EthicalAI

Educate and Innovate - Shaping the University Future with Responsible Artificial Intelligence
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The **Deliverable D2.1** refers to the **Regulatory Framework** for the **Ethical Use of AI in University Education**. Here are the key details:

- **Deliverable Name**: D2.1 Regulatory Framework
- **Lead Beneficiary**: **UNED (Universidad Estatal a Distancia, Costa Rica)**
- **Type**: Demonstrator, pilot, prototype
- **Dissemination Level**: **Sensitive (SEN)**
- **Due Date**: **Month 3**
- **Work Package**: WP2 - **Capacity Building for defining good practices in ethical use of AI in university education**
- **Description**:
  - The framework will guide the processes for **identifying best practices and ethical needs** in AI use within university education.
  - It follows a **bottom-up approach**, promoting collaboration between **students and lecturers** to ensure inclusivity and ethical integrityGrant Agreement - GAP-

Additionally:

- The **final version** of the regulatory framework is expected to be proposed by **UNED and UCR** by **February 26, 2025**.
- Partners **feedback** were received by **February 21, 2025**.

This deliverable serves as the foundation for subsequent activities, including:

1. **Best Practices Collection (D2.2)**
2. **Workshops to analyze ethical AI use**
3. **Adaptation of the framework for national contexts**

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Ethics and AI in University Education: A Comprehensive Regulatory Framework for Peru, Costa Rica, Spain, and Italy

Elaborated by Open State University Team

Ver 2.1

Date: 27-02-2025

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Partners Review. See track changes on documents.

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AI Ethics in Education: Referenced Definitions

AI Ethics

The study and application of moral principles guiding the responsible development and use of AI systems, ensuring fairness, transparency, accountability, and inclusivity while preventing harm (UNESCO, 2021). As defined by Stanford HAI (2023), AI ethics focuses on aligning technological advancements with human values, particularly in educational contexts where safeguarding against biases is essential.

AI Enhanced Assessment

The implementation of AI tools to improve evaluation processes through automated grading, personalized feedback, and performance analytics (JISC, 2025). According to ETS research, these systems aim to maintain fairness and reduce human bias while offering real-time insights that help educators make informed decisions about student learning needs.

AI Ethics Committee

A formally designated institutional group responsible for overseeing ethical AI development and deployment, as recommended by the European Commission's Ethics Guidelines for Trustworthy AI (2019). These committees ensure compliance with ethical principles and regulatory standards while conducting risk assessments and providing guidance on responsible AI usage within educational settings.

AI in Academic Decision-Making

The application of AI in administrative and academic processes, improving efficiency while raising concerns about transparency and fairness (OECD, 2023). Educause Review notes that these systems assist in admissions, grading, and resource allocation but require careful implementation to maintain accountability and educational integrity.

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AI Governance

The structured frameworks, policies, and regulations designed to ensure AI is deployed ethically and effectively in educational environments (World Economic Forum, 2023). The Ada Lovelace Institute emphasizes that proper governance establishes clear boundaries for AI system development and implementation while protecting stakeholder interests.

Algorithmic Bias

Systematic errors in AI models resulting in unfair outcomes that reinforce discrimination or inequality (AI Now Institute, 2023). MIT Technology Review research highlights how these biases can particularly impact educational assessment and opportunities based on factors like race, gender, or socioeconomic status if not properly addressed.

Algorithmic Transparency

The principle that AI systems should provide clear, understandable explanations of their decision-making processes (ACM FAccT, 2023). The Alan Turing Institute advocates for transparent AI operations that enable stakeholders to understand how educational decisions are reached, fostering trust and enabling accountability.

Artificial Intelligence (AI)

The simulation of human intelligence in machines, encompassing capabilities such as learning, reasoning, and problem-solving (Association for the Advancement of Artificial Intelligence). In educational contexts, MIT AI Lab describes AI as technologies that can analyze patterns, adapt to user needs, and perform complex tasks that traditionally required human intelligence.

Audit of Algorithms (Algorithmic Audit)

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A systematic assessment process for detecting, analyzing, and mitigating biases and ethical risks in AI systems (Algorithm Watch, 2020). Data & Society defines these audits as essential accountability mechanisms that verify algorithmic fairness and compliance with ethical standards in educational technologies.

Blended Learning

An educational methodology combining traditional instruction with AI-powered online experiences (Clayton Christensen Institute, 2023). The International Association for K-12 Online Learning characterizes this approach as creating flexible, personalized learning environments that leverage the strengths of both human teaching and technological innovation.

Consent Protocols

Guidelines ensuring students and faculty are fully informed and provide explicit permission for AI data collection and processing (Future of Privacy Forum, 2023). NIST's Privacy Framework emphasizes that robust consent protocols are fundamental to protecting individual rights and promoting transparency in AI-enhanced educational environments.

Cybersecurity in AI

Security measures protecting AI-driven educational systems from unauthorized access and data breaches (National Cybersecurity Alliance, 2023). EDUCAUSE identifies continuous monitoring, encryption, and authentication protocols as essential components for safeguarding sensitive institutional and student information in AI deployments.

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Data Governance

Policies and practices ensuring ethical, secure, and legal handling of educational data (Data Governance Institute, 2023). The Research Data Alliance emphasizes the importance of consistent standards for data quality, integrity, and accessibility in maintaining regulatory compliance and institutional trust.

Data Privacy

The protection of personal and academic information from unauthorized access or misuse (International Association of Privacy Professionals, 2023). The Privacy Technical Assistance Center guidelines highlight that strong privacy practices are fundamental to maintaining student trust and complying with regulations like FERPA in AI educational implementations.

Discrimination Mitigation

Strategies preventing AI systems from reinforcing societal biases (Algorithmic Justice League, 2023). The Partnership on AI defines effective mitigation as requiring proactive identification of potential discriminatory patterns and implementing corrective measures to ensure equitable educational outcomes across diverse populations.

Equity in AI

Ensuring AI systems provide fair and equal access to educational opportunities regardless of background (National Equity Project, 2023). The Institute for Ethical AI in Education emphasizes that equity requires deliberate design choices that address historical disparities and promote inclusive learning environments for all students.

Ethical AI Audit

A formal review process assessing AI compliance with ethical and regulatory standards (The Institute for Ethical AI in Education, 2022). The AI Ethics Impact Group defines

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these audits as systematic evaluations of AI systems against established frameworks to verify responsible implementation and identify areas for improvement.

Ethical AI Research

The study and development of AI systems aligned with moral values and educational goals (AI Ethics Lab, 2023). The Global Partnership on AI characterizes this research as focusing on creating systems that prioritize fairness, transparency, and accountability while considering the unique ethical challenges in educational applications.

Ethical AI Development

The process of designing AI systems with explicit focus on fairness, inclusivity, and social impact (Montreal AI Ethics Institute, 2023). IEEE's Ethically Aligned Design framework outlines principles for creating educational AI that respects human values, promotes wellbeing, and prevents harm throughout the development lifecycle.

Fairness in AI

The principle that AI systems should treat all individuals equitably without discrimination (Fairness, Accountability, and Transparency in Machine Learning initiative, 2023). The FairLearn toolkit defines fairness as requiring both technical approaches and organizational practices to ensure educational AI systems provide equitable opportunities and outcomes.

Generative AI

AI systems capable of creating new content based on learned patterns (Stanford HAI, 2023). The National Center for Education Research identifies these technologies as offering significant educational benefits while raising concerns about bias, misinformation, authorship, and academic integrity that must be carefully managed.

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Human-Centered AI

An approach focusing on complementing human decision-making rather than replacing it (Stanford HAI, 2023). The Center for Human-Compatible AI emphasizes designing systems that enhance human capabilities, respect autonomy, and maintain meaningful human control in educational contexts.

Human Oversight

Ensuring that final determinations in AI-assisted processes remain under human control (European Commission, 2021). The Alan Turing Institute recommends maintaining appropriate human supervision of AI systems to prevent ethical violations, address unforeseen consequences, and reinforce accountability in educational decision-making.

Institutional AI Policy

A university's official framework for responsible AI adoption in educational settings (EDUCAUSE, 2023). The Association of American Universities identifies comprehensive policies as essential for establishing boundaries, promoting ethical use, and aligning AI implementations with institutional values and educational missions.

Institutional Oversight

University governance structures monitoring and regulating AI technologies (American Council on Education, 2023). The National Academies of Sciences, Engineering, and Medicine emphasizes the importance of formal oversight mechanisms for creating ethical frameworks, ensuring transparency, and protecting the rights of students and faculty.

Learning Analytics

The implementation of AI and data analysis to improve educational outcomes (Society for Learning Analytics Research, 2023). The Journal of Learning Analytics defines these

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systems as identifying patterns in student behavior to predict learning difficulties and provide actionable insights that enable personalized interventions.

Machine Learning (ML)

A subset of AI enabling systems to learn from data without explicit programming (International Machine Learning Society, 2023). Neural Information Processing Systems describes ML as the foundation for adaptive learning technologies that can recognize patterns, make predictions, and continuously improve their performance based on educational data.

Neural Networks

AI model designs emulating the human brain's structure and function (International Neural Network Society, 2023). IEEE Transactions on Neural Networks explains how these sophisticated computational systems process complex educational data to enable adaptive learning and personalized educational experiences.

Personalized Learning

The application of AI to adapt educational content to individual student needs (CAST, 2023). The International Society for Technology in Education identifies personalized learning as leveraging AI to tailor instruction based on learning styles, pace, and progress, creating more effective and engaging educational experiences.

Personalized Tutoring Systems

AI-driven applications offering individualized support adapted to student needs (Carnegie Learning, 2023). The International Artificial Intelligence in Education Society describes these systems as using data-driven insights to provide real-time guidance, facilitate self-paced learning, and enhance educational outcomes through tailored resources.

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Predictive Analytics in Education

AI applications forecasting academic performance and trends to inform decision-making (Society for Research on Educational Effectiveness, 2023). The Institute of Education Sciences notes that these tools help identify at-risk students, optimize resource allocation, and improve intervention strategies through data-driven insights.

Privacy Impact Assessment (PIA)

A structured evaluation of how AI systems affect student privacy and data protection (International Association of Privacy Professionals, 2023). NIST's Privacy Framework defines PIAs as essential risk management tools that identify potential vulnerabilities in data collection and processing to ensure compliance with ethical and legal standards.

Responsible AI Development

The design and deployment of AI systems prioritizing ethical considerations and legal compliance (Partnership on AI, 2023). The Responsible AI Institute emphasizes that responsible development requires continuous assessment of potential impacts throughout the AI lifecycle to ensure alignment with educational values and human wellbeing.

Regulatory Compliance for AI

Adherence to legal frameworks governing AI in education, such as GDPR and FERPA (Future of Privacy Forum, 2023). The European Data Protection Board guidelines establish standards for ethical AI use, particularly regarding data protection and privacy rights in educational settings.

Regulatory Framework

Structured guidelines ensuring AI in education aligns with ethical and legal standards (OECD, 2022). UNESCO's Recommendation on the Ethics of Artificial Intelligence

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provides a comprehensive approach to governing educational AI through principles of transparency, accountability, and respect for human rights and fundamental freedoms.

Self-Regulated Learning and AI

AI tools supporting students in autonomously setting goals and monitoring progress (American Educational Research Association, 2023). The Journal of Educational Psychology identifies these systems as facilitating the development of essential skills like time management and self-assessment through personalized feedback and adaptive learning technologies.

Student Data Protection

Policies ensuring ethical handling and security of student information (Student Data Privacy Consortium, 2023). The Student Privacy Pledge establishes commitments for educational technology providers to safeguard student data, maintain transparency about collection practices, and limit data use to educational purposes.

Supervision of AI Ethics (Human-in-the-Loop - HITL)

A model where AI systems assist rather than replace humans in decision-making (Berkman Klein Center, 2023). NIST's Human Factors Considerations emphasizes maintaining appropriate human judgment in critical educational decisions to prevent algorithmic overreliance and ensure ethical outcomes.

Transparency in AI

The principle that AI operations and decision-making processes must be explainable to stakeholders (AI Transparency Institute, 2023). The Center for AI Safety recommends clear documentation of how educational AI systems function, promoting understanding and trust while enabling meaningful human oversight.

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Trustworthy AI

Systems that are reliable, fair, and support ethical decision-making (European Commission, 2019). NIST's AI Risk Management Framework establishes that trustworthy AI must demonstrate technical robustness, respect for human autonomy, and consistent alignment with educational values and objectives.

Universal Design for Learning (UDL) and AI

The application of AI to create flexible learning environments accommodating diverse needs (CAST, 2023). The Center for Universal Design in Education describes this approach as leveraging technology to provide multiple means of engagement, representation, and action, ensuring accessibility and inclusion for all learners.

Workplace AI Ethics in Academia

Policies ensuring ethical AI use in employment-related academic decisions (American Association of University Professors, 2023). The American Council on Education emphasizes responsible AI implementation in faculty hiring, tenure evaluations, and administrative functions while promoting fairness, transparency, and equity in academic workplaces.

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I. Introduction

Integrating AI, i.e. the ability of machines to execute cognitive and physical tasks akin to human capabilities —including automating processes such as object manipulation, movement, sensing, perception, problem-solving, decision-making, and innovation (Benbya et al., 2020)— opens new avenues for enhancing organizational capabilities and gaining competitive advantages (Holmström, 2022; Makarius et al., 2020; Venkatesh, 2022).

Furthermore, AI is expected to transform teaching and learning in HEIs by enhancing digital literacy and restructuring educational, research, and administrative infrastructures (Alenezi, 2021; Dwivedi et al., 2023). Its growing adoption has led to the development of tools that personalize learning, optimize administrative processes, and strengthen scientific production. However, its implementation also raises ethical and social challenges that require clear regulations to ensure that technology supports the fundamental values of education. It is essential to recognize that AI is already delivering significant benefits in education, including:

- **Personalized Learning:** AI algorithms analyze individual student data—such as learning styles, strengths, and weaknesses to customize educational content, pacing, and activities. This tailored approach enhances learning outcomes and increases student engagement.
- **Enhanced Efficiency:** AI automates repetitive tasks like grading assignments and providing feedback, allowing professors to dedicate more time to meaningful interactions, such as mentoring, and individualized instruction, facilitating collaborative learning.
- **Innovative Teaching Tools:** AI enables the development of advanced educational tools, including intelligent tutoring systems, virtual reality simulations,and adaptive learning platforms. These tools offer immersive and

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interactive learning experiences, accommodating diverse learning styles.

- **Increased Access to Education:** AI helps bridge geographical and socioeconomic gaps by providing high-quality learning resources to students in remote or underserved areas. AI-powered translation tools further support cross-cultural learning and collaboration.

Despite these advantages, the integration of AI in education also brings challenges that must be addressed to ensure equitable and ethical implementation:

- **Widening the Digital Divide:** AI's effectiveness depends on equal access to technology and digital literacy. Students with disabilities or from disadvantaged backgrounds without reliable internet access or necessary digital skills risk being left behind, exacerbating educational inequalities.
- **Bias and Discrimination:** AI systems learn from existing data, which may contain societal biases. If not carefully managed, AI can reinforce or amplify these biases, leading to unfair outcomes for certain students, particularly those from underrepresented groups, economically disadvantaged backgrounds, or vulnerable populations.
- **Reduced Human Interaction:** Over-reliance on AI-driven educational tools may diminish face-to-face engagement between students and professors, potentially affecting the development of critical social and emotional skills.
- **Shifting Role of Professors:** AI integration requires professors to adapt by developing new competencies in AI literacy, data analysis, and technology integration. As AI reshapes education, professors need to redefine their roles to effectively guide students in a technology-driven learning environment.
- **Sustainable Resource Utilization:** The integration of AI in education necessitates responsible resource management. Given the potential for substantial hardware and energy demands, AI's implementation must prioritize sustainability and adhere to global sustainability initiatives.
- **Data Privacy and AI in Education:** AI-powered educational tools can gather and

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utilize significant amounts of student personal data, such as academic records, behavioral information, and learning preferences. It is crucial to ensure express consent from the student to access and gather those pieces of information and also that this data is collected, used, and protected ethically and transparently.

- **Erosion of Credibility in Scientific Information**: As AI becomes more integrated into various platforms, it is increasingly difficult to distinguish between human interactions and AI-generated responses. This uncertainty is concerning, particularly with the rise of deepfakes, which, for example, allows for the manipulation of images, making them almost indistinguishable from reality. This capability significantly affects the credibility of scientific publications and the trust placed in them. Additionally, some scientific journals have faced criticism for publishing false information or even entire fabricated papers, further undermining the integrity of scholarly work.

Rather than using AI solely to improve efficiency, universities should leverage its capabilities to enrich the educational experience, cultivate critical thinking, and broaden access to knowledge. AI should be viewed not as a replacement for professors but as a powerful tool that enhances teaching methodologies. Its key contributions include:

- **Support for Critical Thinking and Research** – AI-powered tools can aid in data analysis, literature reviews, and research synthesis, enabling students and faculty to engage in deeper intellectual inquiry. Universities must emphasize AI literacy to ensure the students' critical assessment of AI-generated insights.
- **Enhanced Accessibility and Inclusion** – AI can democratize education by providing real-time translation, text-to-speech functionalities, and adaptive learning tools for students with disabilities or those from diverse linguistic backgrounds. Ensuring that these AI-driven accessibility solutions remain affordable and widely available is essential.

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- **Administrative Agility** – AI-powered automation in student services, admissions, and academic advising can improve efficiency, allowing professors to focus on meaningful student engagement. However, AI-driven decision-making in these areas must be transparent, equitable, and subject to human oversight to prevent bias or exclusion.

  While AI offers significant benefits, excessive dependence on it can diminish the human aspects of education. Universities must ensure that AI integration:

  - **Enhances human-centered education** – AI should support pedagogical strategies that enable the professor's role as a mentor, facilitator, and critical thinker.
  - **Preserves academic freedom and diversity** – AI-generated content and assessments must be designed to sustain and promote diverse teaching approaches and intellectual creativity.
  - **Prevents technological dependency** – Universities must maintain control over AI implementation, avoiding over-reliance on a narrow set of proprietary tools, thus maintaining institutional independence and reinforcing that perspectives and solutions are varied.

Moreover, not all HEIs can adopt AI tools at the same pace or scale, therefore, guidance and recommended best practices need to be shared (Jisc, 2022). The advancement of AI in the university sphere entails dual responsibility: on the one hand, the need to harness its potential to improve educational quality and equity in access to knowledge; on the other, the commitment to mitigating risks such as algorithmic discrimination, privacy breaches, and the dehumanization of learning. Given this scenario, it is essential to establish a regulatory framework that sets out principles and guidelines for its ethical use, ensuring transparency, fairness, and respect for the rights of students and faculty. This regulatory framework aims to define the ethical and

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regulatory guidelines for AI applications in higher education. The purpose is to ensure that AI integration aligns with the fundamental principles of inclusion, justice, and academic responsibility. Rather than imposing restrictions, this document seeks to guide the development and implementation of intelligent technologies within a university environment that values learning autonomy, diverse perspectives, and the irreplaceable role of critical thinking.

This Regulatory Framework aligns with the 2030 Agenda for Sustainable Development, recognizing the importance of integrating AI into HEIs ethically and responsibly. It directly contributes to the achievement of the Sustainable Development Goals (SDGs), including SDG 4 (Quality Education), SDG 5 (Gender Equality), SDG 9 (Industry, Innovation, and Infrastructure), SDG 16 (Peace, Justice, and Strong Institutions), and SDG 17 (Partnerships for the Goals). Its implementation seeks to transform the educational paradigm, promoting sustainable and inclusive development in the Latin American and Caribbean region.

In this regard, regulation should focus on five key aspects:

1. **Protecting students' privacy and personal data**, ensuring the transparent and secure use of information collected by AI systems.
2. **Preventing algorithmic bias and discrimination in educational**
3. **processes**, promoting the development of models that reflect equity and diversity in their programming.
4. **Preserving the role of professors as central figures in university teaching**, establishing clear limits to prevent AI from replacing human interaction in the learning process.
5. **Responsibility and accountability**, define with clarity who is responsible for the ethical use of AI in HEIs. It includes the university's commitment to

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safeguarding the right of internal and external stakeholders to file complaints if they feel harmed by AI

6. **Training and education in ethical AI**, students, professors, and other staff members will receive training in the ethical principles of AI, its potential risks, and best practices. This will enable them to make informed decisions about selecting and implementing this technology for benefiting their academic and professional careers, as much as for improving universities' outreach projects and research activities.

The scope of this framework covers all areas in which AI impacts the university ecosystem. This includes its use in teaching and assessment, where criteria must be established to ensure academic integrity and fairness in grading. It also encompasses administrative management, ensuring that the automation of processes, such as admissions, tutoring, or academic planning does not lead to exclusion or reduce human involvement in decision-making. Additionally, it extends to university research, promoting the development of AI projects under strict ethical principles and ensuring accountability in their social impact.

Implementing AI in HEIs must be governed by principles of transparency and responsibility. Universities must clearly inform students, professors, and administrative staff about AI-based systems' purpose, scope, and operating criteria within these institutions. At the same time, it is essential to establish monitoring and evaluation mechanisms to ensure that AI application results have no unintended consequences.

Developing an effective regulatory framework cannot be a static process. Instead, this framework must evolve continuously, adapting to technological advancements and new implications arising from its use. To this end, this framework promotes the creation of a **tiered AI ethics assessment process** within HEIs, responsible for reviewing the

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impact of technology in the university environment and proposing regulatory adjustments based on emerging needs.

Moreover, international collaboration is crucial for establishing shared standards that guide the use of AI in HEIs on a global scale. The diversity of regulatory approaches across different countries may lead to inconsistencies and ethical gaps, making it necessary to foster joint efforts among universities, government agencies, private institutions, and international academic entities to develop common principles that strengthen the responsible use of AI in the educational sector.

Ultimately, this regulatory framework not only addresses the need to regulate the use of AI in HEIs but also represents a commitment to the development of technology that respects the fundamental values of education. Through clear regulations and solid ethical principles, AI can become a strategic ally in enhancing learning quality, expanding access to knowledge, and promoting equity in the university sector—without losing sight of the importance of human interaction and critical thinking as central pillars of the educational process.

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II. Governance of Ethics in Higher Education

AI Governance in HEIs: International Regulatory Framework and National Regulations.

A. International Regulatory Framework

The development and use of AI in HEIs must be aligned with global ethical principles. International bodies have established fundamental guidelines to ensure transparency, fairness, and protection of human rights in AI applications.

- **UNESCO:** In 2021, UNESCO published the Recommendation on the Ethics of AI, the first global standard on this topic, based on human rights, inclusion, and sustainability values. It has also developed specific guidelines for the ethical use of AI in education.
- **European Union (EU):** The EU Artificial Intelligence Act (2024) establishes a risk-based regulatory framework. It bans certain AI applications that violate citizens' rights and demands transparency when using this technology in the education, health, and justice sectors.
- **Organization for Economic Cooperation and Development (OECD):** In 2019, the OECD adopted a series of principles on AI that seek to promote the ethical development and use of this technology. These principles cover transparency, accountability, security, privacy, and non-discrimination.
- **World Economic Forum:** The World Economic Forum has published several reports and recommendations on ethical AI, including guidelines for the responsible use of AI in education.
- **The Universal Declaration of Human Rights (UN, 1948).** The use of AI in HEIs must adhere to fundamental principles of dignity, equality, and non-discrimination, as established in **Article 26**, which emphasizes the right to education. This ensures that any technological integration upholds equitable access and maintains

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the quality of education.

- **The integration of the Sustainable Development Goals (SDGs)** into the Regulatory Framework for the ethical use of AI in university education is essential to ensuring equitable, inclusive, and sustainable development. Additionally, it is crucial to include references to human rights documents that strengthen the regulatory framework, ensuring data privacy protection, equitable access, and respect for diversity in AI usage. This framework addresses the following SDGs: SDG 4 (Quality Education), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), SDG 10 (Reduced Inequalities), SDG 16 (Peace, Justice, and Strong Institutions), and SDG 17 (Partnerships for the Goals).
- **Organization of American States:** Inter-American Framework for Data Governance and Artificial Intelligence (MIGDIA): Ensure the protection of digital rights, data privacy, and equity in access to technology. Additionally, it provides guidelines for policy development that promote responsible innovation and international cooperation in AI governance.

These guidelines influence AI regulation in Peru, Costa Rica, Spain, and Italy, promoting regulatory approaches that balance innovation with protecting human, civil, and environmental rights.

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B. Specific Regulation for Educational Institutions

Each country has progressed at different levels in regulating AI use in higher education:

	Regulations	*Approach*	*Key Areas of*	*Ethical AI*
Country			Regulation	Governance
Peru	Draft Regulation of the Artificial Intelligence	Promotes responsible AI development under principles of ethics, privacy security, and Law promoting the use of artificial intelligence for the economic and social development of the country.	Digital infrastructure, ethical guidelines, transparency	Pending establishment of an AI oversight entity for ethical compliance.
	Law in Peru - No. 31814 (https://www.g ob.pe/i nstituci on/ pcm/informes-publicaciones/6197119-nuevo-proyecto- de-reglamento- de-la-l ey- de-inteligenci a-artificial)			
	Law No. 31814 (2023), Urgency Decree No. 007-2020 (https://www.gob.pe/institucion/pc m/normas-)			
	Urgency Decree No. 006-2020 (https://www.gob.pe/institucion/m pfn/informes-publicaciones/1678070- decreto-de- urgencia-n- 006-2020)			
	National Policy for Digital Transformation by 2030 (https://cdn.www.gob.pe/uploads/ document/file/4912655/Pol%C3%ADtica%20Nacional%20de			
Costa Rica	AI regulation bill in development, Law No. 7169 National Artificial Intelligence Strategy (ENIA 2024-2027).	Focuses on human rights protection and technological development Ethical and Responsible AI Development Multi-sector collaboration	AI system registration, impact assessments, scientific research	A regulatory AI authority is proposed, requiring ethical AI assessments before deployment.
			Data Protection and Privacy	Independent Ethics Committee
			Prevention of Bias and Discrimination	Digital Ethics Education and Training
			Transparency and Accountability	
Spain	Adapting to the EU AI Act, Spanish AI Supervision Agency, Data Protection Law	Regulates high- risk AI and ensures transparency	AI oversight, data protection, consumer rights	The Spanish AI Supervision Agency oversees AI ethics, enforcing transparency and fairness.
Italy	AI law in development, Adapting to the EU AI Act	Prioritizes innovation while ensuring security and sustainability	Security, transparency, non-discrimination,environmental impact	Developing national AI ethical standards in alignment with EU regulations.

Key Insights on AI Ethics Governance Across Countries

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Different countries have developed ethical AI governance with distinct approaches. In the European Union, nations like Spain, Italy, and Germany follow the EU AI Act, which ensures transparency, fairness, and regulatory oversight. In contrast, the United States and the United Kingdom adopt a hybrid model combining federal and state regulations with active participation from university ethics committees. China, on the other hand, enforces a centralized AI governance system through government-led ethics committees. Additionally, Germany and the UK have established specialized AI ethics commissions to provide regulatory guidance for responsible AI development. Understanding these approaches helps strengthen a regulatory framework tailored to HEIs, ensuring the ethical and responsible use of AI.

International AI's regulations aim to establish ethical principles and control mechanisms to ensure the responsible use of this technology. Notwithstanding, these regulations mustn't focus solely on punitive or overly restrictive approaches. These regulatory frameworks should enable the needed spaces for experimentation and development, thus any social actors can explore new AI applications without unnecessary barriers. A flexible governance model based on pilot testing, regulatory sandboxes, and best practice certifications would balance promoting innovation and exercising responsibility, preventing overly rigid regulations from hindering technological progress while safeguarding society from undesired and avoidable harm. An example of this approach is Brazil, where regulatory sandboxes have been implemented, enabling AI systems to be tested in a controlled environment, fostering innovation while establishing adaptable regulatory criteria. AI is advancing at a rapid pace; thus ethical and legal liability solutions must be customizable to keep up with it. Therefore, rather than imposing inflexible barriers, governments and international organizations should encourage collaboration among industry, academia, and regulatory authorities to co-create adaptive frameworks that allow technological innovation without neglecting ethics and equity in its development and deployment.

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C. Oversight and Control Mechanisms

Ethical AI use in HEIs requires oversight mechanisms to ensure compliance with regulations and protect the rights of the academic community:

Mechanism	Function
Audits and Certifications	AI systems must undergo audits and obtain certifications that ensure compliance with ethical and transparency principles. The report A.I.: Transparency and Ethics Certifications (2022) presents various certifications in this field, including: ● **USAII Certifications:** Credentials aimed at AI professionals, including engineers, consultants, and scientists. ● **Equal AI Badge**: Focused on promoting responsible and inclusive business practices in AI use. ● **RAII Certification:** Based on OECD guidelines, specializing in the ethical application of AI in sectors such as finance, healthcare, human resources, and procurement. ● **AI Ethics Impact Group:** Proposes a labeling system based on six key principles: transparency, accountability, privacy, fairness, reliability, and sustainability. These certifications aim to ensure the responsible development and use of artificial intelligence across various domains.
Reporting Protocols	Universities implement various mechanisms to enable students and faculty to report the misuse of AI, ensuring timely responses and appropriate sanctions. Some of the measures adopted by universities include: ● **Reporting and complaint channels**: These include online forms or dedicated email addresses for submitting inquiries or reports regarding unethical AI use. ● **AI ethics committees and offices:** Experts in AI ethics provide guidance on the ethical standards for AI models used in research and teaching.

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	• **Auditing and evaluation mechanisms:** Regular reviews of algorithms and biases ensure ongoing compliance with ethical principles. • **Transparency and consent statements:** Universities require clear identification of AI tools in use and, in cases where AI-driven personalized learning is applied, student consent must be obtained. • **Codes of conduct and sanctions**: Universities establish guidelines and policies outlining the consequences of AI misuse, helping to promote ethical AI practices within academic environments.

These mechanisms reinforce transparency and accountability in the academia's process of adopting AI.

D. Sustainability Considerations of AI in Education

The sustainability impact of AI is an emerging challenge for universities, as its increasing adoption requires extensive computational resources, leading to higher energy consumption, carbon emissions, and ethical concerns regarding its development and implementation. Addressing these challenges requires a comprehensive approach that balances technological advancement with environmental responsibility and ethical considerations of this document.

- Institutions such as Institutions such as Massachusetts Institute of Technology (MIT) and William & Mary have incorporated sustainability discussions into their courses, encouraging responsible decision-making.
- Universities should adopt sustainable AI practices, prioritizing energy-efficient infrastructures and optimizing AI models to minimize environmental impact.
- Universities must also ensure the ethical integration of AI by establishing regulations that protect the labor rights and well-being of individuals involved in its

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development and application. This includes fair working conditions for data annotators and content moderators, mental health support protocols, and transparency measures such as periodic audits to assess AI's impact on academic and administrative staff. Additionally, institutions should offer continuous training in AI ethics and develop workforce transition programs to prevent job displacement due to automation, ensuring a responsible and equitable adoption of AI in HEIs.

Environmental impact, climate action initiatives, societal well-being, and mental health concerns must be integrated into AI policies in HEIs to ensure that technological development aligns with sustainability goals.

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III. Guiding Principles

Ethical integration of AI in HEIs requires a structured approach grounded in **core academic values, institutional independence, thorough knowledge of AI and its applications, safety in research and development (sandbox), and student-centered learning**. This framework establishes guiding principles to ensure that AI enhances universities' **pedagogical, ethical, and social missions**.

Consequently, building this ethical perspective poses a challenge for any current HEIs. Enhancement of universities' goals demands their review, exploration, and re-laboration. A redefinition within the frame of evolving societies, facing an imminent and dramatic climate change, public discourse polarisation, precarisation of work conditions, a mental health crisis, population aging, global migrations, technological revolution, and a strategic need for the development and democratization of knowledge. For it is the clarity regarding these institutions' missions, which enables an ethical proposal viable for the pertinent incorporation of AI.

To ensure a structured approach, the following framework identifies and recognizes a variety of stakeholders in the university's activities. These interested parties are divided into two broad categories: internal and external actors, constituted equally as individuals or groups interacting with the institutions. Considering the specific requirements of these stakeholders informs a more effective, inclusive, and user-centered solution. Consequently, this proposed framework aligns with the humanistic approach outlined in UNESCO's guidelines for AI in education (2021). Within the internal stakeholders, there are several subgroups. One main interested party is that of students, such as traditional undergraduates, graduate students, non-traditional or adult learners, international students, and students with disabilities, each with unique needs and challenges. A second subset within the internal stakeholders is the faculty members, which range from tenured professors and adjunct instructors to teaching assistants, research faculty, and

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department chairs, reflecting their diverse roles and responsibilities in teaching and research. Administrative staff is also within this sphere of interest, this group includes academic deans, IT directors, compliance officers, student services directors, and program coordinators, who play a critical role in managing institutional operations and policies. Finally, internal stakeholders include **support staff**, which are the academic advisors, librarians, learning technologists, instructional designers, and student support services, as they provide essential services to ensure the success of both students and faculty members.

The other sphere of interaction considered is that of the **external stakeholders**. These are individuals and organizations indirectly influenced or impacted by the institution. We identify accreditation bodies, employers, alumni, and parents or guardians. These stakeholders contribute to the broader academic environment, shaping policies, partnerships, and resource allocation. Also within this group are the communities with whom universities develop research projects or outreach activities. By incorporating these diverse sets of interested parties, the framework aims to create a comprehensive and inclusive approach to addressing the needs of all those involved in the educational ecosystem.

A. Human-Centered AI

AI in education should **augment human capabilities**. Universities must preserve **human interaction, mentorship, and ethical decision-making** as central elements of the educational experience. Just as much, AI should enable the **development of students** into independent, proactive, and responsible professionals. AI should serve as a tool within the overall education environment:

- **Higher level professors:** Support and improve **professors as facilitators of knowledge and critical inquiry**

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- Promote an approach to learning with AI that complements and **enhances human interaction** and the critical perspective of the professors, students, and staff.
- **Student environments:** Enhance **student engagement, accessibility, autonomy, creativity, and critical thinking** within the learning environment.
- **Evaluation:** Ensure that **decision-making in admissions, grading, curriculum development, and academic tracking remains under human oversight** to maintain fairness and accountability.

- Facilitate **data collection, management, and processing** to provide **better attention to students' needs**, and **improve staff's labor and health conditions**.

- All AI tools adopted s**hould undergo an ethical and pedagogical review** so that students, professors, or external stakeholders understand their scope, limitations, and potential biases.

B. Pedagogical Mediation in AI-Enhanced Learning

AI-enhanced learning dilutes the differentiation between distance education and hybrid education with in-person education and traditional teaching methodologies. Pedagogical informational mediation is fundamental in AI-supported environments because it allows academics to integrate their skills, knowledge, and experiences into self-managed resources, to enrich students' learning. In turn, distance education's practices for producing educational materials and other sorts of aids, become a guide when incorporating asynchronous and remote activities into brick-and-mortar universities.

This means that classroom time can be reduced in on-site universities. Teaching will redirect towards increasing research and guidance functions with students. Thus,

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academics will dedicate more time to preparing and accompanying students' learning paths. This task does not develop individually. It gathers interdisciplinary teams, a subject specialist in tandem with communication professionals, to mediate the contents and produce engaging and reliable didactic materials, learning platforms, and interactive activities.

The results of a recent research project by Harvard University, show that AI-supported resources improve learning experiences. According to Kestin *et al.* (2024) findings: "We have found that when students interact with our AI tutor, at home, on their own, they learn more than twice as much as when they engage with the same content during an actively taught science course while spending less time on task." Thus, introducing strategies relying on autonomy, mediation, asynchronous access to contents and academic activities, as well as personalization of learning paths, are all beneficial for the overall performance of educational aims.

C. Collaboration

Collaboration is critical in new environments where AI is integrated. This principle of participation and inclusion is strategic for defining the regulatory framework and monitoring its implementation, too. HEIs are dynamic entities, in constant evolution and adaptation to their environment, thus they are bound to self-regulate and improve their decisions and strategies.

Enabling dialogical spaces to share the experiences of internal stakeholders, as other broader forums to learn and adapt to what external stakeholders have to say is a loop of exchange that keeps the application of AI solutions grounded on the consequences and needs of those affected by the university.

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D. Equity, Inclusion, and Accessibility

The principle of inclusion is fundamental, as it directly contributes to SDG 4 (Quality Education) by ensuring all students have equitable access to artificial intelligence opportunities in education, regardless of their background, gender, ability, or socioeconomic status. Furthermore, it advances SDG 5 (Gender Equality) by promoting women's and girls' participation and empowerment in technology and education.

AI must **promote equitable access to education** and **avoid reinforcing existing inequalities and biases**. Universities should:

- Ensure AI tools are **designed to accommodate diverse learning needs**, including those of students with disabilities and individuals from different cultural and linguistic backgrounds.
- Prevent algorithmic biases that could lead to **discrimination in admissions, grading, or personalized learning recommendations**.
- Use AI to **reduce educational gaps** by offering adaptive learning experiences that support disadvantaged students.
- Provide **comprehensive training on artificial intelligence tools** to university diversity support team members, enabling them to support students with special educational needs, guide the integration of AI tools into students' academic activities, and ensure accessible and inclusive AI implementation in educational practices.
- Provide solutions for **equitable, affordable, and functional access to the Internet and acquisition of necessary technological devices for educational purposes**, so any student can profit from the services, contents, and applications that universities develop using AI.

E. Transparency and Accountability

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Transparency and Accountability are essential to ensure that the use of artificial intelligence in education is conducted ethically and responsibly, contributing to SDG 16 (Peace, Justice, and Strong Institutions). This principle requires clear disclosure of the algorithms and data used in artificial intelligence systems, along with the establishment of mechanisms for conflict resolution and accountability by educational institutions.

AI systems must be **explainable, transparent, and subject to institutional oversight**. Universities should:

- Disclose **how AI-driven decisions are made, especially in high-stakes areas, such as student evaluations, resource distribution, and admissions**.
- Inform internal and external stakeholders about **how AI systems capture, use, and process data**.
- To address potential AI-related crises, institutions require **developing contingency plans, including fallback procedures and communication strategies**.
- Ensure that **students and faculty have the right to contest AI-generated decisions** and request human review.
- Establish mechanisms for **auditing AI systems** to detect and correct biases or unintended consequences.

- **Ensure human-centered** supervision in all processes where AI is implemented, from design to implementation and evaluation.

- **Protect the privacy and security of student**, faculty, and staff data. Establish clear policies on data collection, use, and storage.

- Modification of training for faculty, professors, and students to conduct bias audits, and protect personal data and scientific ethics. This approach promotes AI use that remains consistent with the principles of inclusion, sustainability, and the

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safeguarding of academic autonomy, while also fostering educational innovation and encouraging the active participation of the entire university community.

F. Academic Independence and Technological Sovereignty

Universities must **maintain control over AI tools and prevent over-reliance on proprietary systems** that may standardize academic practices or limit institutional autonomy. To safeguard **academic freedom and diversity**, universities should:

- Avoid **dependence on a few commercial AI providers**, ensure diversity in technological solutions, and orient these choices based on the needs of the students, or institution, independently from the influence of companies or governments
- Encourage the **development of open-source AI tools** tailored to educational needs, without restricting new ideas, and fostering innovation, research, and outreach.
- Promote **critical engagement with AI systems**, ensuring **professors' and students' understanding of the limitations and risks of AI-generated content and/or actions by automated devices.**

- Enhance human agency by developing and designing AI systems that flag decisions for humans to review when confidence levels are low or when outcomes are contentious. **Human oversight** is critical for decision-making in evaluations, or admissions.

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G. Ethical AI Research and Development

Higher education institutions must **set an ethical precedent in AI research** by ensuring that AI applications align with societal well-being. Universities should:

- Create **sandbox environments** for internal stakeholders, primarily for researchers and students to conduct controlled experiments for testing AI systems in a safe and monitored setting.
- Incorporate **ethics reviews in AI-related research projects**, similar to those required in medical and social sciences, as an example design a set of standardized unit tests that, when applied to newly developed AI models, ensure that these models do not cause any harm or discrimination against individuals based on their nationality, gender, ethnicity, political principles, or religious beliefs.
- Promote interdisciplinary collaboration between **technologists, ethicists, educators, and social scientists**.
- Ensure that AI-driven research **complies with ethical data collection, consent, and privacy standards**.

- Ensure that AI research and development is oriented towards benefiting society, considering the social, ethical, and environmental implications of AI, and taking measures to mitigate potential risks and harms.

H. Mental Health

With the growing integration of AI in HEIs, the transformation of all aspects of the learning process is undeniable. It is crucial, however, to keep a humanistic approach, and properly consider the impact of automatization, virtualization, and trepid changes on the mental health of all those involved with the university's actions.

From the perspective of "one health", a person's integration with its context includes much more than nature, it must be expanded to infrastructure and technology, in this case, IA.

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From this approach, universities should incorporate AI projects in a way that favors health, with special attention to the mental health of their students and the occupational health of their staff. To achieve this, universities should value strategies integrating traditional practices with innovations.

- **Monitor Digital Fatigue and Technostress:** Over-reliance on AI can lead to issues such as digital fatigue and technostress. These challenges may negatively impact students' well-being, increasing anxiety and reducing opportunities for face-to-face interactions. It is essential to consider these effects when implementing AI-driven tools.
- Create **Safe Spaces**: Establishing safe spaces is vital to mitigate social isolation, alleviate concerns about job displacement, and address potential declines in staff morale as AI increasingly automates administrative tasks.
- **Balance Technology with Human-Centered Approaches**: Striking a balance between technological integration and human-centric methods is key. HEIs should prioritize promoting critical thinking, fostering meaningful social interactions, and maintaining a sense of community alongside technological advancements.

- **Provide support:** Universities should educate, monitor, and provide support to students and staff who may be negatively affected by AI. This may include access to mental health services, training in coping skills, and strategies for managing stress and anxiety

I. Institutional Responsibility and Governance

University leadership must **actively promote ethical AI policies** at all institutional levels. This includes:

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- Integrating **AI literacy and ethics training into faculty and student development programs**.
- Establishing **institutional tiered AI ethics assessment processes** responsible for oversight and policy recommendations.
- Ensure continuous review of AI solutions deployed, handle complaints, and propose improvements.
- Ensuring that AI deployment is aligned with **academic integrity policies and student rights**.

- **Inclusion of guidelines enabling** students and faculty to raise concerns about inappropriate or unethical AI use in educational processes.

J. Sustainability

Sustainability is a key factor and should be more than the development of energy-efficient algorithms or education on the potential environmental impacts of excessive or inefficient use of AI technologies. Integrating sustainability into AI requires a holistic approach encompassing energy efficiency, environmental considerations, and multicultural, economic, and social dimensions.

Consequently, HEIs should promote research and innovation that explores how AI can address global environmental challenges, such as climate change or biodiversity conservation. Most of all, universities must consider AI's transformative potential for human dimensions such as culture, mental health, and labor conditions. As a result, implementing such technologies also has to push forward the university's contribution to **societal well-being.**

HEIs are aware of how digital transformations are involved in "a deregulation of Capital and labor, with the workforce being casualized (with an increasing number of workers

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employed on a temporary basis), and outsourced."[1] Thus the alternative for universities is to align their deployment of AI at research, teaching, and outreach activities that help accomplish SDG 8 and 10, 'Decent Work and Economic Growth' and 'Reduced Inequalities'. In this sense, HEIs' ethical frame must consider their impact on the future work conditions of their graduates and their staff. Just as much, they must care for external stakeholders and their vulnerability to technological change and new forms of exclusion.

These are the key factors for complying with sustainability:

- **Prioritizing developing energy-efficient AI systems**, minimizing carbon footprints, and actively communicating the costs associated with AI usage.
- **Applying AI tools to research, test, and deploy** solutions that mitigate and revert the climate change caused by human actions.
- **Involving stakeholders** from diverse cultural backgrounds in the design and testing phases of AI solutions whenever possible.
- Using AI to integrate sustainability into the curriculum can facilitate the creation of educational resources, visualizations of environmental data, and the development of AI tools for sustainable decision-making.

- **Emphasizing ethical AI** integration and aligning its implementation to achieve the SDGs adopted by the United Nations in 2015.

[1] M. Fisher. *Capitalist Realism*, p. 33 (2014)

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IV. Proposed General Regulatory Framework for higher education institutions

Based on the analysis of existing laws and regulations, a general regulatory framework for the ethical use of AI in university education is proposed, which includes the following elements:

A. Ethical Principles and Tenets

- **Human-centered AI:** AI systems should be designed and implemented with a primary focus on the well-being, dignity, and agency of all stakeholders in the educational ecosystem.
- **Transparency and Explainability:** AI systems should be transparent and their decision-making processes should be explainable to students, educators, and staff.
- **Fairness and Non-discrimination:** AI systems should be designed to avoid bias and ensure fair, inclusive, and equitable treatment of internal and external stakeholders, regardless of their background or characteristics.
- **Privacy and Data Security:** AI systems should be designed to secure and respect HEIs' internal and external stakeholders' data privacy and integrity, complying with relevant data protection regulations.
- **Accountability and Responsibility:** Establishing clear lines of accountability, transparency, and responsibility when developing and deploying AI systems in education.
- **Human Oversight and Control:** AI systems should be subject to appropriate human oversight and control to ensure their responsible and ethical use.
- **Proportional Use of AI:** AI should be deployed when it genuinely adds value to education quality, without displacing the human-driven critical dimension of learning.

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- **Continuous Monitoring and Evaluation:** AI systems should be continuously monitored and evaluated to assess their impact on learning, teaching, and students, professors and staff well-being.

B. Impact Assessment

The diversity of possible interactions between universities and AI applications demands an assessment approach responsive to its degrees of entanglement, impact upon the different stakeholders involved, and unequal levels of access gaps or management of sensitive data. Thus, ethical analysis or impact assessment requires approaching the university-AI interaction as a spectrum with different thresholds to be guarded. Consequently, per the specific form of deployment of an AI solution, there is a need for customizable tools and protocols for safeguarding the responsible use of this technology as much as enabling its exploration and adaptation for improving the university's services and goals. Under this strategy, self-assessment, advisory groups, and ethic committees will coexist as a tiered system of gatekeepers for the best practices in the use of AI within the university's field of action.[2]

Regardless of the level of implementation of an AI tool, a common structure of analysis for its impact assessment must be deployed at three different stage points:

- **Before Deployment:** Before deploying AI systems in educational settings, institutions should conduct thorough impact assessments to identify potential benefits and risks.
- **Ongoing Monitoring:** Institutions should establish mechanisms for ongoing monitoring and evaluation of AI systems to assess their impact on learning outcomes and review

[2] This approach of a tiered evaluation for the impact of AI is already in practice as the case of the AI Imapct Assesment developed by the Danish Government (2024).

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from previous iterations any area of improvement, student engagement, and ethical considerations.

- **Transparency and Reporting:** Institutions should be transparent about AI systems used in education and regularly report on their impact.

C. Responsibility, Accountability, Fairness, Transparency, and Sustainability (RAFTS) model for AI application to HEIs

Operational, ethical, and social challenges must be addressed to ensure a responsible and equitable use of AI in HEIs. The rapid integration of AI in universities does present an opportunity to enhance learning, teaching, outreach, research, and overall performance of administrative processes. The Responsibility, Accountability, Fairness, Transparency, and Sustainability (RAFTS) model is a comprehensive approach for guiding, developing, and governing AI systems within HEIs. The model emphasizes **responsibility** in ethical decision-making, **accountability** in operational practices, **fairness** in mitigating biases and ensuring equity, **transparency** in data usage, and **sustainability** in creating long-term scalable solutions that benefit all parties. By anchoring the initiatives in these five pillars, the RAFTS model aims at fostering trust, inclusivity, and innovation while safeguarding the rights and well-being of all the universities' stakeholders.

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D. Human Oversight, Mediation, and Control

- **Professor-in-the-Loop:** AI systems should be designed to support and augment professors' roles. Professors should retain ultimate mediation and control over the learning process and be able to intervene when necessary.
- **Ethical evaluation protocols:** Institutions should include and periodically review the ethical policies and protocols governing the development and deployment of AI systems in education. The aim is ensuring fairness in any AI system being used, and mitigating biases that could lead to unfair or discriminatory outcomes. These assessment strategies must be particularly attentive to protecting users' privacy and autonomy when interacting with AI solutions.

E. Training and Education

- **AI literacy and ethics for University Staff:** Universities should aim to create continuous improvement education plans for faculty members with an annual/semester revision to maintain up-to-date knowledge of the latest trends. Professors should receive training on AI literacy, while administrative staff require access to training in AI upskilling or reskilling, data analysis, and the ethical implications of AI in education.
- **Media and information literacy for staff and students:** As the broader frame of AI, the educational and professional paths of university students and staff require developing a critical approach to digital modalities of interaction, just as much as a deep understanding of the dynamics regulating the emergence and application of technological solutions. This context enables well-informed and data-driven decisions regarding implementing digital and media resources in HEIs, aware of the ethical challenges and advantages they create.
- **Specific AI literacy and ethics for higher education students:** To enable students to manage their use of AI, they are required to master at least four components of this

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technology: awareness of its presence, capability to use it, knowledge of its functioning, and critical thinking regarding its deployment and potential.[3] These are the core factors for students to ethically analyze AI, including bias, privacy, and accountability.

- Universities must provide students with either, instructor-led courses to leverage **AI understanding and ethics,** or a series of mandatory self-learning training curricula, to complete every year.

F. Data Governance

- **Data Protection:** Institutions should implement robust data protection measures to safeguard student data, ensuring compliance with relevant data protection regulations. Within AI, data protection is critical for ensuring the security and privacy of all involved stakeholders. Implementing robust data protection measures involves adhering to best practices that align with legal, ethical, and technical standards. Below are the **best practices for data protection**.
  - **Adhere to Legal Framework:** Ensure compliance with relevant data protection laws such as the **General Data Protection Regulation (GDPR)** in the E.U., the **Family Educational Rights and Privacy Act (FERPA)** in the U.S., and other local regulations when available.
  - **Conduct regular Audits:** Perform periodic audits to ensure ongoing compliance with data protection laws and institutional policies.
  - Appoint a **Data Protection Officer (DPO)**: This designated DPO will oversee the data protection strategies and ensure accountability.
- **Data Encryption and Security Measures:** As part of the technological efforts, institutions and their stakeholders should be aware of data encryption and security measures.

[3] B. Anders, *AI Literacy Imperative* (2023)

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- **Encrypt data at rest and in transit:** This can be done using advanced encryption protocols (e.g., AES-256) to protect data stored on servers and transmitted over networks
- Implement **Secure Authentication**: Use multi-factor authentication (MFA) and strong password policies to prevent unauthorized access.
- **Up-to-date Security Systems**: Keep software, firewalls, and antivirus systems up to date to protect against vulnerabilities.
- **Data Minimization:** Institutions should collect and use only the minimum amount of student data necessary for educational purposes. When this information is required for further aims, an appropriate justification must be submitted to an assessment committee to determine the level of access and proper manipulation of the gathered data. As part of the good practices:
- Define clear use cases: To ensure that data is used only for the purposes explicitly stated and agreed upon by those who submitted it.
- Avoid overcollection: Ensure to never collect excessive or irrelevant data that could increase privacy risks.
- **Data transparency and informed consent:** Regardless of whether the data collected is about social profiles, learning performance, academic accomplishment, budget allocation, outreach, or research impacts, HEIs must be transparent with any stakeholder about how their data is being collected, used, and protected.
- **Clear Privacy policies:** Institutions must provide clear privacy policies and communicate how data will be collected, used, and protected to stakeholders.
- **Obtain explicit Consent:** Ensure all stakeholders provide informed consent before their data is collected or processed, this includes informing about their rights and overall data implications.
- **Offer opt-out Options:** Allow all stakeholders to opt out of data collection where feasible, and provide them with alternative mechanisms to fulfill their tasks and interactions with the university.

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V. Policy Recommendations

AI's successful and ethical integration in HEIs requires clear **institutional policies** that align AI deployment with the university's **missions, ethical principles, and governance.** The following policy recommendations provide a roadmap for universities to **ensure responsible AI adoption**, balancing **innovation, equity, and institutional independence**. It is fundamental to remember the rapid change of AI technology and thus the need to manage this **framework as a continuously evolving process.** It is in the ability of HEIs to be responsive and proactive within this context that they will align the potentialities of AI to foster their actions and aims.

A. Ethical AI Governance and Institutional Oversight

AI implementation in higher education should be guided by a **dedicated governance structure** that ensures transparency, accountability, and ethical compliance. Universities should:

- **Decentralized implementation of an Advisor Committee:** Establish **AI Ethics network, v.g. researchers, advisory Committees** composed of faculty, students, researchers, and legal experts to recommend or oversee AI-related policies and practices.
- Develop **institutional AI governance frameworks** that define ethical standards, risk assessments, and compliance protocols.
- Mandate **regular self and external audits or assessments of AI systems** to identify biases, ensure fairness, and maintain alignment with institutional values.
- Require **AI impact assessments** before deploying new AI-driven educational or administrative tools.

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B. AI Literacy and Capacity Building

Ensuring responsible use of AI requires broad stakeholder participation and validation in its development and continuous improvement. Therefore universities must **prioritize AI literacy** and capacity building across all stakeholders—faculty, students, and administrators. Institutions should:

- Integrate **AI ethics and digital literacy training** into curricula for students, ensuring they understand the capabilities and limitations of AI.
- Provide **faculty training programs** on AI tools, emphasizing on ethical and pedagogical applications.
- Ensure administrative staff **readiness for handling AI-driven decision-making processes** with proper oversight and ethical awareness.

C. RAFTS Protocol in AI - Academic Decision-Making

AI should **support** and be subjected to human decision-making in critical areas such as **admissions, grading, and academic advising**. Universities should:

- Ensure **human oversight in AI-assisted decisions**, particularly those affecting student progress, evaluations, and resource allocation.
- Implement **explainability and contestability mechanisms**, allowing students and faculty to challenge AI-generated decisions.
- Prohibit AI models that **perpetuate biases or reinforce socioeconomic disparities**, ensuring fairness in admissions and grading algorithms.

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D. Preserving Academic Freedom and Institutional Autonomy

To prevent **technological dependence and academic homogenization**, universities must maintain **control over AI selection and implementation**. Institutions should:

- Diversify AI providers and **avoid reliance on a single proprietary system** to maintain technological sovereignty.
- Support the development and adoption of **open-source AI tools** tailored to educational needs.
- Encourage **critical engagement with AI** rather than passive adoption, ensuring faculty and students understand and **question AI outputs**.

E. Ethical Use of Student Data and Privacy Protection

AI applications in education rely on vast amounts of student data, raising concerns about **privacy, consent, and security**. Universities must:

- Implement **strict data governance policies** that ensure transparency in how student data is collected, stored, and used.
- Require **explicit informed consent** for AI-driven learning analytics and personalized education systems.
- Enforce **data minimization and anonymization practices** to reduce risks of unauthorized access or exploitation.
- Align AI data policies with **international privacy standards**, such as the **General Data Protection Regulation (GDPR)** and national regulations.

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F. Promoting Ethical AI Research and Development

Universities must ensure that AI research and development align with **ethical principles and public interest**. Policies should:

- Require **ethical review boards** to assess AI research projects, similar to protocols in medical and social sciences.
- Promote interdisciplinary collaboration between **technologists, ethicists, educators, and policymakers** to create AI solutions that serve educational needs.
- Establish **guidelines for ethical AI research funding**, preventing conflicts of interest with private AI vendors.

G. AI for Inclusion and Equity in Education

AI should be leveraged to **enhance educational access and equity** rather than deepen existing inequalities. Universities should:

- Ensure **AI-driven learning platforms are accessible** to students with disabilities and linguistic diversity.
- Use AI to **bridge educational gaps**, particularly for students from marginalized communities or those in remote locations.
- Develop **inclusive AI training datasets** that reflect diverse educational backgrounds and learning styles.

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H. Strengthening International Cooperation on AI Ethics in Education

Given the global nature of AI, universities should collaborate **internationally** to establish **shared ethical standards and best practices**. Institutions should:

- Participate in **global AI ethics forums**, contributing to discussions on AI in higher education.
- Align AI policies with international frameworks such as **UNESCO's AI Ethics Guidelines** and the **OECD AI Principles**.
- Establish cross-border partnerships to **develop AI literacy programs** and **exchange best practices** on AI implementation in education.

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VI. Conclusion

Integrating AI into university education presents both unprecedented opportunities and profound ethical challenges. Across the consortium countries—Peru, Costa Rica, Spain, and Italy—efforts to develop regulatory frameworks reflect a growing recognition of AI's transformative potential in higher education. This study has examined existing regulations, ethical concerns, international guidelines, and best practices to propose a comprehensive regulatory framework that aligns with global standards while addressing national and institutional contexts.

A. Balancing Innovation and Ethical Responsibility

AI is revolutionizing university education by personalizing learning, streamlining administrative tasks, and supporting research. However, these benefits must be weighed against ethical concerns such as algorithmic bias, privacy risks, lack of transparency, and the potential dehumanization of education. The regulatory framework must ensure that AI supports rather than replaces human educators, maintains transparency, and upholds data protection and fairness in decision-making.

Key Regulatory Considerations

A robust regulatory framework should be built on several fundamental pillars:

- **Data Privacy and Protection:** Ensuring that AI systems comply with stringent data security and privacy protocols to protect student and faculty information.
- **Algorithmic Fairness and Bias Mitigation:** Addressing potential biases in AI models that may perpetuate discrimination in admissions, grading, or personalized learning tools.

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- **Human Oversight and Control:** Maintaining the irreplaceable role of human educators in decision-making, mentorship, and ethical evaluations of AI-generated content.
- **Transparency and Accountability:** Universities must provide clear explanations of how AI-driven decisions are made, offering recourse for students and faculty affected by AI interventions.
- **Inclusivity and Access:** AI must serve as a tool to bridge educational gaps, particularly for disadvantaged communities, rather than exacerbate existing inequalities.

B. Country-Specific Insights

The research highlights differences in AI governance across Peru, Costa Rica, Spain, and Italy:

- **Peru** has enacted Law No. 31814 to promote AI adoption, but specific regulations for education are still under development.
- **Costa Rica** lacks an explicit AI regulatory framework but is drafting legislation based on international human rights protections.
- **Spain** is aligning with the **EU AI Act**, introducing robust legal mechanisms to regulate high-risk AI applications in education.
- **Italy** is also integrating AI governance within the EU regulatory framework, ensuring compliance with ethical standards while promoting AI innovation.

Despite these differences, all four countries emphasize the ethical use of AI, transparency, and protecting fundamental rights in education. The proposed framework seeks to unify these principles, fostering a harmonized and globally relevant approach.

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C. A Collaborative and Sustainable Approach

A critical element of this regulatory framework is its **international and multi-stakeholder approach**, as outlined in Work Package 2 (WP2) of the Ethical AI project. Through workshops in **Rome and Venice**, experts and policymakers from partner institutions are collaboratively shaping AI policies that respect national contexts while aligning with global best practicesCritical Path Analysis …. The **International Forum for Ethical AI in University Education** will serve as a permanent platform for continuous discourse, ensuring adaptability in response to emerging AI advancements.

Furthermore, an **iterative validation process** ensures that the framework is not static but evolves through stakeholder feedback, pilot implementations, and continuous risk assessments. The **Quality Plan** for the project emphasizes the need for monitoring, evaluation, and recalibration to maintain the framework's effectiveness.

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VII. Final Recommendations

To ensure the ethical deployment of AI in university education, institutions should adopt the following measures:

1. **Establish institutional tiered assessment AI implementation processes** to oversee AI adoption, ensuring compliance with ethical guidelines, address potential risks, and promote the exploration and innovation with this technology
2. **Develop AI Literacy Programs** for students and educators to foster responsible AI usage and awareness of biases.
3. **Mandate Algorithmic Audits** to detect and correct bias in AI-driven academic processes.
4. **Implement AI Transparency Measures** by providing clear documentation on how AI systems function and affect decision-making.
5. **Encourage AI for Inclusion and Accessibility**, ensuring AI tools accommodate diverse learning needs and do not marginalize underrepresented student populations.
6. **Regularly Review and Update AI Policies** to align with technological advancements, legal updates, and institutional needs.

As AI continues to shape the future of university education, implementing a **cohesive, ethically grounded, and adaptive regulatory framework** is imperative. The Ethical AI project's efforts across Peru, Costa Rica, Spain, and Italy demonstrate a commitment to **responsible AI governance**, fostering **academic integrity, inclusivity, and sustainable innovation**. By upholding ethical standards while embracing technological advancements, universities can **harness AI's transformative potential while safeguarding the fundamental values of higher education**.

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This framework serves as a **model for global HEIs**, ensuring that AI **enhances learning experiences without compromising ethical, social, ecological, and human values**. Through international collaboration and continuous policy refinement, universities can lead the way in **responsible AI integration**, setting a precedent for ethical and equitable AI use worldwide.

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VIII. Future Directions

The regulatory landscape for AI in education is constantly evolving, and ongoing research and collaboration are essential to ensure that regulations keep pace with technological advancements and address emerging ethical challenges. Future research should focus on:

- **Best Practices for AI in Education:** Identifying and disseminating best practices for the ethical and effective use of AI in education.
- **International Collaboration:** Fostering international collaboration on AI in education to share knowledge, develop common standards, and address global challenges.
- **Public Engagement:** Engaging the public in discussions about the ethical implications of AI in education to ensure that regulations reflect societal values and concerns.

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IX. References

1. Brent, Anders. (2023). *The AI Literacy Imperative: Empowering Instructors and Students*. Sovorel Publishing
2. *Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. International Journal Of Educational Technology In Higher Education, 20(1). https://doi.org/10.1186/s41239-023-00408-3*
3. Echecopar. (2023, July 18). *Ley que promueve el uso de la inteligencia artificial - Estudio Echecopar*. Estudio Echecopar. https://www.echecopar.com.pe/publicaciones-ley-que-promueve-el-uso-de-la-inteligencia-artificial.html
4. European Parliament. (2024, March 8). *Parliament approves landmark law to regulate Artificial Intelligence*. https://www.europarl.europa.eu/news/en/press-room/20240308IPR19015/la-eurocamara-aprueba-una-ley-historica-para
5. Fisher, M. (2014). *Capitalist Realism: Is there no alternative?* Zero Books
6. Klimova, B., & Pikhart, M. (2025). Exploring the effects of artificial intelligence on student and academic well-being in higher education: a mini-review. *Frontiers In Psychology*, *16*. https://doi.org/10.3389/fpsyg.2025.1498132
7. *Guía sobre el sistema de educación universitario: República del Perú*. (n.d.). https://cdn.www.gob.pe/uploads/document/file/3628065/Gu%C3%ADa%20sobre%20el%20Sistema%20de%20Educaci%C3%B3n%20Universitario%20-%20Rep%C3%BAblica%20del%20Per%C3%BA.pdf
8. Kestin, G., et al. (2024). *AI tutoring outperforms active learning*. Preprint. https://doi.org/10.21203/rs.3.rs-4243877/v1

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

9. *Ley 7169 - Sistema Costarricense de Información Jurídica*. (1990, May 8). http://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo.aspx?nValor1=1&nValor2=11908
10. *Ley Orgánica de Protección de Datos Personales y garantía de los derechos digitales*. (n.d.).
11. *Ley que promueve el uso de la inteligencia artificial - Estudio Echecopar*. (n.d.). https://www.echecopar.com.pe/publicaciones-ley-que-promueve-el-uso-de-la-inteligencia-artificial.html
12. *Ley Universitaria - Ministerio de Educación*. (n.d.). https://www.minedu.gob.pe/reforma-universitaria/pdf/ley_universitaria_04_02_2022.pdf
13. MegaProfe. (2024, January 16). *Cómo impactará la ley sobre IA en la educación*. MegaProfe. https://megaprofe.es/como-impactara-la-ley-sobre-ia-en-la-educacion/
14. MetaRed TIC Perú. (2023, November 16). *Pronunciamiento de MetaRed TIC Perú sobre el Proyecto de Reglamento de la Ley que promueve el uso de la Inteligencia Artificial*. https://www.metared.org/content/metared/pe/novedades/pronunciamiento-proyecto-reglamento-ia-peru.html
15. Ministerio de Universidades. (n.d.). *DyC 2023*. https://www.universidades.gob.es/wp-content/uploads/2023/04/DyC_2023_web_v2.pdf
16. Projecte de Llei de mesures per a la transformació digital de la Administració de Justícia. (n.d.).
17. RCAI. (2023, October 26). *Sistema Universitario Italiano*. https://www.rcai.it/sistema-universitario-italiano/
18. Real Decreto 729/2023, de 22 de agosto, por el que se regula el régimen jurídico, la organización y el funcionamiento de la Agencia Española de Supervisión de la

Co-funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

Inteligencia Artificial y se crea su sede electrónica. (2023, August 22). *Boletín Oficial del Estado*. https://www.boe.es/buscar/act.php?id=BOE-A-2023-18911

19. Real Decreto 817/2023, de 8 de noviembre, por el que se crea un entorno de pruebas controlado para la inteligencia artificial. (2023, November 8). *Boletín Oficial del Estado*. https://www.boe.es/diario_boe/txt.php?id=BOE-A-2023-22767
20. Sistema Educativo de Costa Rica. (n.d.). *Ministerio de Educación Nacional de Colombia*. https://contenidos.mineducacion.gov.co/ntg/men/micrositio_convalidaciones/Guias_mineducacion/MINEDU-costarica/assets/files/Guia_Sistema_Educativo_de_CostaRica.pdf
21. Siqueira, M. B., Santos, V. M. D., Diniz, E. H., & Cruz, A. P. A. (2024). Artificial Intelligence for Sustainability: A Systematic Literature Review in Information Systems. *Revista de Gestão Social E Ambiental*, *18*(3), e07885. https://doi.org/10.24857/rgsa.v18n3-178
22. Teacher Task Force for Digital Education. (2023, June). *Directrices éticas sobre el uso de la inteligencia artificial (IA) y los datos en la educación y la formación para los educadores*. https://teachertaskforce.org/sites/default/files/2023-06/2022_EC_directrices-uso-IA_ES.pdf
23. UNESCO. (2021, November 23). *Recommendation on the Ethics of Artificial Intelligence*. https://www.unesco.org/en/artificial-intelligence/recommendation-ethics
24. UNESCO. (2023, September 6). *La inteligencia artificial generativa en la educación: Documento de reflexión de Sra. Stefania Giannini, Subdirectora General de Educación*. https://www.unesco.org/es/articles/la-inteligencia-artificial-generativa-en-la-educacion-documento-de-reflexion-de-sra-stefania
25. Universidad de Deusto. (n.d.). *Tuning América Latina - Costa Rica*. http://tuning.unideusto.org/tuningal/images/stories/presentaciones/costa_rica.pdf

Co-funded by the European Union

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26. Universidad Nacional de Educación a Distancia. (n.d.). *Estructura académica en las universidades españolas: Qué debes saber*. UNED. https://unnet.es/estructura-academica-en-las-universidades-espanolas-que-debes-saber/

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