulatory competences, whereas more negative assessments are associated with interpersonal and ethical domains.

- Positive impacts: digital literacy, information management, and autonomous learning (mean ratings > 4).
- Negative impacts: teamwork, oral communication, and ethical responsibility (mean ratings ≈ 2).
- Mixed impacts: creativity and planning/organization show moderate optimism when AI is used as a complementary tool rather than a substitute for human effort.

These findings align with recent research on the asymmetrical effects of AI in higher education (Zhang *et al.*, 2024; Del Cisne Loján *et al.*, 2024), indicating that while AI enhances efficiency and autonomy, it may simultaneously weaken collaboration and ethical reflection. This “competence polarization” mirrors the OECD (2021) observation that lifelong learning requires a balance between cognitive automation and critical autonomy.

Competence-specific findings

This section provides a detailed examination of each competence to identify where the effects of AI use are most evident. The analysis integrates data from AQU Catalunya (2023) and the 2025 employers' survey to highlight specific strengths, weaknesses, and anticipated changes in graduate skill profiles. Each competence is discussed in terms of both its current deficit level and the expected influence of AI on its future development.

To facilitate interpretation, Table 1 provides a concise comparative summary linking current competence gaps (AQU Catalunya, 2023) with employers' expectations regarding the effects of AI use in higher education. The table highlights areas where AI may either reinforce or undermine the development of graduate competences.

Table 1. *Interpretative comparison between AQU Catalunya (2023) and employers' survey*

Competence	Interpretation
Problem-solving	Already weak among graduates; may worsen as AI replaces independent reasoning. Students risk relying too much on algorithmic answers instead of developing analytical judgment.
Practical training / application	Simulations help practice but cannot fully replace real-world experience. Overuse may limit adaptability and practical awareness.
Planning and organisation	AI can improve efficiency and structure, but excessive reliance may reduce initiative and long-term planning ability.
Critical thinking	Risk of decline if students accept AI outputs uncritically. Teaching should focus on questioning and evaluating AI-generated information.
Teamwork	AI-based individual learning can reduce collaboration and social interaction. Group projects and peer learning remain essential.
Autonomous learning	Strong potential improvement—AI supports self-paced and adaptive learning—but students must still manage their own goals and motivation.
Creativity	AI can inspire ideas and expand perspectives, but dependence may limit originality. Should be used to support, not replace, creative thinking.
Ethical and social responsibility	Without explicit training in AI ethics, moral and social awareness may weaken. Responsibility and bias literacy should be built into curricula.
Digital and technical skills	Clearly strengthened by AI use; students gain experience with digital tools and automation relevant to modern workplaces.
Information management	AI improves data search and analysis skills, but students must still verify accuracy and source quality.
English proficiency	Language tools enhance accuracy and fluency, though overreliance may reduce active language use and communicative confidence.

Source: Own elaboration based on AQU Catalunya (2023) and employers' survey.

As shown in Table 1, several competences already perceived as weak—such as problem-solving, practical training, critical thinking, and teamwork—are also expected to deteriorate under intensive AI use. Conversely, competences like autonomous learning, digital and technical skills, and information management are projected to improve, illustrating AI's dual potential to strengthen technical domains while challenging human-centric capabilities.

- Problem-solving (53.5% deficit; mean = 2.5). Employers fear that excessive reliance on AI-generated outputs could erode analytical and decision-making skills. This resonates with the notion of cognitive offloading (Risko & Gilbert, 2016), whereby mental tasks are delegated to external systems at the expense of deep reasoning.
- Practical training (46.3%; 2.4). Replacing real-world experiences with simulations may limit experiential learning and adaptability.
- Critical thinking (35.9%; 2.3). Risk of decline if students accept AI results uncritically, bypassing reasoning processes essential for independent judgment.
- Teamwork (34%; 2.2). Individualized AI interfaces may undermine collaboration and social learning, leading to isolation and loss of interpersonal adaptability.
- Autonomous learning (33.8%; 4.2). Strong improvement expected through adaptive, feedback-driven systems that promote personalized learning.
- Creativity (27%; 3.5). Conditional growth when AI is used to stimulate ideation rather than replace originality.
- Ethical and social responsibility (17.5%; 2.0). Decline anticipated unless AI ethics and social responsibility are explicitly integrated into curricula. This aligns with employers' concerns about diminishing moral awareness in automated environments (Del Cisne Loján et al., 2024).
- Digital and technical skills (17.4%; 4.5). Clear reinforcement as students learn to operate, evaluate, and integrate AI tools across disciplines.
- Information management (13.8%; 4.4). AI perceived as highly beneficial for data search, processing, and analysis.

Overall, these results illustrate a growing polarization of competences: AI strengthens technical domains but may weaken human-centric capabilities such as collaboration, ethics, and critical inquiry. AI-enhanced environments may thus produce graduates who are digitally fluent but less prepared for collaborative problem-solving and ethical decision-making. Similar trends have been observed in the UK (Jackson, 2022) and Canada (Knight & Yorke, 2021), where employers note increasing gaps in interpersonal adaptability despite technological proficiency.

This tension highlights the need for educators to design learning tasks that promote interpretation, synthesis, and reflection rather than passive consumption of AI outputs. By doing so, cognitive offloading can serve as a support for higher-order thinking instead of replacing it.

Educational and institutional implications

The results imply that universities must transition from passive adopters of AI to active designers of AI-mediated pedagogy. Faculty training is essential: instructors should learn not only how to operate AI systems but also how to embed them critically within constructivist and reflective learning designs (Holmes *et al.*, 2022).

Institutional policies should further promote transparency, ethical awareness, and student agency in AI usage. Likewise, assessment practices need to reward creativity, collaboration, and argumentation—competencies that AI cannot replicate and that reinforce students' active engagement in learning.

These pedagogical and policy changes, however, must also respond to concerns arising beyond academia. Employers' worries about declining ethical responsibility reveal a neglected dimension of AI education. As Del Cisne Loján *et al.* (2024) argue, reliance on AI may desensitize students to issues of authorship, privacy, and bias. Building a strong ethical foundation is therefore indispensable. Integrating AI ethics across curricula, supported by frameworks such as UNESCO's Recommendation on the Ethics of Artificial Intelligence (2021), can help higher education institutions develop responsible-use policies and teaching practices aligned with human values.

Towards a balanced integration

The challenge is not whether to use AI, but how to use it ethically and effectively. A balanced approach requires leveraging AI's strengths—automation, personalization, and data processing—while cultivating empathy, creativity, and ethical reasoning. Recent proposals emphasise that effective integration should avoid purely individualised learning models; for instance, Laak and Aru (2024) propose a hybrid approach that blends AI-driven personalization with collaborative, teacher-facilitated learning, ensuring that technological support is complemented by social interaction and pedagogical guidance. This aligns with the human-centred AI paradigm (Floridi, 2022), which envisions technology as augmenting rather than replacing human potential.

In summary, higher education faces the dual task of embracing AI innovation while safeguarding the development of distinctly human competences that sustain employability and lifelong learning in an increasingly technological world.

Conclusions

This chapter has shown that the integration of AI into higher education represents both an opportunity and a risk for the development of graduate competences. The exploratory evidence indicates a clear pattern: while AI tends to enhance technical, digital, and self-regulatory skills, it may simultaneously weaken the competences that rely most heavily on human judgment, interaction, and ethical awareness. These findings echo employers' concerns about a growing imbalance between technological proficiency and the interpersonal and critical capacities essential for employability in dynamic work environments.

The results also reveal a widening polarization of competences. On one side, students benefit from AI-supported autonomous learning, efficient information management, and greater digital fluency. On the other, intensive reliance on generative tools may erode problem-solving, collaboration, oral communication, and ethical responsibility—competences already identified as deficient in the AQU Catalunya (2023) dataset. This tension underscores the need for a more intentional, pedagogically grounded integration of AI in university teaching and learning.

To ensure a balanced development of both technical and human-centric competences, higher education institutions and policymakers should consider the following actions:

- *Curricular design.* Embed AI literacy, critical evaluation, and ethics across all disciplines to promote informed and responsible use.
- *Pedagogical innovation.* Strengthen project-based, dialogic, and collaborative learning activities to counterbalance the individualized nature of AI-mediated tasks.
- *Critical inquiry with AI.* Encourage activities where AI systems become subjects of examination rather than tools for shortcircuiting tasks. Analysing how AI generates responses, identifying inaccuracies, debating bias, and comparing human and machine reasoning can strengthen students' critical thinking, epistemic vigilance, and ethical awareness.
- *Assessment reform.* Develop evaluation methods that reward reasoning processes, originality, and argumentation, not only final outputs potentially generated or assisted by AI.
- *Faculty development:* Provide educators with professional training on critical and constructive AI integration, ensuring pedagogical intentionality rather than technological substitution.
- *Stakeholder dialogue:* Establish continuous communication channels with employers to detect evolving competence needs and align programmes with labour-market expectations.

Ultimately, AI should not dictate what or how students learn. Instead, it should serve as a catalyst for deeper, more reflective learning. The future of graduate education depends on cultivating AI-enhanced humans: professionals who can harness technological capabilities while sustaining the creativity, ethical judgment, and interpersonal skills that no algorithm can replace.

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