



Ethical and innovative integration of generative Artificial Intelligence in Higher Education: challenges and proposals for an institutional policy

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ABSTRACT

Published Online: April, 09, 2025

The article looks at the integration of technologies into teacher training at Higher School of Education Paula Frassinetti. Since 1999, Higher School of Education Paula Frassinetti has invested in technological infrastructures and participated in various research projects in Information and Communication Technologies, with the aim of transforming pedagogical practices and creating innovative learning communities. Recently, generative Artificial Intelligence has brought new challenges, requiring the definition of principles for its ethical and responsible use. The proposal to build an institutional Artificial Intelligence policy emphasises the need to involve students, teaching staff and collaborators in a collaborative process. For students, it is suggested to create classroom debates and collect data on the use of Artificial Intelligence tools. For teachers, we recommend collaborative reflection on the use of this technology in academic contexts and participation in experience-sharing sessions. For staff, the proposal includes reflection on the use of Artificial Intelligence in institutional processes and the collection of data on their competencies. The institutional Artificial Intelligence policy should be a living document, adaptable to technological changes and the needs of the academic community. Everyone's participation is crucial to identifying potential or problems and finding innovative solutions. The collective construction of Artificial Intelligence policies will promote an educational environment that is more dynamic, inclusive and prepared for future challenges. The recommendations include promoting good practices, training students and teachers, and monitoring the use of this technology to ensure balanced and ethical integration.

KEYWORDS:

Generative Artificial Intelligence, Higher Education, AI policy, Ethics

1. INTRODUCTION

Debates about Artificial Intelligence (AI) reflect great enthusiasm, but also concern, of experts and the community in general about the future of using AI-supported technological tools in educational contexts. AI can change the way people learn, work, play, interact and live. As AI spreads across different sectors, different types of AI systems offer different benefits, risks and political and regulatory

challenges (OECD, 2022). The European Union (EU), which has been discussing the risks of AI since 2020, launched the AI act in 2024, a commitment between member states to ensure not only investment and innovation in AI, but also risk assessment, classification and regulation (EU, 2024), making some uses of AI unacceptable and banning them from the EU. This initiative, aligned with the approach previously proposed by the OECD (2022) to create a framework that allows users to focus on specific risks that are typical of AI, such as bias, explainability and robustness, warns of the need for consensual, conscious and informed use. It is essential to promote a broad understanding of AI: to identify the characteristics of AI systems that matter most to help governments and others adapt policies to specific AI applications, and to help identify or develop metrics to assess

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**Cite this Article: Ana Luísa Ferreira, Ana Pinheiro, Paula Medeiros (2025). Ethical and innovative integration of generative Artificial Intelligence in Higher Education: challenges and proposals for an institutional policy. International Journal of Social Science and Education Research Studies, 5(4), 379-382*

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more subjective criteria (such as the impact on social welfare) (OECD, 2022).

II. DEFINING STRATEGIC OBJECTIVES IN HIGHER EDUCATION

The investment made by Higher School of Education Paula Frassinetti (ESEPF) in the field of information and communication technologies (ICT) was, from the outset, designed in line with the strategic objective of reconfiguring teacher training, encouraging the creative and innovative use of these technologies with a view to transforming and innovating teaching practices. Above all, the aim was for the students' ICT training to have a concrete impact on the schools and training centres with which ESEPF maintained relations, either directly, through protocols and partnerships, or indirectly, through the professionals that ESEPF trained and who would go on to work in schools and kindergartens. Alongside the development of technological infrastructures, research and academic training in the field of ICT had well-defined intentions. The aim of these activities was to design and develop research projects with a strong collaborative dimension and, at the same time, to experiment with technological platforms to support teaching in the e-learning and b-learning modalities, exploring their potential for building innovative methodologies and learning communities (Pinheiro et al., 2004).

Since 1999, students and teachers/researchers from the ESEPF have participated, either on their own, in partnership with other national organisations or as part of international networks of excellence, in various ICT research projects. Technological resources have been built for the integration of teaching and learning processes, various educational prototypes have been tested and integrated into teaching and learning experiences in formal and non-formal educational contexts, and the ESEPF virtual campus has been developed, among other initiatives that have given the school a prominent place in the integration of ICT in higher education. More recently, generative AI has brought new challenges to society in general and to academic institutions in particular. Within the scope of its action and intervention, ESEPF defines principles for the use of AI-supported resources by students, teachers and employees. Based on the institution's objectives and mission, aligned with the principles and values that govern the ESEPF, these principles are underpinned by the importance of reflecting on the pedagogical model, ethical issues and resources.

We have established our vision of AI as "a machine-based system that, for explicit or implicit purposes, infers from the data it receives how to generate results such as predictions, content, recommendations or decisions that can influence physical or virtual environments" (Grobelnik, Perset, & Russell, 2024). In the educational context of Higher Education, generative AI is particularly important given that it "automatically generates content in response to requests

written in natural language in conversational interfaces. Instead of simply selecting web pages based on existing content, generative AI produces new content" (UNESCO, 2023). The enthusiasm and interest in these tools can bring the value of new extensions of the body and our cognitive abilities, but also build in the individual a desire to do their work faster, providing contexts favourable to plagiarism and allowing AI tools to do the work for them, without question. As we know, AI tools offer different possibilities: "Content can appear in formats that include symbolic representations of human thought: texts written in natural language, images (including photographs, digital paintings and cartoons), videos, music and software code" (UNESCO, 2023). This field problematises what Dias de Figueiredo calls "delegated cognition" (Stenger, 2024), which can either be a real promoter of creativity or lead to a certain apathy and even a decline in cognitive abilities. On the other hand, "augmented cognition" (Stenger, 2024) highlights cognitive capacities, making us more capable and enhancing and valorising our skills. On the other hand, "collaborative cognition" allows us to collaborate with systems by interacting and enabling mutual learning. It is therefore crucial to find a balance in the use of these systems, not by replacing them, but by pointing out behaviours that complement each other, enhancing learning and cognitive abilities.

III. PROPOSAL FOR BUILDING AN INSTITUTIONAL AI POLICY

Concerns about the use of generative AI have been brought to light at a speed that doesn't seem to keep pace with the integration of this technology into our daily lives (Unesco, 2021; Pinto, 2024). The real and the virtual, truth and artificial production seem to coexist, clashing with educational and academic assumptions assumed and understood by all. The advent of a new era forces us to rethink strategies, ways of approaching content, assessment procedures and products. We can see generative AI as a great amplifier and accelerator (Ehlers & Eigbrecht In Ehlers & Eigbrecht, 2024, p.87). In particular, the strategies defined by higher education institutions and reflected in institutional policies are crucial to building a balanced relationship in the use of AI by students, teachers and employees, as it already affects workplaces, work routines, customer relations, etc. (Bates In Ehlers & Eigbrecht, 2024, p.124) It is in our interest that AI complements learning and enables us to navigate the ambiguity of today's world (Schleicher In Ehlers & Eigbrecht, 2024, p.VII). Building a generative AI institutional policy means collectively reflecting on the potential and potential problems, intended or unknown consequences, biases in reality, among other aspects that could be detrimental to educational and academic contexts (Bates In Ehlers & Eigbrecht). The aim is therefore to record proposals for action to promote the collective construction of AI policies in higher education institutions, involving:

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- Students:
 - Creating opportunities in the classroom to stimulate debates that allow students to reflect and record their ideas on what they would like to see included in a document that portrays the institutional AI policy - the activity can be carried out in all classes or in some classes that represent the HEIs taught at the HEI.
 - Collecting data more extensively throughout the institution to get to know students in their academic activity:
 - whether they use (or are aware of using) AI tools;
 - what tools they use;
 - if they don't and why;
 - in which contexts/activities they use;
 - whether they would like AI tools to be integrated by the teacher into the dynamics of the course units;
 - concrete examples of possible uses;
 - positive and negative aspects that they consider to exist in the use of AI in an academic context;
- Teachers:
 - They are asked to record and reflect collaboratively on the current context of the HEI regarding the use of AI tools in an academic context, assessment processes, constraints, ethical issues, among other aspects;
 - They are called upon to collaboratively share and record possibilities for resolving detected problems and untapped potential;
 - Collecting in-depth data on teachers' competences in the use of AI tools;
 - Participating in experience-sharing sessions between teachers the aim of boosting the implementation of innovative strategies.
- Collaborators:
 - They were asked to record and reflect collaboratively on the HEI's current context regarding the use of AI tools in the institutional context, processes, information management, communication with students, among other aspects;
 - They are called upon to collaboratively share and record possibilities for resolving detected problems and untapped potential.
 - Gathering in-depth data on employees' skills in using AI tools.

Building an institutional AI policy in higher education institutions is essential to guarantee a balanced and ethical integration of technology. The proposal presented aims to actively involve students, lecturers and staff in a collaborative and reflective process. By creating opportunities for classroom debates, collecting extensive data on the use of AI tools and promoting experience-sharing sessions, institutions can develop strategies that not only complement learning, but also address the challenges and ethical issues associated with AI.

The participation of all those involved is crucial to identifying potential and problems, as well as finding innovative and practical solutions. The policy should be a living document, adaptable to technological changes and the needs of the academic community. In this way, AI can be used responsibly and effectively, contributing to the training of professionals prepared to navigate the complexity of the contemporary world. Ultimately, the collective construction of AI policies will promote an educational environment that is more dynamic, inclusive and prepared for the challenges of the future.

IV. RECOMMENDATIONS

There are several recommendations that can be listed in a context of rapid transformations driven by AI that have profoundly changed the way institutions around the world operate, offering new ethical, social and technical opportunities and challenges. In this context, the formulation of an institutional AI policy emerges as a strategic necessity to ensure the responsible, transparent and efficient adoption of this technology. This document presents a set of recommendations aimed at building an institutional AI policy that is aligned with international best practice, the regulatory frameworks in force and the specific needs of the institution. The proposed guidelines seek to establish a balance between technological innovation and social responsibility, promoting the adoption of AI in an ethical, inclusive and safe manner, in line with what Unesco advocates, pointing out that "Member States should also ensure that AI technologies empower students and teachers and enhance their experience, bearing in mind that relational and social aspects and the value of traditional forms of education are essential in teacher-student and student-student relationships and should be considered in the discussion on the adoption of AI technologies in education" (Unesco, 2021, p. 34).34) and underpinned by the assumption that "AI systems used in learning must be subject to strict requirements when it comes to monitoring, assessing skills or predicting student behaviour." (Unesco, 2021, p.34). The recommendations address fundamental aspects such as management, privacy, security, training and the sustainable use of technology. Each recommendation was drawn up taking into account the specific operational and strategic characteristics of the institution, with the aim of contributing to the construction of a policy that fosters innovation,

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safeguards rights and strengthens the trust of all stakeholders. The following recommendations are listed below:

- Promotion/scheduling of opportunities to share experiences, good practices and regular debates on the use of generative AI in a pedagogical context with the aim of fostering pedagogical innovation, as well as ensuring the development of skills for the contemporary technological context;
- Providing students in the early years of education with a session that promotes the informed and ethically committed use of generative, transparent, conscious and responsible AI;
- Promoting the use of generative AI in the classroom, using different pedagogical strategies with a view to promoting innovative and creative learning;
- Adoption of work proposals that avoid favouring the use of generative AI as the sole resource for academic work;
- Requirement for students to provide strong support based on credible theoretical bibliographical references in terms of text, image, video or audio;
- Encouraging the use of new forms of assessment in curricular units that involve students in critical and integrated action;
- Implementation of biannual monitoring of the use of generative AI in an educational context with the aim of defining indicators for adapting and updating pedagogical models, enhancing and personalising teaching and enriching the educational experience of students;
- Discouraging the presentation of information produced by unreferenced generative AI and assumed to be plagiarised;
- Assumption that the use of generative AI respects the principles of justice and equality in order to enrich the teaching-learning process without compromising human responsibility;
- Access for students, teachers and collaborators, via the institutional digital platform, to proposals for generative AI tools, as well as to the document guiding the institutional policy for the use of generative AI;
- Access for students, teachers and collaborators to training and spaces for clarifying doubts and support on the use of generative AI tools.

Recommendations presented are thus based on the experience and perspective of using generative AI tools in the ESEPF training context as a complementary resource in training activity, encouraging curiosity and interest, as well as creating an opportunity that stimulates the construction of projects in which students develop creative, critical, conscious and empathetic skills, ensuring, through AI tools, that they "empower students and teachers and enhance their

experience, bearing in mind that relational and social aspects and the value of traditional forms of education are essential in teacher-student and student-student relationships, and should be considered when discussing the adoption of AI technologies in education" (Unesco, 2021, p34).

V. DISCLOSURE

This work is funded by National Funds through the FCT - Fundação para a Ciência e a Tecnologia, I.P., under the scope of the project UIDB/05198/2020 (Centre for Research and Innovation in Education, inED) <https://doi.org/10.54499/UIDB/05198/2020>

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