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Educational Integrity: Ethical and Regulatory Perspectives on Generative AI in Moroccan Higher Education

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Safeguarding Educational Integrity: Ethical and Regulatory Perspectives on Generative AI in Moroccan Higher Education

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ABSTRACT

Generative artificial intelligence (AI) systems are quickly being adopted by universities in Morocco, challenging long-standing conventions of authorship, assessment, and data stewardship. This paper considers the ethical risks and regulatory vacuums raised by the introduction of these AI tools and how to protect academic integrity without stifling innovation. Using a mixed-methods approach - policy analysis of global and national frameworks for AI in education; document review of three Moroccan universities; and semi-structured interviews with fifteen faculty, administrators and policymakers - we identify three converging sites of contention: the lack of any clear rules for disclosure, the uneven level of institutional preparedness, and the inherent language bias in existing commercial AI models. At the same time, we can locate aspects of ethical AI governance that are resourceful and situated in Muslim concepts of "amanah" (trustworthiness), and emerging national-level digital transformation agendas. We offer a Glocal governance model, honoring international best practices, but situated within Moroccan material and cultural contexts and languages. Ultimately, we call for participatory policy-making, faculty professional development and capacity building, investment in Arabic and Amazigh-oriented language models that align with our goals, and that together forge a path toward an equitable and innovative higher education ecosystem.

KEYWORDS

Generative AI

Higher education

Academic integrity

AI ethics

Morocco

Introduction

The rapid expansion of generative artificial intelligence (AI) technologies has undoubtedly reshaped the landscape of higher education in every corner of the globe. Tools such as Grok, Manus, DeepSeek, Gemini and ChatGPT—which can generate human-like working of text, images, code, and problem-solving responses—are increasingly being incorporated into student learning, academic research, and institutional management (Luckin et al. 17). Their groundbreaking ability to imitate, adapt, and generate elaborate responses in natural language have changed the definitions of creativity, authorship, and intellectual work. For higher education purposes,the potential benefit of generative AI lies in personalizing learning, enhancing research efficacy, and supporting multilingual forms of knowledge access. However, with those benefits come significant risks, with some of the more important being: academic

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integrity, authorship confusion, unchecked data practices, and even further exacerbation of existing educational inequities.

At the center of this transformation is a paradox. While generative AI may be welcomed in terms of accelerating scientific discovery and democratizing access to educational resources, it presents profound threats to the ethical underpinnings of higher education. This relates particularly to institutions whose assessment, evaluation, and certification systems have historically been built on human authorship and originality. With generative AI models' ability to generate acceptable quality essays, solve complicated problems, and mimic human arguments, even traditional ways of assessingknowledge by students can become susceptible to abuse or manipulation (Selwyn 61). Moreover, students who utilize AI tools without transparency, failing to communicate ethical considerations and institutional expectations, create additional difficulties for faculty seeking to verify the authenticity and the correct assignment of responsibility for academic impropriety. Higher education systems around the globe have begun to react to the AIED threat by developing new storefronts, educational frameworks, and institutional ethics codes. In a few instances, universities in the UK, Australia, and the USA have even gone further to establish disclosure policies for the use of AI that govern clear policies on responsible use, to deter and/or prevent academic dishonesty. Both UNESCO and OECD reports have built frameworks for the adoption of trustworthy AI in education, particularly focused on human oversight, clear transparency, and inclusive governance. Of course, the practical implementation of policy in response to the emergence of generative AI is inconsistent, especially in Global South countries where resources are scarce, digital infrastructure is underdeveloped, and AI literacy is even more variable.

The current case of higher education systems in Morocco provides an interesting and timely case study of generative AI that is ethical and regulated. Morocco has made some advances towards digitizing its education system via Digital Morocco 2025 and its broader Vision 2030 for Educational Reform, which encourages higher education systems to implement technology in universities and promotes alignment of national competencies with global knowledge economies (Benali 45). However, it is evident that the introduction of technological tools within description tends to focus on infrastructure and access, and less so on any ethical considerations surrounding those emerging technologies like generative AI. As a cohort, both public and private Moroccan universities are finding it exceedingly difficult to respond institutionally to the entry of generative AI into classrooms and the research space. In many cases, there is limited awareness among faculty and administrators about the specific capabilities of these tools or the risks they pose to academic honesty, evaluation standards, and student equity.

Morocco’s multilingual academic landscape complicates generative AI regulation. With Arabic, Amazigh, French, and English all present in instructional contexts, algorithmic bias, linguistic exclusion, and inequitable availability are increased. Since today’s AI tools are typically optimized for English, students and scholars predominantly using Arabic or French may either be disadvantaged by underdeveloped functionality or have added hurdles regarding ethical usage. Furthermore, a lack of Arabic-based AI training datasets raises questions about the correctness, cultural reliability, and inclusiveness of generative AI applications to Moroccan higher education (Bouzidi12-13).

Research Questions:

1. What ethical risks do generative AI systems pose to academic integrity, authorship, and equity in Moroccan higher education institutions?
2. How do existing national and institutional regulatory frameworks address—or fail to address—these risks?
3. What context-responsive governance strategies can Moroccan universities adopt to safeguard educational integrity while leveraging generative AI?

Moroccan academic culture is influenced by both Francophone education systems and Islamic intellectual traditions, which value original authorship, collective responsibility, and moral accountability. These values are often threatened in digital environments due to decentralized authorship and automated intellectual production. As Yang contended, the entrenchment of AI into knowledge systems pushes us to reconsider the ethics of contribution, authorship, and epistemic legitimacy (518–34). In Morocco, this reconsideration necessitates taking shape in a culturally appropriate manner that balances openness to innovation and tradition.

While the risks are evident, the potential to use generative AI to strengthen academic integrity, rather than undermine it, is equally enticing. When regulated appropriately, these technologies can facilitate a more inclusive education, better multilingual accessibility, enhanced plagiarism detection, and even tailor-made feedback for student improvement. However, realizing this vision requires not just infrastructure, but regulation (ethical codes, institutional policies, and pedagogically mediated adaptiveness) that is contextualized with respect to global best practices and local cultural realities.

This article examines the ethical and regulatory challenges generative AI brings to higher education in Morocco and how higher education institutions can protect academic integrity while utilizing technological possibilities. The paper draws on a mix of international policy analysis, policies, and national education strategies, along with qualitative contributions from Moroccan universities to look at both the threats and opportunities of generative AI, with respect to assessment practices, research output, and faculty-student relationships. Through a grounded and comparative lens, the aim is to consider how context-appropriate AI governance models may be developed that are specific to Morocco's linguistic, institutional, and cultural particularities in order to promote a more inclusive, accountable, and ethically resilient educational context—a context in which innovation is possible, but the values of higher learning are not sacrificed.

Literature Review

This section develops a comprehensive theoretical framework for understanding the ethical and regulatory dimensions of generative AI in Moroccan higher education. The framework integrates global AI ethics principles with local cultural, linguistic, and institutional contexts to create what we term a “Glocal AI Ethics” approach.

Theoretical Foundations

Glocalization Theory: Through the concept of “glocalization,” Roland Robertson captures the dialectical processes by which global forces and local practices are mutually reshaped (28). In the realm of AI ethics, glocalization clarifies why frameworks proposed by multilateral bodies become meaningful only when they are adapted into local norms. Arjun Appadurai’s work on ethnoscapes and ideoscapes further qualifies this observation, detailing how the flows of technology intermingle with cultural imaginary in order to produce hybrid arrangements (Appadurai33-7). Moroccan universities represent a hybridization of sorts, located at a geopolitical crossroads and operating in four working languages.

Critical Data Studies: A second thread foregrounds power asymmetries that are built into data infrastructures. Crawford’s Atlas of AI reveals the environmental, labor, and epistemic extractions hidden behind “frictionless” platforms. Williamson and Piattoeva extend this

critique to schooling, pointing out that routine algorithmic surveillance normalizes forms of data capture that erode trust at the center of authentic learning (60-65). For Morocco, where teacher-student relations are characteristically dialogic, these insights foreshadow a struggle between dashboards for analytics imported from other contexts and pedagogies deemed valuable within local contexts.

Contextual Integrity Theory: Privacy is not a universal commodity. In [her] privacy framework, Helen Nissenbaum claims that normative rules governing flow are relative to context, and are fully maintained only when information flows conform to the implicit rules of a given context (119-20). Given the blending of classroom, community, and family contexts on Moroccan campuses, ensuring contextual integrity in the machine learning that occurs with generative AI systems requires acute attention to how they reconfigure these flows as well. An example of this is when a chatbot trained on a global dataset processes a student dialect of Amazigh. In summary, the three traditions come together around the claim that ethical AI governance has to be principled and place-based, which is what informs the framework detailed below.

The Glocal AI Ethics Framework: Three Dimensions

Our framework operationalizes glocal ethics in three interconnected dimensions—pedagogical, ethical, and regulatory—that are each examined from both global and local perspectives.

Pedagogical dimension: Luckin et al. demonstrate that AI tutors can offer individualized pacing and feedback (Luckin et al. 17). However, empirical classroom research from North Africa reveals language-mismatch barriers. For example, the order of magnitude for large language models, whether fine-tuned on English or Arabic versions, is one. Amazigh is virtually useless for training purposes. Engaging with early adopters does not mediate Arabic media, and Arabic media privilege their decisions about online education. Bouzidi (verification pending) observed faculty completely excluded Arabic by requiring students to complete high-stakes French writing tasks so they could use more advanced AI writing assistants, which does nothing to dismantle or tacitly accept harmful linguistic hegemony actively.

Ethical dimension: Universalist charters, such as UNESCO's Recommendation on the Ethics of AI or the OECD's AI Principles, invoke abstract values like beneficence and justice. Stakeholders in Morocco add to this that Islamic bioethics develops the way in which the notion of amanah, or trust, links to data stewardship, whereby data is viewed as a deposit, meaning that institutions must treat student data as sacred (i.e., subject to amanah). A post-colonial critique would caution us against delegating significant knowledge work to global tech multinationals; feminist scholarship, meanwhile, highlights the possibility of algorithmically erasing gendered minority voices. El-Badawy and Hashem suggest the adoption of a MENA-specific values-based model, which integrates local priorities into curricula and accreditation standards (34-6).

Regulatory dimension: The layering-governance approach discussed by Gasser and Almeida provides a "context layer" that allows global norms to be "bound to reality" in the sector (60). Morocco's draft National AI Strategy outlines this structure, suggesting the establishment of a national ethics committee to collaborate with universities in developing guidelines for pilot testing before they are codified through regulation. UNESCO (30) encourages policymakers to map their legal regimes against its recommendations, while the OECD (10-11) encourages co-creation with local educators to devise regulations and guides to safeguard cultural contexts.

Dynamic Processes: Adaptation, Resistance, Innovation

Adaptation: Universities are translating global AI toolkits into local knowledge systems. Using a university career advisory service as an example, Mohammed VI Polytechnic (UM6P) retrofitted an Arabic-first chatbot by building its dialogue system using labour-market terminology specific to Morocco. Sidi Mohammed Ben Abdellah University, on the other hand, developed a bilingual glossary plug-in that allows for the switching of the ChatGPT prompts from standard Arabic script to French script, enabling first-year students to have an easier entry into the platform.

Resistance: Faculty unions and student groups have combined to resist algorithmic monitoring platforms, portraying them as imports of surveillance that diminish trust. Such resistance is a good example of Williamson's dialectic: this is not Luddite refusal, but a renegotiation that helps set boundary conditions on acceptable AI use, e.g., proctoring webcams are refused, while AI-assisted quizzes are permitted.

Innovation: Local start-ups, such as MorocCode, are fine-tuning transformer models on Moroccan-Arabic social media corpora, while hackathons are producing prototype Amazigh OCR tools. Both instances are contributing to global open-source ecosystems, tracing back to the knowledge flows of Moroccans, demonstrating both external and internal knowledge flows, and expanding glocalization beyond receiving to contributing.

Theoretical Contribution and Application

The review of literature clarifies three cumulative insights. First, although universal principles are limits of reference, they only wield normative power when they are rendered through contextualized expressions. Secondly, glocal processes are simultaneous: Moroccan agents are not just subject to AI ethics but also co-creators of the meaning of AI ethics. Finally, multilingualism is not merely a technical variable, but an ethical variable that intersects epistemic justice and data colonialism concerns.

By focusing on the cultural and historical context, it explains how certain media messages resonate as "common sense" and become normalized among audiences (Kuckartz 62). This approach's flexibility allows researchers to consider multiple interpretations, providing a nuanced understanding of framing strategies and their broader social and political impact (Altheide 291). Overall, textual analysis offers valuable insights into how media outlets construct narratives that influence public opinion and policy debates.

The study employs archival research to analyze news narratives about two key migration events: the 2021 Ceuta border crisis (17-26 May) and the 2023 migration wave (1-10 February), selecting relevant articles from each period. The identification of media frames was carried out through an inductive, interpretive approach typical of qualitative textual analysis. One researcher conducted close readings of the selected articles, identifying patterns in language, emphasis, and narrative structure. Frames were not drawn from a pre-established coding scheme but emerged organically based on their frequency, contextual relevance, and capacity to reflect shifts in media.

Research Methodology

This study employs a mixed-methods research approach grounded in a multi-source analytical framework to examine the ethical and regulatory dimensions of generative artificial intelligence (AI) in Moroccan higher education. The methodological design aligns with the exploratory

nature of the research questions, which seek to understand institutional practices, stakeholder perceptions, and normative gaps rather than quantify usage patterns or performance metrics.

Research Design and Rationale

A qualitative-dominant mixed-methods approach was selected for three primary reasons: (1) the emergent nature of generative AI in Moroccan higher education requires exploratory investigation before quantitative measurement; (2) the complex interplay between technology, ethics, and cultural context demands rich descriptive data; and (3) the need to triangulate between policy documents, stakeholder experiences, and international frameworks necessitates methodological flexibility.

Data Sources and Collection Methods

The research draws upon three primary sources of data. First, policy document analysis involved a systematic review of national strategies and institutional policies, including national-level documents such as Digital Morocco 2025, Vision Stratégique de la Réforme de l'Éducation 2015–2030, and digital governance reports from the Ministry of Higher Education; institutional-level policy documents from Mohammed V University, ENSA Kenitra, and Université Mohammed VI Polytechnique (UM6P); and international frameworks such as the UNESCO AI Ethics Framework, OECD AI Policy Guidelines, and European Commission AI Act provisions relevant to education. Documents were selected based on their relevance to digital transformation in education, explicit mention of AI governance, and publication between 2015 and 2025. The analysis focused on identifying regulatory approaches, ethical considerations, and implementation gaps.

Second, semi-structured interviews were conducted with fifteen key stakeholders, including ten faculty members from diverse disciplines (computer science, education, philosophy, linguistics), three digital learning administrators responsible for technology integration, and two Ministry of Higher Education representatives involved in digital policy. Participants were selected using purposive sampling to ensure representation across geographic diversity (universities in Rabat, Casablanca, Kenitra, and Marrakech), institutional types (public and private universities), and varying levels of experience with AI implementation. Interviews lasted 60 to 90 minutes and were conducted in the participant's preferred language (Arabic, French, or English). The interview protocol addressed four key areas: awareness and understanding of generative AI tools, institutional responses, ethical concerns, and culture-specific values related to AI in education.

Third, a literature review was conducted through a systematic search of scholarly literature on AI ethics in education using databases such as Web of Science, Scopus, ERIC, and Google Scholar, as well as Arabic-language databases Al Manhal and Dar Al Mandumah, and French-language databases Cairn.info and Persée. Search terms included combinations of "artificial intelligence," "generative AI," "higher education," "ethics," "regulation," "Morocco," "North Africa," and "Global South." The inclusion criteria required peer-reviewed publications from 2016 to 2025, relevance to educational contexts, and a substantive discussion of ethical or regulatory dimensions.

Analytical Framework and Data Analysis

The research draws upon three primary sources of data. First, a systematic analysis of policy documents was undertaken at the national, institutional, and international levels. This included Digital Morocco 2025, Vision Stratégique de la Réforme de l'Éducation 2015–2030, and digital governance reports from the Ministry of Higher Education. Institutional sources were drawn from Mohammed V University, ENSA Kenitra, and Université Mohammed VI Polytechnique (UM6P). Internationally, the review considered the UNESCO AI Ethics Framework, the OECD AI Policy Guidelines, and relevant provisions from the European Commission's AI Act. Documents were selected based on their relevance to digital transformation in education, explicit references to AI governance, and publication dates between 2015 and 2025. The analysis focused on identifying regulatory approaches, ethical considerations, and existing implementation gaps.

Second, the study incorporated semi-structured interviews with fifteen key stakeholders. These included ten faculty members across various disciplines, such as computer science, education, philosophy, and linguistics; three digital learning administrators responsible for integrating institutional technology; and two representatives from the Ministry of Higher Education engaged in digital policy-making. Participants were selected using purposive sampling to ensure diversity across geographic locations, including Rabat, Casablanca, Kenitra, and Marrakech, as well as institutional types (public and private universities) and degrees of AI implementation experience. Interviews, conducted in the participant's preferred language (Arabic, French, or English), lasted between 60 and 90 minutes and addressed four core themes: awareness and understanding of generative AI tools, institutional responses, ethical concerns, and culturally specific values linked to AI in education.

Third, the study conducted a systematic review of scholarly literature related to AI ethics in education. Databases consulted included Web of Science, Scopus, ERIC, and Google Scholar, alongside Arabic-language repositories such as Al Manhal and Dar Al Mandumah, as well as French-language platforms like Cairn.info and Persée. Search terms combined keywords including "artificial intelligence," "generative AI," "higher education," "ethics," "regulation," "Morocco," "North Africa," and "Global South." Peer-reviewed publications published between 2016 and 2025 were selected based on relevance to educational contexts and substantive treatment of ethical or regulatory issues.

Case Study Selection

The research also incorporated three institutional case studies selected to reflect diverse approaches to AI integration within Moroccan higher education. Mohammed V University in Rabat was chosen as the country's oldest and largest public university, characterized by a traditional governance structure and moderate engagement in digital transformation initiatives. ENSA Kenitra was included as a specialized engineering institution that demonstrates strong technical capacity yet lacks formal AI governance frameworks. The third institution, Université Mohammed VI Polytechnique (UM6P), represents a recently established private university distinguished by its substantial investment in AI research and its explicit commitment to digital innovation. These institutions were selected based on three key criteria: documented involvement in digital transformation, variation in institutional type, size, and governance model, and practical accessibility for research.

Ethical Considerations

The research adhered to ethical guidelines for educational research, with approval from the institutional review board at Sidi Mohamed Ben Abdellah University. Participants provided informed consent, and data were anonymized to protect confidentiality. Particular attention was paid to cultural sensitivity in interview protocols and analysis, acknowledging the multilingual and multicultural context of Moroccan higher education.

Methodological Limitations

Several limitations of the study should be acknowledged. First, the relatively small interview sample restricts the generalizability of the findings beyond the institutions examined. Second, there is a potential for self-selection bias, as participants may have been more likely to volunteer if they already held an interest in AI ethics. Third, given the rapid pace of development in generative AI technologies, some of the insights presented here may have limited temporal validity. Fourth, despite deliberate efforts to include Arabic and French sources, language barriers may have constrained the comprehensiveness of the literature review. Nonetheless, the triangulation of diverse data sources and the adoption of a context-sensitive analytical framework contribute to a robust foundation for examining the ethical and regulatory dimensions of generative AI in Moroccan higher education.

Results

The application of generative AI in Moroccan higher education is currently evolving in a fragmented and rapidly changing context. The data from the document analysis and stakeholder interviews reflect a mixture of optimism, uncertainty, and considerable gaps in institutional readiness and regulatory clarity. This section highlights key themes that emerged from the data, situating them within the broader international debates on ethics, governance, and innovation in education.

Awareness and Perceptions of Generative AI

In the post-2023 phase, across the institutions examined, an emerging awareness of generative AI tools is evident among both faculty and administrators. Interviewees discussed the frequent use of tools such as ChatGPT, Grammarly, and Quillbot by students for language correcting, research support, and drafting assignments. Faculty also noted that these tools present potential to enable student learning, especially in multilingual classrooms where they understand students struggle with academic writing in Arabic, French, or English.

However, alongside awareness, there was confusion and inconsistent perceptions regarding the legitimacy of AI-supported outputs. Some instructors considered the use of AI to be “digital assistance,” while others viewed it as academic misrepresentation, particularly when students failed to disclose that their assignments relied on generative text tools. The lack of institutional policies or guidelines was often cited as a source of confusion and mistrust.

These findings are reflective of Selwyn’s and Holmes’ documentation of situations where unclear policy conditions commonly exacerbate ethical problems and pedagogical disjunctions, leading to fragmented institutional responses to AI adoption.

Institutional Readiness and Regulatory Gaps

Despite Morocco having national strategies for digital transformation, none of the universities studied had policies regarding the ethical or pedagogical use of generative AI. University codes of conduct featured statements about academic honesty in general terms, but did not include policy details regarding AI-authored work, content attribution, or content disclosure. Only one institution (UM6P) was found to be developing internal discussions regarding the design of AI policy, and this was at an early stage.

In interviews, many institutional stakeholders expressed discomfort with the inevitable pace of AI change and the slow pace of academic regulation. Several interviewees commented that coherent institutional action to advance generative AI use in higher education would be severely hindered by the lack of national guidelines provided by the Ministry of Higher Education.

This regulatory void mirrors global patterns discussed by Fjeld et al., who argue that, despite global support for the adoption of ethical principles and the endorsement of ethical principles by many institutions, organizationally weak implementation exists at the institutional level. In Morocco's case, issues of regulation are further compounded by the wider resource disparities between urban infrastructures to finance education and those attempting to support rural or poorly financed institutions.

As summarized in Table 1, Institutional preparedness is found across a continuum. It demonstrates, the private UM6P is well on its way to having a dedicated AI-governance framework, ENSA Kenitra is working on exploratory pilot projects, while Mohammed V University operates in a largely ad-hoc way. The difference across the "AI Policy Status," "Faculty Training," and "Implementation Notes" demonstrates that the gap between policy and practice widens as one moves from better-resourced to resource-constrained institutions.

Table 1: Institutional Readiness for Generative AI Integration in Moroccan HEIs

University	AI Policy Status	Faculty Training	Implementation Notes
Mohammed V University	None	Limited	Ad-hoc use by faculty without centralized guidance
ENSA Kenitra	Draft Stage	Developing	Pilot projects underway in STEM departments
Université Mohammed VI Polytechnique (UM6P)	In Development	Moderate	Internal working group exploring governance frameworks

Ethical Challenges: Integrity, Authorship, and Surveillance

Three clear ethical issues emerged from the interviews: breaches of academic integrity, ambiguity over authorship, and unjustified use of monitoring technologies. Faculty reported

cases where students submitted work that was clearly AI-authored content, yet quite impossible to discern using conventional detection tools as plagiarized content.

Stakeholders coalesce around three intertwined risks. Table 2 distills their concerns: undetectable plagiarism threatens academic integrity, ambiguous contributions cloud authorship, and AI-enabled proctoring raises privacy concerns. The representative quotes underscore a shared perception of opacity—faculty and students alike "feel they are being watched without consent," signaling an urgent need for transparent disclosure protocols.

Table 2: **Key Ethical Concerns Raised by Stakeholders**

Ethical Concern	Description	Representative Quote
Academic Integrity	Use of AI for undetectable plagiarism	Use of AI for undetectable plagiarism
Authorship Ambiguity	Unclear contribution of AI in collaborative work	"It's hard to know who wrote what when AI tools are involved."
Surveillance Risks	AI-based proctoring raises privacy concerns	"Students feel they are being watched without consent."

This validates international findings that generative AI circumvents conventional plagiarism tools by creating "original" content that maintains logical structure but does not directly copy from other works (Mittelstadt et al. 610).

The concern over authorship is also connected to collaborative projects, where it is deemed acceptable to utilize AI tools in preparatory literature reviews or at the beginning stages of drafting a methodology, with no indication that AI was used. The result is an increasing tension surrounding attributions of credit, especially in multilingual academic environments that impact access to a quality output from AI usage, depending on the languages employed.

Some institutions have also been examining the use of monitoring software enhanced by AI for online assessments, raising concerns among stakeholders regarding privacy, autonomy, and trust among students. These shifts correspond with Williamson and Piattoeva, who reported that algorithmic surveillance of students in education perpetuates accepted and standard data capture while disrupting the relational trust that underlies authentic learning environments (60-5).

Local Values, Cultural Alignment, and Linguistic Justice

One of the most distinctive findings in the Moroccan context is the intersection between generative AI and cultural-linguistic norms. Stakeholders expressed concerns that global AI platforms are not designed with Moroccan cultural references, nor do they support equitable multilingual access. Students working in Arabic or French reported less reliable AI-generated content, echoing findings by Zouhir and Noble on the epistemic bias of dominant AI models.

Furthermore, interviewees emphasized the importance of embedding AI ethics in local values, such as Islamic ethical traditions, community-based learning, and the moral centrality of authorship. These perspectives highlight the limitations of universalist ethics frameworks and point to the importance of context-specific regulatory approaches, as advocated by Gasser, Almeida, El-Badawy, and Hashem (34-6).

Discussion

Towards Glocal Regulation

The overall takeaway from the study is that to enable generative artificial intelligence (AI) in Moroccan higher education, a regulatory approach is needed that integrates global best practices with the local context within which the institutions operate. It was consistently noted by component stakeholders that national policy coordination at the local level, faculty training, and ethical education as part of the curriculum were necessary.

While international guidelines, such as those provided by UNESCO (30) and the OECD (10-11), can serve as valuable reference points, they must be interpreted within the context of local Moroccan values, linguistic complexity, and the diversity of Moroccan institutions in which they are situated. Without such a process of reinterpretation and realignment, the benefits of generative AI will be unevenly distributed among those who teach and learn, with ethical dereliction and academic disorientation becoming the norm.

Conclusion

This research has examined the ethical and regulatory implications of generative artificial intelligence (AI) for Moroccan higher education, utilizing qualitative data, national strategies, institutional case studies, and international comparisons. As generative AI becomes increasingly prevalent in academic work—from content creation to research assistance and personalized learning—it begins to challenge the fundamental principles of the academic ecosystem, i.e., originality, authorship, and "trust." The challenges of establishing these principles are exacerbated in emerging pragmatic digital environments, such as Morocco, where regulatory structures, pedagogical frameworks, and digital literacy systems are still in the process of maturation.

The research indicates several notable findings. First, the level of awareness regarding generative AI is rapidly increasing among faculty, students, and administrators, with effective institutional policies still lacking in place. The absence of a formal policy context resulted in uncertainty about practice (e.g., assessment, authorship, acceptable use). Second, the Moroccan institutions show diversity in their readiness and willingness to engage with generative AI. Some universities, for example, are actively exploring frameworks for ethical use and faculty training on generative AI; other universities appear to be at the beginning stages of developing digital policies. Third, the ethical challenges of generative AI (e.g., violations of academic integrity, creation of culturally inappropriate content) are compounded by the multilingual and multicultural realities of higher education in Morocco. The prevalence of dominant English language AI tools can also impact the participation of non-English-speaking academics in research and reinforce a language hierarchy.

The results suggest that a "glocal" regulatory framework is required, that is aware of international principles of AI ethics while being responsive to Morocco's educational, linguistic, and cultural identity. It will require national policy leadership and institutional capacity building

with an integrated faculty development approach. AI governance must also be inclusive, participatory, and anticipatory to both the changing technologies and academic practices.

The study also presents several limitations. Since the study followed a qualitative research design with rich data, its generalizability is limited beyond the context of the institutions and perspectives sampled. The qualitative methodology included a small, though purposively sampled, number of interviews. Additionally, the research focuses on higher education and does not include the integration of AI in educational systems (e.g., secondary schools, vocational schools, etc.). Finally, due to the rapid pace of development, some platforms and institutional responses discussed may face challenges sooner than anticipated.

Future research can expand the empirical base of data through multi-institutional surveys, longitudinal studies, and emerging student-focused perspectives on the integration of generative AI. Future studies should also consider roles for AI curriculum co-design and develop cross-border research collaborations, as well as consider the development of Arabic and Amazigh-compatible AI. Comparative studies with other North African or Global South countries may also deepen understanding about how varied sociopolitical contexts mediate the ethics and governance of AI in education.

Ultimately, securing the integrity of education in the era of generative AI will require a dynamic, collaborative, and principled response. Moroccan higher education institutions, policy-makers, and researchers stand in a unique position not only to adapt to global innovations but to be leaders in creating inclusive and equitable digital futures.

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