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EHEAII
AI IN HIGHER EDUCATION



AI USAGE REPORT

in higher education

ERASMUS+ COOPERATION PARTNERSHIP PROJECT
„Empowering Higher Education through Artificial Intelligence Integration – EHEAII”,
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INTRODUCTION AND SCOPE

The rapid development of artificial intelligence (AI) is significantly transforming higher education, reshaping teaching and learning practices, research processes, student assessment, and institutional governance. Alongside these opportunities, higher education institutions are increasingly confronted with complex challenges related to academic integrity, ethical use of AI, data protection, and the preservation of critical thinking and learning outcomes. There is a growing need for structured, evidence-based understanding of how AI is currently used in higher education and how institutions can ensure its responsible and effective integration.

This report aims to provide a comprehensive overview of AI usage in higher education, with a particular focus on the partner countries - Latvia, Lithuania, Spain, Germany, Slovenia, and Italy. It examines current practices, institutional readiness and emerging risks related to AI integration in higher education. Although the majority of respondents came from the partner countries, the survey also included participants from several other countries, providing a broader international perspective.

The findings demonstrate a high level of consistency across different national contexts. Both the survey results and the round table discussions revealed that higher education institutions face similar challenges, concerns, expectations, and experiences regarding AI integration, regardless of geographical location. This suggests that the findings are applicable beyond the partner countries and are relevant to the broader European Higher Education Area.

The report covers multiple interrelated dimensions. It analyses the current use of AI in teaching and learning, differences across institutions and disciplines, and levels of AI maturity and institutional readiness. It also examines the legal and policy framework at both European and national levels, together with key ethical principles guiding the responsible use of AI in higher education. Empirical evidence from surveys and round table discussions complements the analysis by providing insights into stakeholder experiences and perceptions.

The report is intended for higher education institutions, academic staff, institutional leaders, policymakers, and researchers involved in the integration of AI into educational environments. It provides both an analytical overview and insights that can inform institutional strategies, policy development, and future project activities in the field of AI in higher education.

ABOUT THE PROJECT

This report has been prepared within the framework of the Erasmus+ Cooperation Partnership project “Empowering Higher Education through Artificial Intelligence Integration – EHEAII”.

Turiba University from Latvia in cooperation with 5 partner Universities from Lithuania, Spain, Germany, Italy and Slovenia began implementing the ERASMUS+ cooperation partnership project “Empowering Higher Education through Artificial Intelligence Integration” (EHEAII).The initiative aims to equip higher education institutions (HEIs) with tools and methodologies for the responsible and effective integration of Artificial Intelligence (AI) into teaching, learning, and institutional processes.

The project addresses the growing impact of AI on higher education, emphasizing that universities must adapt strategically to ensure AI supports, rather than replaces, essential cognitive and analytical skills. The consortium focuses on developing practical, ethical, and pedagogically sound approaches to AI adoption in academia.

The project delivers a concise set of practical outcomes that support the responsible integration of artificial intelligence in higher education, including an analytical overview of how AI is used in universities, the AI Maturity Test as a self-assessment tool for institutions and educators, guidelines for risk mitigation and cognitive skill development, a collection of best practices and ready-to-use teaching tasks across several disciplines, and a Moodle-based online course “AI Tools and Use in Teaching Process” that strengthens educators’ skills, confidence, and ethical awareness in using AI in teaching.

Further information about the project and its partners is available at http://eheaii.eu

Project partners:

Turība University · SMK College of Applied Sciences · Università di Genova · Univerza v Mariboru · FUABformació Escola de Prevenció i Seguretat Integral · FH Aachen University of Applied Sciences

METHODOLOGY

This report is based on a multi-method approach combining **desk research**, **empirical data collection**, and **collaborative analysis** carried out by six project partners.

The **desk research** component included a systematic review of existing legal frameworks, policy documents, recommendations, guidelines, and institutional policies related to AI in higher education at both European and national levels. It also covered the analysis of best practices in AI use in teaching and learning, as well as institutional approaches to AI governance and implementation.

Empirical data was collected through two main sources. First, **a series of round table discussions** were organised in all partner countries, engaging a total of 70 experts from higher education institutions, including academic staff, administrators, and other stakeholders. These discussions provided qualitative insights into current practices, challenges, and expectations regarding AI use, and the findings were consolidated in a joint report covering all six countries.

Second, **a survey** was conducted to capture broader perspectives on AI usage, institutional readiness, and perceived risks and opportunities. The survey collected 453 responses from participants representing 61 higher education institutions, allowing for a more comprehensive and comparative analysis. The survey results were analysed and summarised to identify common trends and differences across contexts.

In addition, partners **collaboratively** developed a risk analysis focusing on key areas such as academic integrity, over-reliance on AI, data protection and privacy, and the impact of AI on learning outcomes. This process involved comparative analysis across countries and institutions, as well as alignment with existing legal and ethical frameworks.

The combination of desk research, qualitative and quantitative data, and joint partner analysis ensures a comprehensive and evidence-based understanding of AI usage in higher education. This approach allows the report to reflect both policy-level developments and practical experiences from institutions, providing a balanced and reliable foundation for conclusions and recommendations.

Overview of AI Usage in Higher Education and AI Maturity

1. Overview of AI Maturity in Higher Education

As AI becomes embedded in teaching, assessment, student support, administration, and institutional decision-making, higher education institutions face a challenge that goes beyond the isolated adoption of new tools. The relevant question is no longer simply whether AI is being used, but whether institutions possess the capacity to integrate it in a deliberate, reliable, and responsible way across their core functions. This is the analytical purpose of the concept of AI maturity. In the context of higher education, AI maturity should not be understood as the volume of AI use or the availability of particular tools. It refers to the extent to which an institution has developed the organizational conditions required to use AI in ways that are strategically aligned, pedagogically meaningful, operationally supported, and normatively governed.

A useful definition of AI maturity in higher education must build on several conceptual elements:



Institutional capability: In the broader organizational literature, AI maturity is closely linked to the question of whether an organization is prepared to create value from AI and to embed AI-related activities in stable structures rather than isolated experimentation. AI readiness can be conceptualized as a multidimensional organizational condition shaped by factors such as strategic alignment, resources, knowledge, culture, and data (Jöhnk et al., 2021). Their work is especially relevant because it shifts the discussion away from a narrow focus on technology acquisition and toward the broader organizational capacities required for AI adoption. Although their concept is framed as readiness rather than maturity, it identifies the core building blocks from which a maturity concept can be derived: AI becomes institutionally meaningful only when it is supported by strategy, infrastructure, competencies, and organizational coordination rather than left to ad hoc use at the margins of the institution.

Multidimensionality: AI maturity cannot be reduced to technical infrastructure, because AI adoption affects several layers of institutional activity at once. It involves strategic decision-making, resource allocation, governance, staff capabilities, pedagogical practice, and evaluation. This is consistent with the wider maturity-model literature, where maturity is typically defined as the degree to which relevant processes and capabilities are formalized, coordinated, managed, and improved over time rather than remaining fragmented or improvised. For higher education, this multidimensional

perspective is particularly important because universities do not use AI in a single operational environment. They deploy it across teaching, assessment, research, student support, and administration, each of which raises different questions of quality, responsibility, and institutional support. A maturity concept that focused only on infrastructure or only on user competence would therefore miss the organizational interdependencies that shape actual AI use in universities.

Higher education specificity: Generic organizational models are helpful as a starting point, but they do not fully capture the institutional character of universities. Higher education institutions are not only service organizations that adopt new technologies; they are also educational institutions with responsibilities for student learning, academic integrity, fair assessment, disciplinary development, and public trust. This changes what counts as maturity. In a university, AI maturity must include the ability to integrate AI into teaching and learning in ways that support learning outcomes, preserve meaningful assessment, and protect academic standards. It must also include the ability to govern AI use in contexts where authorship, intellectual responsibility, student data, and evaluation practices are directly affected. For this reason, a higher education maturity concept cannot simply borrow a corporate understanding of AI capability; it must include pedagogical integration and the governance of educational consequences as core components rather than peripheral add-ons.

Development over time: Maturity is not a binary condition in which institutions either "have" or "do not have" AI capability. It describes a developmental state that emerges gradually as AI-related practices become more intentional, formalized, coordinated, and evaluable. This distinguishes maturity from mere experimentation and also from readiness in a narrower sense. Readiness is primarily concerned with whether an institution has the preconditions to begin or expand AI adoption (Jin, 2025); maturity refers to how far these capabilities are already embedded in institutional routines, structures, and decision-making (Weiner, 2009). The distinction matters because a university may be ready for AI in the sense that it has recognized its relevance, launched pilots, or provided access to tools, while still remaining institutionally immature if AI use is weakly governed, unsupported by training, detached from assessment reform, or not integrated into institutional planning. Maturity therefore implies not only preparedness, but the actual institutionalization of AI-related capabilities.

Taken together, these four elements provide the basis for a definition of AI maturity that is suitable for the EHEAII project context and for higher education institutions in general:



AI maturity in higher education is the degree to which a higher education institution has developed, formalized, and continuously improved the strategic, governance-related, technical, pedagogical, and organizational capabilities required to integrate AI responsibly and effectively across leadership, infrastructure, capacity building, teaching and assessment, and institutional learning processes.

This definition deliberately avoids equating maturity with the intensity of AI use. An institution does not become mature simply by deploying more AI tools or by

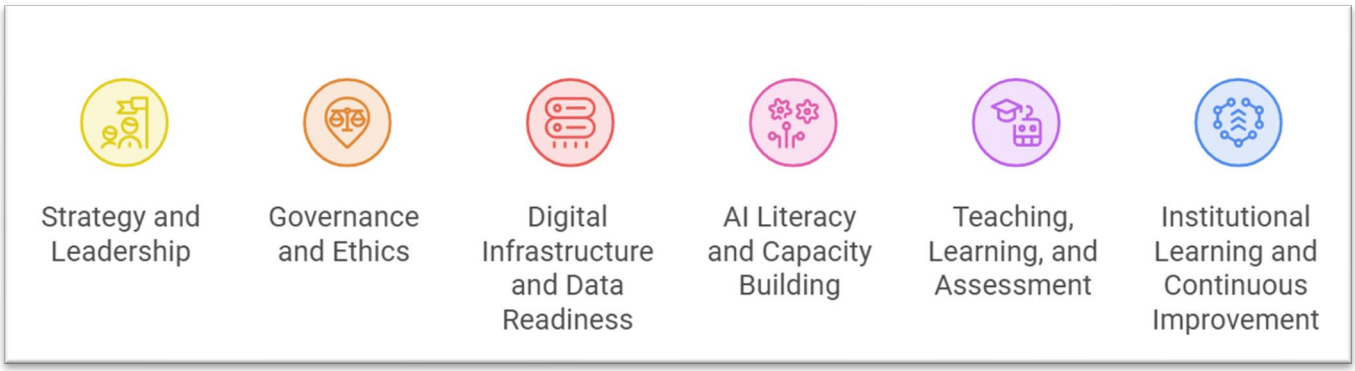
encouraging rapid adoption. It becomes mature when AI use is embedded in coherent structures that align institutional strategy, governance, infrastructure, competence development, and educational practice.

This understanding also clarifies why maturity is a more useful analytical concept than AI use alone. Descriptions of use can show where AI appears in the institution - for example in teaching, administration, or student support - but they do not explain whether this use is strategically supported, pedagogically justified, or institutionally sustainable. A maturity perspective adds this second layer of analysis. It asks whether the conditions are in place for AI to be integrated coherently rather than opportunistically, and whether institutions are capable of adapting their practices as technologies, regulations, and educational requirements change. In this sense, AI maturity is best understood not as a measure of technological enthusiasm, but as a framework for assessing institutional capability under conditions of ongoing digital transformation.

2. The EHEAII project maturity model

The EHEAII maturity model builds on a higher education-specific understanding of AI integration. It responds to a central limitation of many generic AI maturity models: they often emphasize technological capacity, data infrastructure, or organizational transformation in general terms (Becker et al., 2009), while paying less attention to the specific educational, ethical, and governance responsibilities of universities. Higher education institutions are not only technology-adopting organizations. They are learning environments, research institutions, public-value organizations, and communities of academic practice. For this reason, an AI maturity model for higher education must assess not only whether AI tools are available, but whether AI use is strategically directed, responsibly governed, technically and data-wise supported, embedded in staff and student capacity building, pedagogically integrated into teaching and assessment, and continuously improved through institutional learning.

The EHEAII maturity model is structured around six complementary maturity dimensions. Together, they provide a broad but non-overlapping view of institutional AI capability.



Dimension 1: Strategy and Leadership

This dimension examines whether AI is recognized as a strategic institutional issue and whether leadership provides clear direction for its development. It includes the existence of an institutional vision for AI, strategic priorities, leadership commitment, allocation of responsibilities, and the alignment of AI with broader institutional goals such as educational quality, innovation, inclusion, digital transformation, and research development. The focus of this dimension is not on detailed rules or compliance procedures, but on whether institutional leadership has created a clear orientation for why and where AI should be integrated.

Dimension 2: Governance and Ethics

This dimension focuses on the institutional rules, responsibilities, and safeguards that ensure responsible AI use. It includes ethical principles, academic integrity, legal compliance, data protection, transparency requirements, accountability structures, human oversight, and procedures for identifying and managing AI-related risks. Governance and Ethics does not address strategic direction itself, but the normative and procedural framework within which AI is used. In higher education, this dimension is particularly important because AI affects assessment, authorship, student data, and trust in academic processes.

Dimension 3: Digital Infrastructure and Data Readiness

This dimension assesses whether the institution has the technical and data-related foundations required for secure, reliable, and scalable AI use. It includes access to approved AI tools, platform integration, IT support, interoperability with existing systems, data availability, cybersecurity, procurement arrangements, and secure environments for teaching, research, administration, and student services. The central question is whether the institution has the infrastructure needed to make AI use practically possible under institutional conditions rather than leaving users to depend entirely on external public tools.

Dimension 4: AI Literacy and Capacity Building

This dimension examines whether students, academic staff, administrative staff, and institutional leaders have the knowledge and skills required to use AI effectively and responsibly. It includes practical AI literacy, prompting and evaluation skills, awareness of limitations and bias, understanding of legal and ethical issues, and the provision of training, guidance, and professional development. The focus here is on the competencies of institutional actors and the structures through which these competencies are developed and updated.

Dimension 5: Teaching, Learning, and Assessment Integration

This dimension assesses whether AI is meaningfully integrated into educational practice. It includes curriculum development, course design, learning activities, assessment formats, feedback practices, and the alignment of AI use with learning outcomes. The focus is specifically pedagogical: how AI changes what students are expected to learn, how educators design teaching and assessment, and how institutions

support academically sound uses of AI in the learning process. This dimension is distinct from AI Literacy and Capacity Building because it concerns the design of education itself rather than the general competence of those who participate in it.

Dimension 6: Institutional Learning and Continuous Improvement

This dimension focuses on the institution's ability to evaluate, adapt, and improve its AI practices over time. It includes monitoring mechanisms, evaluation of pilot projects, stakeholder feedback, internal knowledge sharing, benchmarking, policy revision, and evidence-based scaling of successful approaches. This dimension matters because AI integration in higher education is not a one-time implementation project. It requires institutions to learn from experience, respond to technological and regulatory change, and refine their strategic, pedagogical, and governance approaches over time.

The EHEAII maturity model should be understood as tool for structured institutional reflection, not as deterministic rankings. Its purpose is to help institutions ask precise questions: Is AI part of institutional strategy? Are ethical and legal responsibilities clear? Are tools secure and supported? Do staff and students have the necessary competencies? Are teaching and assessment practices being adapted? Are AI initiatives evaluated and improved over time?

At the same time, the EHEAII maturity model inevitably simplifies complex institutional realities. It cannot fully capture disciplinary differences, informal cultures of innovation, local resource constraints, or the quality of every individual teaching practice. It results depend on the quality of the indicators, the clarity of rating criteria, and the honesty of institutional self-assessment. For this reason, a maturity assessment should be combined with qualitative interpretation, stakeholder dialogue, and contextual analysis.

In higher education, AI maturity should ultimately be understood as a framework for responsible institutional development. Institutions that lack maturity may still use AI extensively, but their use is likely to remain fragmented, uneven, and vulnerable to ethical, legal, or pedagogical problems. Institutions that develop maturity are better positioned to use AI in ways that are strategically aligned, legally compliant, ethically grounded, technically reliable, pedagogically meaningful, and continuously evaluated.

For the EHEAII project, this maturity perspective is central. It allows AI in higher education to be analyzed not only as a set of tools or use cases, but as a question of institutional capability. A mature university is not one that adopts every available AI technology. It is one that can make informed decisions about AI, support its users, protect academic values, evaluate outcomes, and adapt responsibly as technologies and educational needs evolve.

3. Best practices of AI usage in higher education: literature review results

For the purpose of synthesising scientific evidence on best practices in the use of AI at the tertiary education level, a systematic literature review methodology was used to identify, analyse, and synthesise scientific evidence on best practices in the use of AI in higher education institutions (HEIs). The review was designed to provide a comprehensive overview of effective AI applications implemented by educators and higher education institutions, with particular emphasis on their educational purposes, implementation processes, reported outcomes, associated challenges, and transferability across different institutional contexts. The methodology combined elements of systematic literature review and qualitative content analysis to ensure a transparent, rigorous, and replicable approach to identifying and evaluating relevant scientific publications and other credible sources.



A best practice is defined as an AI-supported educational practice that demonstrates evidence of positive educational impact, including improvements in learning outcomes, student engagement, educator effectiveness, institutional efficiency, or other measurable benefits. In addition to demonstrating effectiveness, practices were expected to address ethical considerations such as fairness, transparency, privacy protection, and academic integrity, while also showing potential for sustainability, scalability, and transferability to other higher education institutions.

The review was guided by three research questions. First, it sought to identify which uses of AI by educators in higher education have been reported as effective or beneficial and under what conditions these practices have been successfully implemented. Second, it examined the various ways in which AI has been integrated into higher education, including teaching and learning, assessment, research, student support and learning analytics. Finally, the review investigated the institutional, pedagogical, organisational, and contextual factors that enable or hinder the implementation of AI-supported educational practices.

A structured search strategy was developed to ensure a comprehensive identification of relevant literature. Scientific publications were searched in major multidisciplinary and discipline-specific databases[1]. Searches were conducted using combinations of keywords related to artificial intelligence, higher education, teaching, learning, assessment, student support, and best practices, connected through Boolean operators to maximise the relevance and completeness of the search results. The selection of publications followed predefined inclusion and exclusion criteria. Studies were included if they focused on AI implementation within higher education settings, described or evaluated concrete educational practices, interventions, institutional policies, or AI-supported learning activities, and provided empirical evidence through qualitative, quantitative, or mixed-methods research, or sufficiently detailed descriptions of

[1] Scopus, Web of Science, ERIC, Education Source, IEEE Xplore, ACM Digital Library, PsycINFO, and SocINDEX

implemented practices. Publications were excluded if they focused exclusively on primary or secondary education, addressed only technical aspects of AI without educational application, consisted solely of conceptual or opinion papers lacking implementation evidence, or represented duplicate or incomplete records.

The collected evidence was analysed using qualitative content analysis. Individual AI practices were categorised according to their primary educational purpose, including teaching and learning, assessment and feedback, student support and guidance, learning analytics, student success, pedagogical innovation and research support. Within each category, practices were examined in relation to their implementation context, pedagogical objectives, reported educational outcomes, ethical considerations, enabling institutional conditions, implementation barriers, and potential for adaptation to other higher education environments. This analytical process enabled the identification of common characteristics associated with successful AI implementation and highlighted the contextual factors influencing the effectiveness of different practices.

The analysis of scientific publications on the use of AI in higher education revealed a broad range of practices that differ in their objectives, implementation approaches, and educational contexts. Despite this diversity, common patterns emerged across the reviewed literature, allowing the identified practices to be organised into four interrelated thematic domains that reflect the principal areas of AI application within higher education institutions. These domains include **teaching and learning**, **assessment and feedback**, **student support**, and **governance and strategic integration**. Together, they represent the key dimensions through which AI is currently influencing educational processes, institutional development, and the overall student experience. The following subsections present a descriptive overview of the identified AI practices within each thematic domain. For each area, the report summarises the most common applications, analyses their reported educational benefits, and discusses the principal risks and implementation challenges identified in the literature.

Teaching and learning

The analysis of scientific publications demonstrates that teaching and learning constitute the most developed area of AI implementation in higher education. Across the reviewed practices, generative AI technologies are primarily used to support content creation, brainstorming, academic writing, summarising learning materials, and clarifying complex concepts (Želvytė & Statkuvienė, 2024; Sabzalieva & Valentini, 2023; Martínez-Carrera et al., 2025). These applications are complemented by AI-supported active learning approaches, including adaptive quizzes, simulations, and collaborative learning activities, which encourage greater student participation and engagement (Alshatti Schmidt et al., 2025; Belkina et al., 2025). Furthermore, many higher education institutions are increasingly embedding AI literacy within their curricula, enabling students to develop the knowledge and competencies required to use AI tools critically, ethically, and effectively (Adamakis & Rachiotis, 2025; Tubella et al., 2024).

Emerging practices also include the integration of immersive technologies, such as augmented and virtual reality, which enhance spatial reasoning and conceptual

understanding, particularly in science, technology, engineering, arts, and mathematics (STEAM) disciplines (Gulbay et al., 2025). Similar developments have been reported in legal education, where AI-supported learning environments are being used to complement online and blended learning approaches (Cavallo et al., 2024).

The evidence indicates that these practices contribute to a richer learning experience by increasing student motivation, engagement, and satisfaction while improving understanding of complex topics (Campillo-Ferrer et al., 2025; Suchanek & Kralova, 2025). AI facilitates personalised learning by adapting educational content to individual learning needs and allowing students to progress at their own pace (Luo et al., 2025). At the same time, AI reduces the time required for information retrieval, drafting, and revision, enabling both students and educators to focus on higher-order cognitive activities. Beyond improving learning efficiency, AI-supported teaching practices promote the development of self-regulated learning, critical evaluation of information, and AI literacy, all of which are recognised as essential competencies for graduates in an increasingly digital society (Vieriu & Petrea, 2025).

Despite these advantages, there are several important challenges. Excessive dependence on AI may weaken students' critical thinking and independent problem-solving abilities, creating what has been described as "cognitive debt" (Gerlich, 2025). Academic integrity remains a major concern, particularly regarding plagiarism, unauthorised AI-generated assignments, and difficulties in distinguishing authentic student work from AI-assisted outputs (Galli, 2025; Adamakis & Rachiotis, 2025). Successful implementation therefore depends not only on technological availability but also on substantial curriculum redesign, professional development for academic staff, and institutional support for responsible AI integration (Tubella et al., 2024).

Assessment and feedback

Assessment represents another major area in which AI is transforming educational practice. The literature analysis identifies increasing use of AI-assisted formative feedback systems capable of providing immediate, personalised, and scalable responses to student work (Pitts et al., 2025; Nazaretsky et al., 2026). Automated feedback allows students to revise assignments more frequently while reducing the marking burden placed on educators. In parallel, institutions are beginning to redesign assessment by shifting attention from evaluating final products towards examining students' learning processes and interactions with AI systems (Picasso et al., 2025). Process-oriented assessment models that evaluate prompt development, reasoning strategies, and knowledge construction are emerging as promising approaches for maintaining assessment authenticity in AI-rich learning environments.

The identified practices demonstrate considerable potential for improving learning quality. More frequent and timely feedback supports iterative learning, enhances self-regulation, and allows students to identify misconceptions before they become embedded (Nazaretsky et al., 2026). AI-assisted assessment also contributes to greater transparency by clarifying expectations regarding appropriate AI use and encouraging authentic demonstration of knowledge and skills. Furthermore, automation of repetitive

assessment tasks enables more efficient allocation of academic staff time, particularly in large-enrolment courses (Belkina et al., 2025).

Student support and learning analytics

The literature analysis demonstrates that AI increasingly supports student success through personalised guidance, intelligent tutoring, and predictive learning analytics. AI-powered course assistants and chatbots provide continuous support by answering questions, clarifying learning materials, and guiding students through course requirements (Hanshaw et al., 2024). Learning analytics systems use student performance data to identify learners at risk of academic failure or dropout, enabling institutions to implement timely interventions such as tutoring, personalised advising, or adapted learning pathways (Oliveira et al., 2025). AI also contributes to accessibility through automated transcription, language translation, and adaptive interfaces that address the needs of students with diverse linguistic, cognitive, and physical characteristics (Luo et al., 2025).

Personalised learning pathways respond to individual learning needs and contribute to greater inclusiveness, particularly for students with disabilities, language barriers, or diverse educational backgrounds (Luo et al., 2025; Vieriu & Petrea, 2025). These benefits support the broader goal of creating more student-centred, accessible, and responsive higher education environments (Sabzalieva & Valentini, 2023).

However, extensive collection and analysis of student data raise significant ethical and legal concerns. The use of learning analytics introduces questions regarding privacy, surveillance, informed consent, and appropriate governance of educational data (Tubella et al., 2024; Adamakis & Rachiotis, 2025). Predictive algorithms may reinforce existing inequalities if they reproduce historical biases contained within institutional datasets, highlighting the need for transparency, accountability, and continuous monitoring of AI systems (Želvytė & Statkuvienė, 2024; Al-Qaimari & Khan, 2025). Furthermore, excessive dependence on AI-mediated support may reduce opportunities for meaningful human interaction between students and educators, potentially affecting students' sense of belonging and academic community (Gerlich, 2025). These findings emphasise that AI-supported student services should complement rather than replace human academic support systems, ensuring that technological innovation remains aligned with human-centred educational values (Tubella et al., 2024; Belkina et al., 2025).

Benefits and risks of AI-based practices in study process

The scientific literature review shows that **AI has evolved from an isolated technological innovation into a multidimensional component of higher education** that influences teaching, assessment, student support, and institutional governance.

The following lists summarise the most frequently reported **benefits** of AI use in higher education:

- improved learning outcomes and academic performance;

- enhanced understanding of complex concepts;
- increased student engagement, motivation, and satisfaction;
- personalised and adaptive learning experiences;
- greater learner autonomy and self-regulated learning;
- faster access to information and improved study efficiency;
- time savings for students and educators;
- timely, personalised, and scalable feedback;
- reduced educator workload through task automation;
- enhanced teaching innovation and AI literacy;
- improved accessibility and inclusion;
- early identification and support of at-risk students;
- data-informed decision-making and strategic planning;
- improved institutional efficiency and digital transformation.

At the same time, common **challenges and risks** consistently emerge:

- academic integrity violations (e.g., plagiarism, misuse of AI);
- over-reliance on AI and reduced critical thinking;
- inaccurate or biased AI-generated outputs;
- privacy, data protection, and surveillance concerns;
- ethical issues related to fairness, transparency, and accountability;
- unequal access to AI tools and digital skills;
- reduced human interaction and learner independence;
- faculty resistance and insufficient staff training;
- need for curriculum and assessment redesign;
- high implementation costs and infrastructure requirements;
- lack of clear institutional policies and governance;
- rapid technological change requiring continuous adaptation.

Summary of the examples of AI practices in higher education (based on the literature review)

Domain	Best practices & Common applications	Key benefits	Key risks & challenges
Teaching and learning	- Generative AI for content and skills: students and staff use AI for brainstorming, drafting, summarising, and clarifying complex concepts. - Active learning enhancement: AI tools (simulations, adaptive quizzes) are embedded into active	- Enhanced learning experience: Increased student engagement, motivation, and satisfaction; deeper understanding of complex topics. - Efficiency and personalisation: Time savings for students and staff; adaptive	- Cognitive and integrity risks: Over-reliance on AI leading to weaker critical thinking ("cognitive debt"); academic integrity issues (plagiarism, cheating). - Pedagogical challenges: Need for

Domain	Best practices & Common applications	Key benefits	Key risks & challenges
	learning designs to increase engagement. - AI literacy development: Curricula are designed to teach students how to use AI tools critically, ethically, and effectively. - Immersive learning: Use of augmented and virtual reality to enhance spatial and conceptual understanding (e.g., in STEAM).	learning paths tailored to individual pace and need. - Skill development: Cultivation of critical thinking, AI literacy, and self-regulated learning skills.	significant course redesign; lack of faculty training and resistance to change. - Quality and reliability: AI outputs can be inaccurate, biased, or superficial, requiring human oversight.
Assessment and feedback	- AI-assisted feedback: Automated systems provide scalable, timely, and personalised formative feedback on student work. - Process-focused assessment: Shifting evaluation from the final product to the student's interaction process with AI (e.g., grading prompt logs). - Automated grading support: Using AI to handle routine marking tasks, freeing up faculty for higher-order evaluation.	- Improved feedback loop: More frequent, immediate, and consistent feedback, especially in large classes. - Authenticity and fairness: Moves assessment towards more authentic, real-world tasks and provides transparent evaluation criteria for AI use. - Workload reduction: Reduces administrative burden on faculty, allowing more focus on mentoring.	- Integrity and misuse: High risk of students misusing AI for graded work; difficulty in detecting AI-generated content reliably. - Implementation burden: Significant workload for faculty to redesign assessments and grade interaction logs; technical and cost barriers. - Bias and equity: Algorithmic bias in grading/feedback systems; assessment models may not be fair to students with varying AI access or skills.
Student support	- 24/7 course assistants: AI chatbots embedded in learning environments to answer questions, provide guidance, and clarify content. - Predictive analytics for retention: Using machine learning to identify at-risk students and trigger	- Increased access and success: Early identification of struggling students leads to lower dropout rates; 24/7 support improves motivation and self-efficacy. - Personalised pathways: Tailored support	- Data privacy and surveillance: Ethical concerns over the collection and use of student data; risk of creating a surveillance culture. - Algorithmic bias: Predictive models can perpetuate historical

Domain	Best practices & Common applications	Key benefits	Key risks & challenges
	personalised interventions (tutoring, advising). - Accessibility and inclusion: AI tools for real-time transcription, language translation, and adaptive interfaces to support diverse learners.	based on individual student data and performance patterns. - Enhanced inclusivity: Bridges gaps for students with disabilities, language barriers, or different learning preferences.	biases, leading to discriminatory outcomes. - Quality of support: AI-generated answers can be inaccurate; over-reliance may reduce human interaction and a sense of community.

4. Good practices of AI usage in higher education: overview based on AI-ENABLE2 project results

This overview is based on the results of the Erasmus+ project AI ENABLES, which explored the opportunities, challenges, and good practices related to the integration of AI in higher education institutions (HEIs). The project examined how universities can effectively and responsibly adopt AI technologies to enhance teaching, learning, research, administration, and institutional development. The findings provide a comprehensive framework for understanding AI readiness and maturity in higher education and offer practical guidance for institutions seeking to implement AI in a strategic, ethical, and human-centred manner.

The AI ENABLES project highlights **that AI is becoming an increasingly influential driver of educational innovation**. Universities across Europe are exploring the potential of AI-powered tools, learning analytics, and generative AI applications to improve educational quality, student support, and institutional effectiveness. However, successful AI adoption requires more than technological implementation. It demands institutional readiness, appropriate governance structures, staff and student competencies, ethical safeguards, and continuous evaluation.

One of the key findings of the project is that **AI can significantly enhance teaching and learning processes**. AI technologies enable personalized learning experiences by adapting educational content, feedback, and learning pathways to individual student needs. Through intelligent tutoring systems, learning analytics, and generative AI applications, students can receive more targeted support and engage with learning materials in flexible and interactive ways. AI can also support educators by assisting with content creation, assessment design, feedback generation, and the development of innovative learning activities. These capabilities contribute to increased student engagement, improved learning outcomes, and more efficient educational processes.

The project also emphasizes the potential of AI to support the development of higher-order cognitive skills. When integrated appropriately, AI can function as a

[2] See more: https://aienable.eu/

learning partner that encourages critical thinking, creativity, reflection, and problem-solving. Rather than replacing intellectual effort, AI can stimulate inquiry and support deeper exploration of complex topics. The findings stress the importance of teaching students to critically evaluate AI-generated outputs and to use AI as a tool for learning rather than as a substitute for independent thinking.

Beyond teaching and learning, AI offers substantial benefits for student support. Learning analytics and predictive models can help universities identify students who may be at risk of academic difficulties and provide timely interventions. AI-driven insights can support evidence-based decision-making, curriculum improvement, resource allocation, and quality assurance processes. Within the context of EHEAII project the aspects related to pedagogy are of special interest. The widespread availability of generative AI tools requires universities to rethink traditional **assessment methods and teaching practices**. Institutions must ensure that AI enhances learning without diminishing students' engagement in critical thinking, analytical reasoning, and creative problem-solving. The project highlights the need to redesign assessments and learning activities to promote active learning, reflection, and responsible AI use.

Ethical governance and data protection represent additional areas of concern. AI systems rely heavily on data, creating challenges related to privacy, security, transparency, accountability, and compliance with regulations such as the General Data Protection Regulation. Universities must establish clear policies governing AI use, data management, academic integrity, and risk mitigation. Furthermore, AI-generated outputs may contain inaccuracies, biases, or misleading information, making continuous monitoring and quality assurance essential.

To address these opportunities and challenges, the AI ENABLES project identified **a set of good practices for responsible AI integration**. Effective implementation begins with institutional strategies and governance structures that align AI adoption with educational objectives and institutional values. Universities are encouraged to conduct AI readiness assessments, develop strategic action plans, and establish governance committees involving academic, administrative, legal, and technical stakeholders.

Capacity building is another critical success factor. Continuous professional development in AI literacy should be provided for academic and administrative staff, while students should be supported in developing **AI-related competencies, including critical evaluation, ethical awareness, and responsible use**. Communities of practice, pilot projects, and innovation laboratories can further strengthen institutional learning and knowledge sharing.

The project strongly advocates for a **human-centred approach to AI adoption**. AI should be viewed as a tool that supports and augments human capabilities rather than replacing educators or diminishing human interaction. Human judgement, mentorship, ethical reasoning, and academic expertise must remain central to educational processes. Transparency, accountability, and human oversight should guide all AI-supported decision-making activities.

The project findings identify several significant **benefits** that AI can bring to higher education institutions:

1) Enhanced teaching and learning effectiveness through personalized learning pathways, adaptive feedback, and improved student engagement.
2) Development of higher-order cognitive skills, including critical thinking, creativity, problem-solving, and reflective learning.
3) Increased efficiency and productivity by automating repetitive administrative and academic tasks, allowing staff to focus on higher-value activities.
4) Data-informed decision-making and student support through learning analytics, predictive models, and evidence-based interventions.
5) Innovation in teaching, assessment, and curriculum design, enabling more dynamic, authentic, and learner-centred educational experiences.
6) Professional development and AI competence building for academic and administrative staff, fostering continuous learning and digital transformation.
7) Improved student experience and engagement through personalized guidance, timely feedback, and accessible support services.
8) Strengthened institutional innovation and competitiveness, enhancing universities' ability to respond to societal and labour market changes.
9) Responsible and human-centred educational transformation, where AI augments rather than replaces human capabilities and expertise.

At the same time, the project highlights several key **challenges** that higher education institutions must address to ensure successful and sustainable AI adoption:

1) Institutional readiness and digital transformation, including the development of AI strategies, governance frameworks, and adequate technological infrastructure.
2) Pedagogical transformation and cognitive balance, ensuring that AI enhances rather than replaces critical thinking, creativity, and independent learning.
3) AI competencies and capacity building, requiring continuous professional development for staff and AI literacy development for students.
4) Ethical governance, academic integrity, and risk management, including clear policies on responsible AI use and mechanisms to prevent misuse.
5) Data governance, privacy, and trust, ensuring compliance with data protection regulations and maintaining transparency in AI-supported processes.
6) Quality, bias, and reliability of AI systems, requiring ongoing monitoring, validation, and quality assurance mechanisms.
7) Human-centred and ethical AI adoption, preserving the importance of human interaction, academic autonomy, mentorship, and social learning.

Ultimately, the AI ENABLES project concludes that the successful integration of AI in higher education is not determined by the extent of technology adoption alone. Rather,

success depends on the ability of institutions to realize educational and organizational benefits, address emerging risks and challenges, implement responsible practices, and continuously adapt to the evolving AI landscape. The project's analysis of benefits, challenges, and good practices provides **a foundation for assessing institutional AI maturity** and readiness. A mature institution is not necessarily one that uses the most advanced AI technologies, but rather one that achieves **meaningful educational benefits, manages associated risks effectively, implements responsible practices** systematically, and continuously improves its AI capabilities.



Legal and Policy Framework Analysis

The analysis of legal frameworks and policy documents demonstrates that the regulation and governance of artificial intelligence in higher education are evolving rapidly at both European and international levels. While no single framework is designed specifically for higher education, a combination of binding regulations and non-binding guidelines establishes a comprehensive environment shaping how universities develop, implement, and manage AI technologies.

A central element of this framework is the **EU Artificial Intelligence Act** (2024), which represents the first comprehensive and legally binding regulation on AI globally. The Act introduces a risk-based regulatory approach, classifying AI systems into categories ranging from unacceptable risk (prohibited) to high, limited, and minimal risk, each associated with different levels of obligations. This model is particularly relevant for higher education institutions, as certain AI applications used in teaching, assessment, admissions, or student monitoring may fall under the category of high-risk systems, requiring strict compliance measures, including risk assessment, transparency, and human oversight.

A key principle embedded in the EU AI Act is the balance between innovation and protection of fundamental rights. While research and development activities are largely exempt from strict obligations to support academic innovation, this exemption is limited and does not apply when AI systems are deployed in real-life or high-impact contexts. As a result, universities must carefully assess their AI use cases and ensure compliance when systems are applied in teaching, assessment, or administrative decision-making.

The Act also establishes core principles that are directly relevant for higher education. These include transparency, requiring documentation and disclosure of AI system capabilities; accountability, ensuring traceability and responsibility for AI outcomes; data protection and non-discrimination, aligned with GDPR; and human oversight, preventing over-reliance on automated decision-making. These principles collectively define the baseline for responsible AI use and are increasingly reflected in institutional policies and practices.

In parallel, the **Council of Europe Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law** (2024) provides a broader, value-based governance perspective. Unlike the EU AI Act, which is regulatory and enforceable, the Convention focuses on aligning AI systems with fundamental rights, democratic values, and societal well-being. Together, these two frameworks establish a dual governance model combining legal compliance with ethical responsibility. For universities, this implies not only adherence to regulatory requirements but also a proactive role in promoting trustworthy and human-centred AI.

Beyond binding legal frameworks, a wide range of international policy documents, recommendations, and guidelines provide further direction for AI use in higher education. These include **UNESCO, OECD,** and **European Commission** documents, which collectively define the principles and operational directions for responsible AI adoption.

A strong and consistent theme across these policy documents is the emphasis on human-centred and ethical AI. Core values include human agency, fairness, transparency, accountability, and respect for fundamental rights. The European Commission's ethical guidelines highlight the importance of human oversight, explainability, non-discrimination, data governance, and technical robustness as key requirements for trustworthy AI systems. Similarly, OECD and UNESCO frameworks reinforce these principles, positioning AI as a tool that must support, rather than replace, human decision-making and autonomy.

Another major focus of policy documents is data governance and privacy. Institutions are expected to ensure that AI systems comply with data protection requirements, particularly when processing student and staff data. This includes ensuring data quality, representativeness, and security, as well as transparency in how data is used and processed. The importance of GDPR compliance and ethical data use is consistently highlighted across both legal and policy frameworks.

Capacity building and AI literacy are also identified as critical priorities. Policy recommendations emphasise the need for higher education institutions to invest in developing digital and AI competences among both academic staff and students. This includes not only technical skills but also critical understanding of AI systems, their limitations, risks, and ethical implications. Strengthening pedagogical competences is particularly important to ensure that AI is integrated meaningfully into teaching and learning processes.

Academic integrity is another central issue addressed in policy frameworks. The increasing use of generative AI in education has led to recommendations for redesigning assessment methods, introducing transparency requirements regarding AI use, and developing safeguards against misuse, plagiarism, and manipulation of academic outputs. Institutions are encouraged to move towards assessment approaches that emphasise critical thinking, originality, and process-based evaluation.

Equity and inclusion are also highlighted as key considerations. Policy documents warn against the risk of AI amplifying existing inequalities, including digital divides and biases embedded in AI systems. Universities are therefore encouraged to ensure equal access to AI tools, address bias and discrimination, and promote inclusive learning environments.

At the institutional level, policy recommendations emphasise the need for comprehensive governance frameworks. Universities are expected to develop clear internal policies covering AI procurement, risk classification, data management, ethical oversight, and accountability structures. This includes establishing mechanisms for monitoring AI use, ensuring compliance, and supporting responsible innovation.

However, a key finding across the analysed documents is that many guidelines remain high-level and lack detailed operational guidance tailored specifically to higher education contexts. While they provide strong ethical and strategic direction, institutions often face challenges in translating these principles into concrete practices, particularly in areas such as assessment design, academic integrity, and integration of generative AI tools.

Overall, the legal and policy framework analysis shows that higher education institutions operate within an increasingly structured but still evolving regulatory environment. The combination of binding regulations, such as the EU AI Act, and non-binding but influential guidelines creates both obligations and opportunities. Universities are required not only to comply with legal requirements but also to actively shape responsible AI use through governance, teaching, research, and institutional strategies.

More information can be found in the **Legal Framework report** and the **Policy and Recommendations and Guidelines report**.

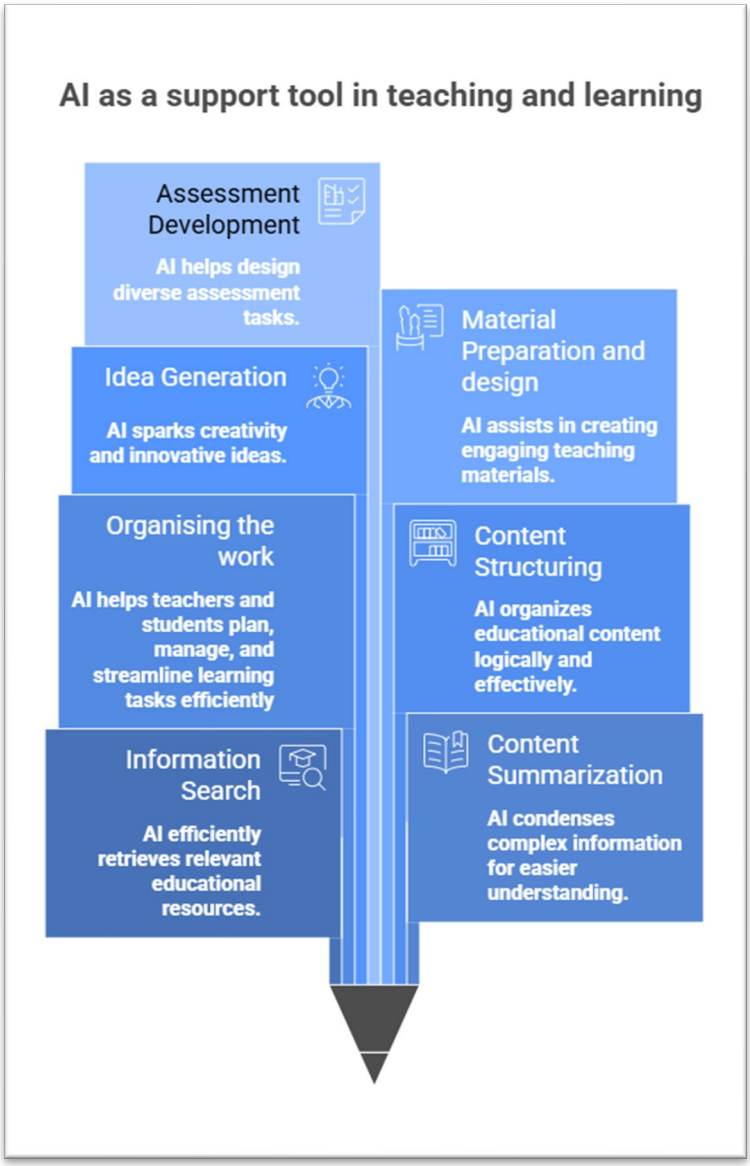
Findings from Round table Discussions and Survey

ROUND TABLE DISCUSSIONS

The round table discussions conducted across six partner countries provide a comprehensive qualitative overview of how artificial intelligence is currently used in higher education and how institutions perceive its impact, risks, and future development. The discussions involved 70 experts representing academia, university management, quality assurance bodies, industry, and student organisations, ensuring a diverse and practice-oriented perspective.

Across all countries, a **strong convergence of views was observed**, indicating that higher education institutions are facing similar developments, challenges, and transformation processes related to AI integration.

Current use of AI in teaching and learning



AI is already embedded in everyday academic practices, primarily as a support tool rather than a fully integrated pedagogical element. The most common uses include information search, summarisation, structuring of content, idea generation, preparation of teaching materials, and development of assessment tasks. Students actively use AI for drafting assignments, analysing information, and organising their work, while educators apply it for preparing lectures, generating test questions, and supporting course design.

A clear and recurring pattern across all discussions is that students are significantly more active in using AI tools than educators. Students often integrate AI into their study processes independently of formal institutional guidance, while educators' engagement remains uneven - ranging from active experimentation to cautious or minimal use. AI use is also more

prevalent in technical and applied disciplines, where it supports coding, data analysis, simulations, and problem-solving tasks.

Another important trend is the use of AI for improving efficiency and productivity. Both students and staff use AI to process large volumes of information more quickly and to accelerate routine academic tasks, which contributes to time savings but also changes how academic work is approached.

At the same time, discussions highlighted that AI is increasingly replacing traditional information search practices. Instead of consulting conventional academic sources, both students and educators are turning directly to generative AI tools as primary sources of information, which raises important questions about source reliability and academic rigor.

Gaps in integration and institutional readiness

Despite its widespread use, AI integration in higher education remains largely unstructured, fragmented, and not yet aligned with pedagogical objectives. Participants consistently identified several key gaps, including the lack of clear pedagogical frameworks for meaningful AI integration, limited institutional guidelines and support mechanisms, insufficient training for educators, and significant differences in digital competences between students and teaching staff.

AI use is often intuitive and individual-driven rather than systematically embedded in curricula or institutional strategies. This creates inconsistencies in teaching practices, expectations, and assessment approaches. Overall, AI is present in higher education, but its integration is still at an early stage of development and requires a more strategic and coordinated approach.

A particularly important concern raised across discussions is the gap between technology use and actual competence development. Participants emphasised that students may successfully complete tasks using AI without engaging in deeper analysis or developing essential skills. This issue is further reinforced by the observation that many assignments are too general and can be easily completed using AI tools, reducing the need for critical thinking.

Impact on learning outcomes

Participants agreed that AI has significant potential to enhance learning outcomes when used appropriately. It can support faster access to information, help structure ideas, facilitate understanding of complex topics, and enable deeper engagement through iterative interaction and experimentation. In particular, AI can be beneficial in technical and applied fields, where it supports practical problem-solving and experimentation.

However, this positive impact is highly dependent on how AI is used. A strong and recurring concern across all discussions is the risk of superficial or **“simulated” learning**. When students rely on AI-generated outputs without engaging in their own analytical

processes, learning may become formal rather than substantive, leading to reduced depth of understanding and weaker development of critical thinking and problem-solving skills.

Participants emphasised that learning is not only about obtaining information but also about developing the ability to analyse, interpret, and apply knowledge. These competences cannot be replaced by AI and require active cognitive engagement. As a result, AI can enhance learning outcomes only if it is used as a support tool rather than a substitute for thinking, and if students are guided to critically evaluate and reflect on AI-generated content.

Academic integrity and assessment challenges

Academic integrity emerged as one of the most critical issues across all discussions. The widespread use of AI in completing assignments raises concerns about the authenticity of student work and the ability of educators to assess real competences. AI-generated outputs may not accurately reflect students' own knowledge and skills, making it increasingly difficult to evaluate learning outcomes and **maintain trust in academic processes**.

Participants highlighted that traditional assessment methods are becoming less effective in the context of AI use. As a result, there is a growing need to redesign assessment approaches to better evaluate understanding, process, and critical thinking rather than reproduction of information. Suggested approaches include **more process-based assessment, oral examinations, and tasks that require reflection, problem-solving, and application of knowledge.**

At the same time, there is no clear consensus on how to classify AI use in assessment in terms of risk. Discussions indicated that there is currently no unified approach to treating AI in assessment as a high-risk technology, mainly due to limited experience and evolving practices. However, there is strong agreement that **human oversight** must remain central in assessment processes to ensure fairness, transparency, and protection of student and teacher rights.

Key risks and ethical concerns

Across all discussions, several key risk areas were consistently identified. The most prominent academic risk is the **degradation of learning quality**, as AI can enable students to complete tasks without genuine understanding, leading to superficial learning, reduced analytical depth, and weaker critical thinking.

Another major concern is **over-reliance on AI**, where technology begins to replace rather than support cognitive effort. This may also affect the role of educators, potentially reducing their pedagogical role if AI is primarily used for automation instead of guided learning.

Ethical and legal concerns were also strongly emphasised. These include data protection and privacy risks, particularly when using tools that process data outside the EU; lack of reliability of AI-generated content, including inaccuracies and hallucinations; bias in AI systems; and transparency issues related to how AI generates outputs.

Participants also highlighted risks related to **academic integrity** and **institutional trust.** If AI use is not clearly regulated and guided, there is a risk that higher education qualifications may no longer reliably reflect acquired competences, potentially undermining trust in institutions.

In addition, practical and institutional challenges were identified, including limited infrastructure, licensing constraints, and resource demands, which may restrict effective and equitable access to AI tools.

Policy, governance, and institutional response

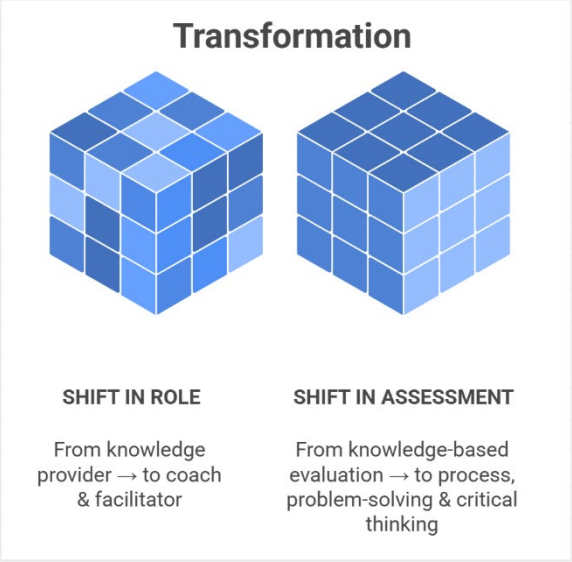
The discussions revealed that current institutional and national policies are not yet sufficiently developed to address the challenges of AI use in higher education. While some institutions have introduced guidelines, these are often too general, inconsistently applied, or not sufficiently integrated into everyday teaching and learning practices.

A key insight is that the existence of policies alone is not sufficient. Effective implementation requires shared understanding, institutional culture, clear communication, and continuous training for both staff and students. Participants also emphasised the need for a balanced approach, as overly strict regulation may limit innovation, while insufficient regulation increases risks.

Guidelines should therefore be flexible, principle-based, and regularly updated to keep pace with technological developments.

Transformation of higher education and future perspectives

The discussions indicate that AI will become an integral part of higher education in the future, influencing teaching, learning, assessment, and institutional processes. AI is expected to support personalised learning, improve efficiency, and contribute to more inclusive educational environments.

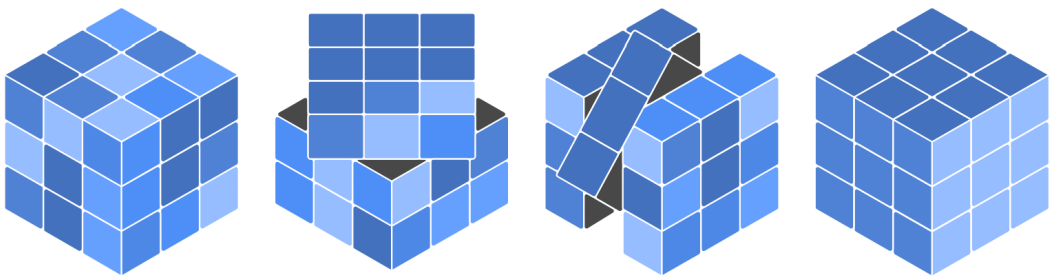


At the same time, participants emphasised that higher education must continue to focus on developing critical thinking, analytical skills, and intellectual autonomy. There is a shared concern that without careful and pedagogically grounded integration, AI could weaken these core competences.

Assessment practices are expected to evolve significantly, moving away from traditional knowledge-based exams towards approaches that emphasise problem-solving, creativity, argumentation, and reflective thinking. **The role of educators** will also transform, with greater emphasis on guiding students, designing learning experiences, and ensuring responsible AI use.

Overall, the round table discussions highlight that the key challenge is not the presence of AI itself, but how it is used, guided, and embedded within the educational process. AI is seen as a tool that can significantly enhance higher education, but only if its integration is supported by clear strategies, ethical principles, and a strong focus on maintaining and developing essential human competences.

AI is seen as part of a broader transformation process, requiring a balanced approach that combines technological innovation with pedagogical, social, and institutional considerations.



Full report is available HERE.

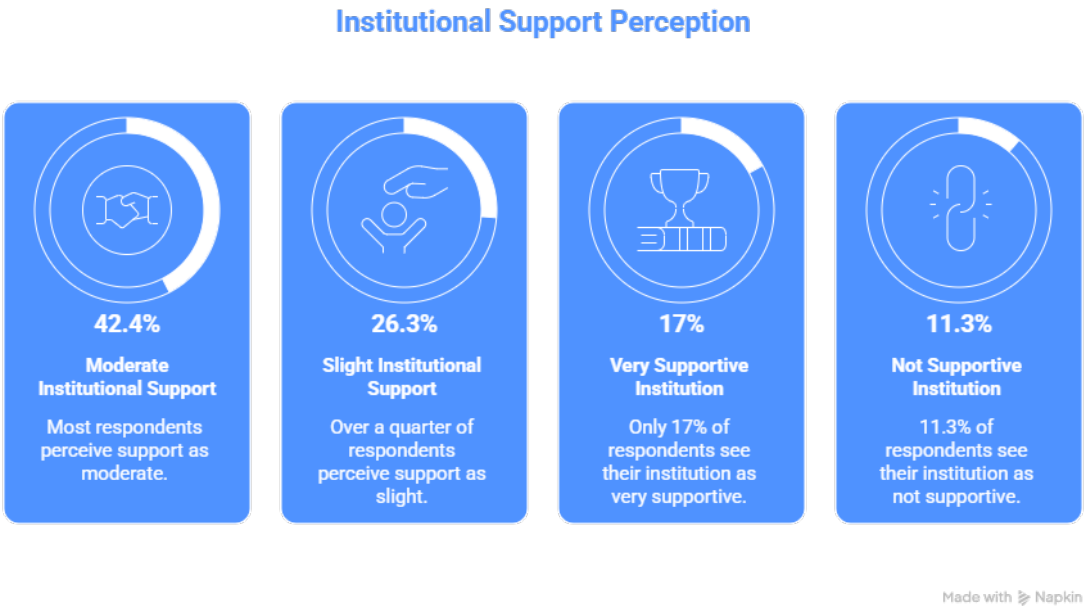
SURVEY FINDINGS

The survey results provide an overview of AI use in higher education, based on 453 responses from academic staff representing 61 institutions. The findings confirm that AI is already widely embedded in everyday academic practices, particularly in content creation, information processing, and preparation of teaching materials.

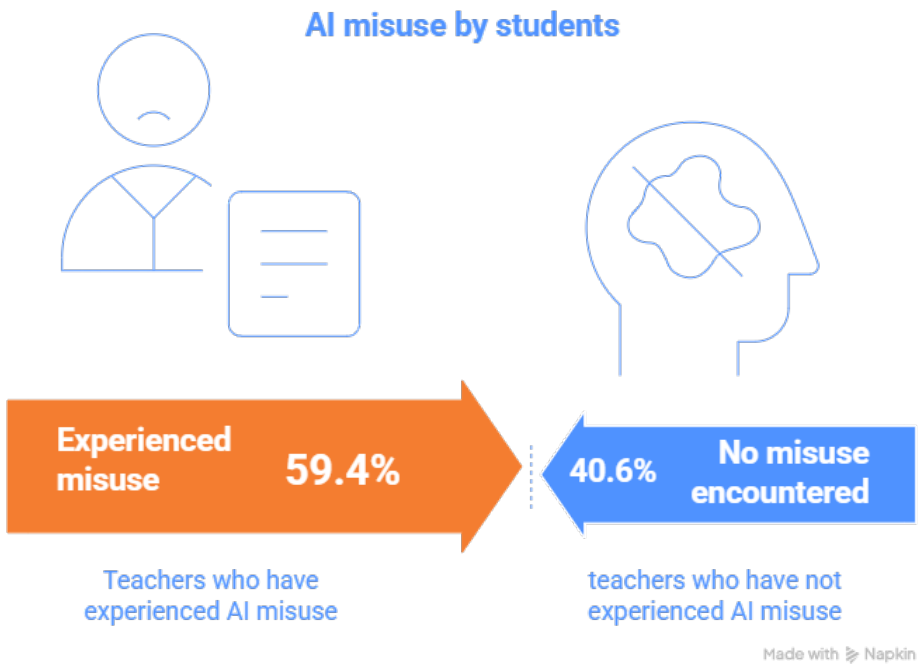
A clear pattern across the data is that AI is primarily used to **increase efficiency and productivity**. The majority of respondents report time savings (79.2%) as the most significant benefit, alongside support for creativity and innovation (39.1%), improved quality of teaching materials (37.7%), and greater efficiency in administrative tasks (28.3%). AI is also seen as supporting student engagement and accessibility, although to a lesser extent. These findings indicate that AI is strongly positioned as a support tool that enhances existing practices rather than fundamentally transforming them.

At the same time, the use of AI across different functions remains uneven. While it is widely applied for text-related tasks and preparation activities, its use in assessment, grading, and feedback is still limited, with 69.5% of respondents indicating that they do not use AI for these purposes. This suggests that core pedagogical processes, particularly those related to evaluation and learning outcomes, remain largely human-driven and are more resistant to AI integration.

The survey highlights **significant gaps** in institutional readiness and support. Although 42.8% of respondents indicate that their institution has some form of AI-related guidelines, a substantial proportion either report the absence of policies or lack awareness of them. Evaluations of policy clarity are moderate, with most responses concentrated in the middle range, indicating that existing guidelines are often unclear, insufficiently communicated, or not operationalised in practice. Training provision is similarly fragmented - while some institutions offer introductory or regular training, a considerable share of respondents report no access to training or rely on external opportunities.



Risk awareness is high and consistent across the dataset. The most prominent concern is the loss of critical thinking (83.4%), followed by academic dishonesty (62.5%), bias and misinformation (54.3%), and over-reliance on technology (51.2%). Data privacy issues (32%) and cognitive impacts (40%) are also frequently mentioned. These concerns are not only theoretical - 59.4% of respondents report having encountered cases of AI misuse by students, indicating that challenges related to academic integrity are already present in practice.



Despite these concerns, confidence in managing these risks remains moderate. Most respondents rate their ability to detect AI-generated student work at a medium level, suggesting uncertainty and lack of reliable tools or methods for identifying AI use in assessment contexts. This further reinforces the need for new assessment approaches and institutional guidance.

The findings also point to a strong expectation of **future transformation**. A large majority of respondents (74.4%) believe that AI will significantly change their teaching practices within the next five years. Similarly, most respondents indicate that both assessment methods and academic disciplines will need to adapt substantially, with responses concentrated in the higher range of the scale. This reflects a shared understanding that AI will not remain a peripheral tool but will become an integral part of higher education systems.

Overall, the survey results demonstrate a high level of AI adoption combined with uneven integration, strong perceived benefits, and significant concerns. AI is widely used and valued, particularly for efficiency and content-related tasks, but its integration into core pedagogical processes, institutional strategies, and governance structures is still developing. The findings underline the need for clearer policies, targeted training, redesigned assessment methods, and a more structured, pedagogically grounded approach to AI integration in higher education.

Full report is available HERE.

Risk Analysis

While artificial intelligence offers significant opportunities to improve teaching, learning, assessment, and institutional efficiency, its integration into higher education also introduces a range of ethical, legal, pedagogical, and organisational risks. These risks extend beyond technical challenges and may affect fundamental rights, academic integrity, learning quality, trust, and institutional governance. This chapter analyses the most significant risks identified through the literature review, the EHEAII survey, and the partner round table discussions. For each risk, the analysis presents its nature, severity, regulatory context, potential impact, and possible mitigation approaches, providing evidence-based recommendations for the responsible and human-centred integration of AI in higher education.

DATA PROTECTION AND PRIVACY



RISK DESCRIPTION

From both educational and legal perspectives, the use of Artificial Intelligence in higher education creates a complex web of privacy and data protection risks that extends far beyond the traditional notion of confidentiality. AI-supported educational systems rely on the large-scale collection, analysis, and storage of student data, including academic performance, learning behaviours, online interactions, attendance records, assessment outcomes, and, in some cases, behavioural, biometric, or emotional indicators. Educational research highlights that such extensive datafication of learning may transform students into continuously monitored subjects, generating concerns about surveillance, autonomy, and the potential erosion of trust within the educational relationship. Legal scholars further argue that these practices challenge core data protection principles, including purpose limitation, data minimisation, transparency, informed consent, and accountability.

A major concern relates to profiling and learning analytics. AI systems increasingly generate predictions about students' performance, engagement, risk of dropout, or future academic success. While these tools may support personalised learning and early intervention, they can also produce opaque classifications that affect educational opportunities without students fully understanding how decisions are made. The legal literature warns that predictive profiling may conflict with fundamental rights when automated or semi-automated assessments influence educational trajectories, particularly if individuals cannot effectively challenge or understand the logic behind algorithmic recommendations. Educational researchers similarly note that excessive reliance on predictive analytics may encourage a reductionist view of learning, where measurable behaviours become proxies for complex cognitive and social processes.

Another significant risk concerns the secondary use and international transfer of data. Many generative AI platforms process information on external servers operated by private technology companies, often outside the European Union. This raises concerns

regarding GDPR compliance, institutional control over educational data, and uncertainty about how user inputs may be retained, reused, or incorporated into future model training. Legal scholars emphasize that universities frequently face difficulties in guaranteeing transparency regarding the complete lifecycle of data processed through commercial AI systems, creating challenges for lawful processing and effective governance.

The literature also highlights risks associated with AI-enabled monitoring technologies, such as automated proctoring systems, attention-tracking tools, behavioural analytics, and classroom surveillance applications. These technologies may collect highly sensitive information and create a chilling effect on students' freedom, participation, and academic expression. From a legal perspective, such practices raise concerns regarding proportionality, necessity, and the protection of fundamental rights. From an educational perspective, they may undermine the pedagogical relationship by replacing trust-based learning environments with surveillance-oriented models.

Finally, both educational and legal scholarship stress that privacy risks are closely connected to issues of fairness, bias, transparency, and human agency. Algorithmic systems trained on incomplete or biased datasets may reproduce inequalities and generate inaccurate conclusions about learners. For this reason, recent literature increasingly advocates a human-centred approach to AI in education, based on meaningful human oversight, privacy-by-design principles, transparent governance mechanisms, AI literacy, and active participation of students and educators in decisions regarding the collection and use of educational data. In this view, protecting privacy is not merely a regulatory obligation but a prerequisite for preserving academic freedom, learner autonomy, trust, and the democratic values that underpin higher education.

SEVERITY LEVEL

Round Table discussions within partner institutions highlighted that privacy, data protection, and data governance are some of the most significant challenges associated with the integration of Artificial Intelligence in higher education across the participating countries. Stakeholders expressed concerns about the extensive collection, processing, and storage of personal and educational data by AI systems, particularly when commercial platforms operate through infrastructures located outside the European Union. The Italian round table highlighted concrete difficulties related to the use of AI-based chatbots and educational assistants whose data are processed in the United States, raising questions about compliance with GDPR requirements, institutional control over data flows, and the adequacy of safeguards for students and staff. Similar concerns were raised in Germany, where participants stressed the need for stronger data protection awareness and clearer institutional frameworks governing the use of AI tools.

Across the discussions, participants emphasized that many students and educators remain insufficiently aware of the implications of uploading personal, academic, or sensitive information into generative AI systems. The Lithuanian and Slovenian reports

specifically pointed to the risk of exposing personal data through publicly available AI tools, whose data-processing practices are often opaque and difficult for users to understand. Concerns were also expressed regarding the lack of transparency about how AI providers collect, retain, reuse, or further process user-generated content, creating uncertainty about ownership, confidentiality, and secondary uses of academic data.

Particular attention was devoted to the growing use of AI in assessment, learning analytics, student monitoring, and exam supervision. Participants noted that these applications may require the processing of large amounts of personal and behavioural data and therefore pose heightened risks to privacy, fairness, and fundamental rights. Several reports stressed that AI-supported assessment and monitoring systems should be treated with caution and subject to robust human oversight, transparency requirements, and clear accountability mechanisms. The possibility of automated or semi-automated decision-making affecting students' academic careers was considered especially sensitive in light of the provisions of the EU AI Act concerning high-risk AI systems.

The discussions also revealed concerns extending beyond student data. In Italy, participants highlighted emerging issues related to the recording of lectures, the generation of AI-based transcripts, and the dissemination of automatically produced summaries that may inaccurately represent teaching content or faculty opinions. These practices raise complex questions concerning privacy, intellectual property rights, academic freedom, professional reputation, and the lawful processing of personal data. Furthermore, uncertainties remain regarding liability and responsibility when decisions or recommendations are supported by AI systems.

In addition, the EHEAII survey results indicate that privacy and personal data protection are emerging concerns in the context of AI adoption in higher education. While issues such as academic integrity and the erosion of critical thinking were perceived as the most significant risks, nearly one-third of respondents (32%) identified data privacy as a relevant challenge associated with the use of AI tools. This concern appears closely linked to the widespread use of external generative AI platforms for content creation, translation, teaching material preparation, and, increasingly, assessment-related activities. Survey participants also highlighted the need for institutionally approved, secure, and reliable AI tools, as well as clearer policies and guidelines governing their use. These findings suggest a growing awareness that the extensive use of commercial AI systems may expose students' and educators' personal data to risks related to data collection, storage, processing, and potential secondary use by third-party providers.

Overall, the reports of Round Tables and surveys underline the need for comprehensive institutional strategies that combine technological innovation with strong data governance frameworks. Participants consistently called for clearer policies, greater transparency from AI providers, enhanced digital and data-protection literacy among students and staff, ethical guidelines for the responsible use of AI, and the adoption of privacy-by-design principles in educational technologies.

Ensuring compliance with European data protection standards, safeguarding personal data, and maintaining meaningful human oversight were identified as essential conditions for the trustworthy and sustainable integration of AI into higher education.

POLICY AND REGULATORY CONTEXT

The use of Artificial Intelligence in higher education is increasingly shaped by the interaction between European and national regulatory frameworks governing personal data protection (multi-level regulation). At the European level, the General Data Protection Regulation (GDPR) establishes the fundamental principles for the lawful processing of personal data, including transparency, purpose limitation, data minimisation, accountability, and the protection of data subjects' rights. These requirements are complemented by the recently adopted AI Act, which introduces specific obligations for AI systems, particularly those classified as high-risk, such as certain applications used for student assessment, monitoring, and educational decision-making (More information can be found in the **Legal Framework report** and the **Policy and Recommendations and Guidelines report**). At the national level, data protection authorities, sector-specific regulations, and institutional policies further interpret and implement these principles within educational contexts. As a result, universities must navigate a complex regulatory landscape in which compliance with AI-related obligations cannot be separated from compliance with data protection rules. The overlap between these legal frameworks is particularly evident in areas such as learning analytics, automated assessment, student profiling, and the use of generative AI tools, where issues of transparency, human oversight, fairness, and data governance intersect.

Consequently, the responsible adoption of AI in education requires not only technological innovation but also a coordinated approach capable of aligning European standards, national legal requirements, and institutional governance mechanisms to safeguard fundamental rights while supporting pedagogical innovation.

POTENTIAL IMPACT

Privacy and personal data protection risks may have significant consequences for the adoption and effective use of Artificial Intelligence in higher education. First, concerns about the collection, processing, and potential misuse of personal data can reduce trust among students, educators, and institutions, thereby limiting the willingness to integrate AI tools into teaching and learning activities. Second, uncertainty regarding compliance with data protection regulations may discourage universities from adopting innovative AI solutions or lead to fragmented and inconsistent implementation practices. Third, inadequate safeguards may expose students to profiling, excessive monitoring, or automated decision-making processes that could affect academic opportunities, autonomy, and fundamental rights. Such risks may also undermine academic freedom and create a perception of surveillance within educational environments, negatively affecting participation, creativity, and open intellectual exchange. Finally, privacy breaches or non-compliance with legal requirements may

result in reputational damage, legal liability, and financial sanctions for higher education institutions. Consequently, if privacy concerns are not adequately addressed, they may become a significant barrier to the responsible, ethical, and sustainable integration of AI in higher education, limiting the educational benefits that these technologies could otherwise provide.

An additional aspect frequently highlighted in educational research is the so-called "trust deficit effect." When students and educators perceive that their personal data may be collected, processed, or reused in opaque and insufficiently controlled ways, they may become reluctant to adopt AI tools or may use them only to a limited extent. This lack of trust can significantly reduce the transformative potential of AI technologies and hinder universities' digital innovation efforts. Furthermore, concerns about continuous monitoring and data-driven surveillance may negatively affect students' sense of autonomy, freedom of inquiry, and intellectual independence, which are fundamental values of higher education. Such perceptions may also weaken student engagement, reduce willingness to experiment and participate actively in learning activities, and ultimately undermine the open and collaborative academic environment that universities seek to promote.

MITIGATION APPROACHES

To mitigate privacy and personal data protection risks associated with the use of Artificial Intelligence in higher education, universities should adopt a human-centred governance approach based on informed consent, transparency, and awareness-building.

First, students and academic staff should be provided with **clear and accessible information** regarding the **AI tools used within educational activities**, including the categories of personal data processed, the purposes of processing, data retention practices, potential third-party involvement, and the rights available under applicable data protection legislation. Whenever AI systems process personal data beyond what is strictly necessary for educational purposes, meaningful and informed consent mechanisms should be implemented, ensuring that users are able to make genuine and informed choices.

Second, institutions should invest in **continuous awareness-raising** and AI literacy initiatives for both students and educators. Training programmes should not only explain how to use AI tools effectively, but also address privacy implications, data protection obligations, responsible data-sharing practices, and the risks associated with uploading personal, academic, or sensitive information to external AI platforms.

Third, universities should promote transparency and trust by establishing **clear institutional guidelines on acceptable AI use**, supported by privacy notices, ethical principles, and easily accessible support services. Regular communication campaigns, practical guidance materials, and dedicated consultation mechanisms can help foster a

culture of responsible AI use while reducing uncertainty among users. Such measures would contribute not only to legal compliance but also to strengthening trust, accountability, and informed participation in AI-enhanced learning environments.

Finally, awareness-based measures should be complemented by **privacy-by-design** and **privacy-by-default approaches**, favouring institutionally approved AI solutions that minimise data collection, provide adequate safeguards for international data transfers, and ensure meaningful human oversight in educational decision-making processes.

IMPACT ON CRITICAL THINKING AND LEARNING OUTCOMES. OVER-RELIANCE AND UNDER-RELIANCE ON AI



RISK DESCRIPTION

As AI becomes increasingly integrated into higher education, concerns have emerged regarding its potential impact on students' critical thinking skills and learning outcomes. Critical thinking is a cognitive competence that describes thinking that is purposeful, reasoned, and goal-directed – the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions (Halpern, 2010). From a risk perspective, the impact of AI on students' critical thinking skills and learning outcomes is closely linked to inappropriate levels of reliance on this technology – whether excessive or insufficient.

Over-reliance on AI occurs when students or educators accept AI-generated outputs without engaging in the cognitive processes that underpin critical thinking – the ability to analyse, evaluate, and synthesise information. Recent research suggests that excessive reliance on generative AI may contribute to cognitive offloading, whereby learners delegate essential intellectual processes to technological systems. Studies indicate that students who rely heavily on AI tools may demonstrate weaker analytical reasoning, reduced motivation to engage deeply with learning tasks, and lower levels of independent judgement (Gerlich, 2025).

Systematic reviews further show that over-reliance can lead students to accept AI-generated answers without verification, reducing their ability to evaluate evidence and make informed decisions (Zhai et al., 2024), while UNESCO (2023) emphasises that AI outputs require informed human input and critical evaluation before they can be used responsibly in educational contexts.

Under-reliance, although less discussed, was observed by EHEAII project experts as a notably common pattern among educators, typically rooted in scepticism or distrust of the technology. Avoiding AI altogether may prevent students and teachers from developing AI literacy and the ability to critically assess AI-generated information – competencies increasingly recognised as essential for participation in contemporary knowledge societies.

Both patterns undermine the active cognitive engagement required for strong learning outcomes, as established in the ICAP framework (Chi & Wylie, 2014) and OECD's Learning Compass 2030 (2019), which emphasise that deep learning depends on constructive and interactive modes of thinking rather than passive consumption. Whether through uncritical dependence on AI systems or reluctance to engage with them, learners risk weakening the higher-order cognitive processes that underpin critical thinking, knowledge transfer, problem-solving, and independent learning.

This section presents expert insights into the current state of these risks in higher education institutions and explores how AI use can be better calibrated to produce positive effects on learning outcomes while supporting the development of critical thinking skills.

SEVERITY LEVEL

The findings of the EHEAII project indicate that the combined impact of artificial intelligence on students' critical thinking, learning outcomes, and patterns of over-reliance represent a high severity cognitive risk in higher education.

Loss of critical thinking emerged as the most significant concern among surveyed participants, identified by 83.4% of respondents. Academic staff across participating countries reported that students increasingly depend on AI-generated content and are often unable to explain or justify the work they submit, signalling a visible decline in independent thinking, analytical depth, and the development of higher order cognitive skills.

Over-reliance on AI tools was reported by 51.2% of respondents and is closely associated with this decline. Participants noted that AI frequently functions as a substitutive tool, completing tasks on behalf of students rather than supporting their engagement with the learning process. This pattern was linked to surface-level learning outcomes, with 40% of respondents observing signs of cognitive impairment among students.

While students already use AI extensively, many educators remain cautious toward these tools. As an example, all the professors involved in a round table discussion in Italy expressed a generally critical stance regarding the current use of AI in teaching. In their view, AI tools are not yet particularly useful in their teaching practice, mainly because institutions do not provide subject-specific instruments tailored to the needs of individual disciplines. The diversity of attitudes among educators toward AI – ranging from strong support to complete rejection – was pointed out in a round table discussion in Slovenia, indicating that this diversity may create confusion among students regarding acceptable practices.

AI adoption among teaching staff in Spain is advancing, but is often introduced through pilots in selected sessions rather than implemented systematically across entire programmes. Lithuanian peers argue that lecturers often lack time and/or training to familiarise themselves with new technologies. Latvian experts note that student

assignments are sometimes formulated too broadly, allowing them to be easily completed with AI without meaningful analytical engagement.

POLICY AND REGULATORY CONTEXT

The growing impact of AI on critical thinking and learning outcomes is increasingly acknowledged in international policy frameworks. UNESCO's guidance (2023) calls on educational systems to embed higher-order thinking skills into learning and assessment frameworks. The OECD (2023) recommends mitigating AI's potential negative impact on critical thinking by strengthening teacher agency and AI literacy through continuous professional learning. European Students' Union (2024) states that AI critical thinking needs to be taught the same way how to use the internet is taught in many schools nowadays.

At the national level, these risks are reflected in dedicated policy and guiding documents. As an example, Lithuania's 2024 guidelines for higher education explicitly list reduced critical thinking and compromised learning outcomes among the primary risks of AI use, recommending institutions to adapt assessment practices and ensure that academic results reflect genuine student competencies.

Across participating countries, the responsibility for addressing the risks is delegated downward to individual institutions. Institutional-level policies attempt to translate recommendations into concrete practice, although experts note that regulation often lags behind technological development, making individual responsibility and professional ethics particularly important. This aspect is reinforced by Latvian round table participants: the use of AI is often intuitive and lacks a unified pedagogical framework. In many cases, it is not clearly defined how and in what ways these tools should be used in the study process. Professors retain broad discretion in determining how AI may be used in their courses.

This decentralised approach means that protection against these risks remains uneven and inconsistent across the educational landscape. Without binding regulatory standards or coordinated oversight mechanisms, the extent to which AI's impact on critical thinking and learning outcomes is actively managed depends largely on the priorities and capacities of institutions and even individual educators.

POTENTIAL IMPACT

Project's findings reveal both positive and negative effects of AI on critical thinking and learning outcomes. Education experts note that AI can catalyse more analytical and reflective learning, but only when used as a support tool rather than a substitute for student thinking.

Over-reliance on AI can erode the development of independence and critical thinking when students use these tools primarily to generate final outputs rather than

to support their thinking process. Over time, this can reshape learning habits and cognitive engagement more broadly. Participants across countries highlight concerns that excessive AI use may reduce students' ability to independently search for information, analyse sources, and develop problem-solving strategies.

A recurring theme is the distinction between genuine and simulated learning. Learning requires more than information acquisition. It encompasses contextual understanding, practical application, and critical thinking. When students use AI to shortcut tasks rather than engage critically, they risk skipping foundational learning entirely, achieving results without developing the underlying skills. This is especially concerning where no clear methodology governs AI use. German round-table participants also note that writing skills, closely tied to thinking processes, are at risk of deteriorating as well.

The impact of under-reliance on AI is less discussed in literature and addressed by the experts. However, it can be equally limiting as over-reliance. Under-reliance among teaching staff has tangible consequences: unclear guidelines and poorly designed assignments allow students to complete tasks using AI without meaningful engagement with the underlying content. Educators and students who do not engage with AI miss the chance to practise the judgement that appropriate AI usage demands, which can limit the development of critical thinking skills.

MITIGATION APPROACHES

Experts emphasize that mitigating the risks of AI over-reliance requires strengthening critical thinking as a core competence. In this context, the development of AI-related competences should go hand in hand with the reinforcement of general academic skills. A key principle is that AI should serve as a supporting tool that complements, rather than substitutes for, students' own reasoning and intellectual engagement.

Student training should therefore go beyond technical instruction toward building genuine AI literacy: understanding how these tools function, recognising their failures such as biases and hallucinations, and developing the ability to critically evaluate outputs. All participating countries highlighted that AI literacy and ethics should be explicitly integrated into curricula across all study programmes.

Achieving a positive impact of AI use on critical thinking and learning outcomes also requires a transformation in teaching practices. Experts from Germany suggest structured "brain-only first, AI-second" assignments. Slovenian participants note new forms of assessment emerging, including oral examinations, analytical and reflective questions, and problem-based tasks. All countries underline the necessity to improve the pedagogical application of AI.

Furthermore, educators must redefine their role from content transmitters to facilitators and learning designers, equipped to integrate AI into pedagogically sound activities while preserving the human dimension of teaching. Systematic training and

continuous professional development for teaching staff are therefore identified as a necessary condition for promoting informed, critical, and balanced use of AI in education.

Supporting these efforts, institutions should develop clear guidelines for responsible AI use and strengthen administrative support mechanisms dedicated to teaching innovation, as these remain an underutilised but valuable resource.

ACADEMIC INTEGRITY RISK



RISK DESCRIPTION

Perkins (2023) locates the integrity problem not in the mere presence of a tool, but in the point at which its use, if undisclosed or institutionally unqualified, begins to displace the student's own intellectual act. This diagnosis is confirmed by the EHEAII national round-table reports. Latvia described assignments that are broad enough to be completed with AI without meaningful analytical engagement; Spain observed that AI may automate tasks that previously served as evidence of learning; and Italy insisted on treating AI as a trainer for competences, not as a substitute for students' intellectual work (EHEAII Project, 2026c, 2026e, 2026f). The risk is therefore better framed as a problem of authorship, traceability and assessment validity than as a simple recurrence of plagiarism.

Generative AI may intervene at points that are central to academic evaluation: formulation of the question, organisation of the argument, synthesis of sources or ideas and drafting of conclusions. In this sense, reasoning is intrinsically connected to the process of writing, as new ideas often emerge while students generate, organize, and structure their texts. But if the submitted work is substantially and structurally generated by AI, the output cannot be reliable evidence of the student's knowledge, skills and competences. The result is a grey zone between legitimate academic support and substitution of academic authorship.

Several manifestations are relevant. There is undisclosed authorship substitution, where the student presents as personal work a text largely generated by an AI system. There is also hybrid or diffuse plagiarism, in which student writing, machine-generated text and unacknowledged third-party materials are integrated in a way that obscures attribution. A further risk is epistemic unreliability: AI may fabricate references, misstate legal rules, invent case law or present plausible but false assertions.

SEVERITY LEVEL

The severity of the risk should be considered high. Johnston et al. (2024) show, from student evidence, that learners distinguish between assistive uses, such as grammar support or clarification, and substitutive uses, such as the generation of a

complete essay or assignment. The national reports carried out in the present project point in the same direction, but add an institutional dimension: Germany identified a contrast between students who use AI critically and those who use it mainly to shortcut tasks; Latvia described the danger of simulated learning without real cognitive engagement; and Spain referred to high-quality outputs that students may be unable to understand, defend or apply (EHEAII Project, 2026a, 2026c, 2026f).

This convergence matters because assessment depends on an evidentiary relationship between the student and the work. If AI is used for language improvement, preliminary structuring or exploration of ideas, the risk may be manageable insofar as such use does not substitute the student's core cognitive skills. If it produces the central argument, the analysis or the final answer, the evidence of learning becomes unreliable. The difficulty is that this distinction cannot be left to intuition. Without explicit criteria, comparable cases may be treated differently depending on the teacher, subject or programme.

The evidentiary problem is aggravated by the weakness of technological detection. Weber-Wulff et al. (2023) conclude that available AI-detection tools are not sufficiently accurate or reliable to be treated as conclusive evidence in academic settings. Liang et al. (2023) add that detectors may misclassify non-native English writing as AI-generated, creating a particular risk in international and multilingual contexts. Thus, detection may support a review, but it cannot replace academic judgement, contextual analysis or procedural safeguards.

POLICY AND REGULATORY CONTEXT

Foltýnek et al. (2023) argue that ethical AI use in education requires policies, competences and shared integrity values, rather than a model based only on misconduct control. The national reports reach the same practical conclusion: Slovenia found that existing guidelines remain general and insufficiently concrete for teaching practice; Spain called for clear institutional frameworks on allowed and prohibited uses; and Italy stressed that dissemination and a shared culture are as important as the formal existence of rules (EHEAII Project, 2026b, 2026e, 2026f). In legal terms, the most relevant European framework is composed of the AI Act and the intellectual property legislation.

Regulation (EU) 2024/1689 is relevant in three respects. Article 4 requires providers and deployers to ensure an adequate level of AI literacy among persons dealing with AI systems. In a university, this supports structured training on the limits of AI assistance, disclosure duties, fabricated outputs and the use of protected materials.

On another note, article 50 reinforces the relevance of transparency where AI systems generate or manipulate content. In this sense, article 53 is central from an intellectual property perspective: providers of AI models must put in place a policy to comply with EU copyright law and publish a sufficiently detailed summary of the content used for training. These obligations do not directly solve student misconduct, but they

confirm that generative AI is legally embedded in copyright and transparency requirements.

The intellectual property framework is therefore not accessory: Article 17(2) of the Charter protects intellectual property; Directive 2001/29/EC harmonises the reproduction right and the right of communication to the public; Directive 2004/48/EC concerns enforcement; and Directive (EU) 2019/790 regulates, among other matters, text and data mining. Articles 3 and 4 of that Directive condition text and data mining on lawful access and, outside the scientific research exception, allow rightholders to reserve their rights in an appropriate manner, including by machine-readable means. For universities, uploading journal articles, books, teaching materials, examination questions, repositories, student work or unpublished research into external AI systems cannot be treated as neutral: it may involve reproduction, extraction, processing or disclosure of protected material and must be assessed through copyright, licences, contractual terms and institutional authorisations.

POTENTIAL IMPACT

Perkins (2023) is useful here because he links the integrity problem to disclosure and institutional policy, not to a moral panic about technology. The national reports describe the same harm in concrete educational terms: Lithuania warned that using AI only to generate final texts may reduce independence and critical thinking; Italy referred to a possible flattening of the learning process; and Latvia connected AI-mediated competence gaps with a possible loss of public trust in higher education qualifications (EHEAII Project, 2026b, 2026c, 2026d).

The first impact is the weakening of assessment validity. If reasoning, structure, legal analysis or conclusions have been substantially produced by AI, the grade no longer measures what it purports to evaluate. This is particularly serious in competence-based education, where assessment certifies not only knowledge but also judgement, autonomy, methodological rigour and professional responsibility.

Another impact concerns fairness. Students who use AI extensively and without disclosure may obtain an advantage over those who comply with instructions. Conversely, students who use AI transparently for limited support may be treated with suspicion if the rules are vague or if staff rely excessively on detection tools. Liang et al. (2023) make this concern more acute in multilingual environments.

A third negative effect is institutional and reputational: if degrees no longer reliably evidence student achievement, employers, partner universities, professional bodies and quality assurance actors may lose confidence in the qualification. And last but not least, there is an intellectual property impact: the uncontrolled use of protected teaching materials, publications, examination content or unpublished research in external AI systems may expose the institution to legal and reputational risks.

MITIGATION APPROACHES

Foltýnek et al. (2023) support a preventive and formative model of academic integrity, while Weber-Wulff et al. (2023) show why detection cannot be the institutional centre of gravity. The national reports provide practical confirmation in this regard: Lithuania proposed that students submit the process of AI use, including prompts, so that teachers can assess how the result was achieved; Spain proposed making AI-assisted work visible and accountable by requiring students to explain tools, verification and their own added judgement; Germany highlighted reflective assignments that require students to evaluate AI-generated content; and Slovenia proposed shared institutional principles that leave room for disciplinary flexibility (EHEAII Project, 2026a, 2026d, 2026e, 2026f).

One way to address this issue for the university is to adopt a clear AI policy for assessment, i.e by distinguishing prohibited uses, permitted uses and uses permitted only if declared, with concrete examples: brainstorming, grammar correction, translation, coding support, bibliographic exploration, rewriting, generation of arguments, production of conclusions and creation of references. The governing criterion should be whether AI operates as a tool to the student's work or replaces the intellectual process being assessed.

In this sense, assessment briefs should specify the applicable AI conditions. A general institutional policy is necessary but insufficient, because the same use may be legitimate in one task and incompatible with another. Where appropriate, students should submit an AI-use declaration identifying the tool, purpose, affected parts of the work and extent of human review. This declaration could operate as a traceability mechanism, not as a merely bureaucratic formality.

Additionally, assessment design should reinforce the evidentiary chain between student and submission through oral defences, in-class writing, draft submissions, annotated bibliographies, reflective commentaries, and personalised topics. Universities, in turn, should establish intellectual property safeguards: students and staff should not upload copyrighted teaching materials, journal articles, books, examination questions, unpublished research, student work or licensed database content into external AI systems unless the legal basis, licence, terms of use and authorisation have been assessed. In this way, academic integrity, AI governance and intellectual property compliance become part of the ordinary quality culture of the institution.

Conclusions

The findings presented in this report provide a comprehensive overview of the current state of AI integration in higher education, drawing on literature analysis, policy review, empirical evidence, and stakeholder perspectives. The following conclusions summarise the key insights and highlight the main implications for higher education institutions seeking to implement AI in a responsible, ethical, and pedagogically meaningful way.

1. **AI has become an integral part of higher education**

Artificial intelligence is no longer an emerging technology but an established component of higher education. It is increasingly used in teaching, learning, assessment, student support, research, and institutional administration. However, AI integration remains uneven across institutions and disciplines, with implementation often driven by individual educators rather than institutional strategies.

2. **AI maturity depends on institutional capability rather than technology alone**

The findings demonstrate that successful AI integration is determined not by the number of AI tools available but by institutional maturity. Effective implementation requires coherent strategies, governance structures, digital infrastructure, AI literacy, pedagogical integration, and mechanisms for continuous improvement.

3. **AI creates significant educational benefits when used responsibly**

Evidence from the literature, survey, and round table discussions consistently shows that AI can improve learning experiences through personalised learning, faster access to information, timely feedback, increased student engagement, enhanced accessibility, and greater institutional efficiency. AI also enables educators to devote more time to higher-value teaching activities by automating routine tasks.

4. **Critical thinking and academic integrity remain the greatest challenges**

The most significant risks identified across all data sources relate to over-reliance on AI, declining critical thinking, academic misconduct, and difficulties in assessing authentic student achievement. These findings highlight the need to redesign assessment methods and ensure that AI supports rather than replaces cognitive effort.

5. **Responsible AI requires clear governance and institutional policies**

Universities need comprehensive institutional frameworks covering ethical AI use, academic integrity, data protection, transparency, human oversight, and accountability. The EU AI Act and other international policy frameworks provide a strong foundation, but institutions must translate these principles into practical institutional policies and procedures.

6. **AI literacy has become a core competence for both educators and students**

The report demonstrates that AI literacy extends beyond technical skills. Higher education institutions should support the development of critical evaluation, ethical awareness, effective prompting, responsible AI use, and an understanding of AI limitations through continuous professional development and curriculum integration.

7. **The findings are consistent across countries**

Despite differences in national contexts, survey results and round table discussions revealed remarkably similar experiences, challenges, and expectations regarding AI adoption. This suggests that the identified trends are relevant not only to the partner countries but to the wider European Higher Education Area.

8. **AI should augment rather than replace human expertise**

Across all analysed sources, a common principle emerges: AI should complement human intelligence rather than substitute it. Human judgement, pedagogical expertise, critical thinking, ethical reasoning, and meaningful interaction between educators and students remain fundamental to high-quality higher education.

9. **Continuous adaptation will be essential**

Given the rapid evolution of AI technologies, higher education institutions should treat AI integration as an ongoing process rather than a one-time implementation. Regular evaluation, policy updates, staff development, and continuous monitoring of risks and opportunities will be necessary to ensure sustainable and responsible AI adoption.

10 **AI integration requires a balanced, human-centred approach**

The overall findings indicate that the greatest value of AI will be achieved when technological innovation is balanced with pedagogical quality, ethical responsibility, legal compliance, and institutional readiness. Universities that combine these elements will be better positioned to harness AI while safeguarding educational quality, academic integrity, and public trust.

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