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The GLOCEPS Policy Brief

Empowering the Educator: A Policy Imperative for Faculty AI-Readiness in Eastern Africa's Higher Education

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Abstract

Artificial Intelligence (AI) is reshaping global education, with transformative implications for teaching, research, and employability. Yet, in much of Africa, the integration of AI into higher education is constrained by structural, pedagogical, and ethical bottlenecks. This paper critically examines five interlinked challenges: (1) faculty capacity as the principal bottleneck; (2) curriculum relevance and the disconnect from AI-driven realities; (3) inadequate ecosystem and infrastructure; (4) the employability gap resulting from inaction; and (5) data sovereignty as an ethical imperative led by faculty. Drawing on studies from Kenya, Rwanda, Tanzania, Uganda, and comparative continental research, the analysis demonstrates that faculty readiness remains the most strategic determinant of successful AI integration. Without urgent investment in continuous professional development, Africa risks deepening educational inequities and producing graduates unprepared for the digital economy. The paper concludes with policy and strategic recommendations for universities, governments, and regional bodies to ensure AI becomes a tool for inclusive, innovative, and sovereign higher education.

Introduction: The Imperative of AI in African Higher Education

Artificial Intelligence (AI) has emerged as a transformative force across sectors, including higher education. Globally, AI is deployed in personalized learning, research acceleration, and administrative automation (Baidoo-Anu & Ansah, 2023; Crompton & Burke, 2023). For Africa, home to the world's youngest population and economies seeking rapid digital transformation, the integration of AI into higher education is both a necessity and a developmental opportunity. The African e-learning market, valued at $3.4 billion in 2024, is projected to reach $19.7 billion by 2034 (Business Insider Africa, 2024), reflecting a rising demand for digital learning solutions.

Yet the narrative often privileges technological acquisition over human capacity, focusing on hardware and software while neglecting the lecturer who is the central actor in pedagogy, research, and ethical guidance. Faculty are the architects of learning environments and the gatekeepers of academic integrity. Their readiness determines whether AI becomes a tool for empowerment or a driver of dependency and inequality (Mollick, 2024). This paper reframes AI integration through the lens of faculty empowerment, situating the discussion within five thematic barriers and comparative African experiences.

Faculty Capacity: The Principal Bottleneck

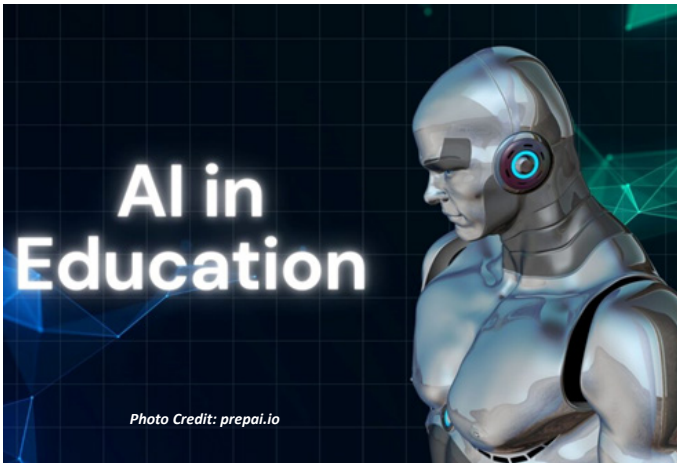
Faculty capacity remains the most critical bottleneck in AI integration. Many academics across Africa possess limited digital literacy and minimal exposure to AI tools (Tshilongo & Mlambo, 2024). The deficit is not solely technical; it extends to pedagogy and ethics. For example, while AI can generate sophisticated text, lecturers need training to design assessments that test reasoning, creativity, and application, competencies AI cannot replicate (Crompton & Burke, 2023).

In Kenya, studies reveal high awareness but limited structured training for faculty. Omariba (2025) found that while students readily adopt AI-driven personalized learning, faculty struggle to embed AI into pedagogy due to insufficient training and institutional support. Similarly, Wang'ang'a (2024) highlighted faculty concerns over AI-enabled plagiarism, underscoring the need for capacity-building in both pedagogy and ethics.

Rwanda presents a parallel scenario. At the University of Rwanda, most lecturers self-identified as beginners in AI literacy, citing inadequate institutional training and unclear policies (Sebihi, Schoelen, & Uwamwezi, 2025). This limited competency restricts their ability to guide students on AI's responsible use.

In Tanzania, Mollel (2025) found that AI adoption among students was widespread, yet largely unregulated and unsupported by faculty, who lacked both policy frameworks and training to provide guidance. Uganda echoes these gaps. For instance, at Busitema University, staff reported informal, even secretive, use of AI due to the absence of policies and institutional integration (Eryenyu, Owomugisha, Biira, & Waako, 2024).

These cases illustrate a regional pattern that, without comprehensive, continuous professional development, faculty remain underprepared, resistant, or misaligned with AI's pedagogical potential. This not only constrains innovation but also risks deepening the disconnect between higher education and the AI-driven economy.



Curriculum Relevance: Disconnect from AI-Driven Realities

Globally, AI is increasingly treated as a general-purpose technology integrated across disciplines, from history to medicine. In much of Africa, however, AI remains siloed within computer science programs (UNESCO, 2023). This creates a disjuncture where graduates in agriculture, business, or health sciences often leave universities without the AI literacy demanded in their fields.

In Kenya, Wang'ang'a (2024) observed that while students embraced AI tools in diverse disciplines, curricula remained outdated, with minimal formal integration of AI concepts. Similarly, Omariba (2025) noted that despite AI's proven potential to enhance personalized learning, curricula reforms had not kept pace.

Rwanda's University of Rwanda reflects this pattern. Sebihi et al. (2025) found no formalized curriculum for AI across non-STEM programs, leaving graduates with limited cross-disciplinary AI literacy. Tanzania's case shows student-driven rather than faculty-or curriculum-driven AI adoption (Mollel, 2025). This creates risks of superficial learning, plagiarism, and a reliance on imported AI tools unaligned with local contexts.

Faculty are central to bridging this gap. Curriculum reform must be led by lecturers capable of embedding AI concepts, data literacy, and ethical debates into their teaching. Competency-based curricula focusing on problem-solving, prompt engineering, and algorithmic reasoning are urgently required (Ogada, Ojenge, Galia, & Odiwuor, 2024). Without faculty capacity, reforms remain aspirational.

Inadequate Ecosystem and Infrastructure: The Innovation-Deterring Environment

Faculty innovation requires enabling ecosystems. Across much of Africa, higher education institutions struggle with unreliable internet, limited access to cloud-based tools, weak institutional support, and insufficient funding for AI research (World Bank, 2023; Garcia, 2022).

Kenya's universities, despite high student adoption, face infrastructural deficits such as unreliable internet and a lack of institutional support structures (Omariba, 2025). Rwanda's University of Rwanda highlights similar challenges: lecturers cited poor internet connectivity, inadequate computing

resources, and financial constraints as major barriers to AI adoption (Sebihi et al., 2025).

In Tanzania, the absence of institutional policies and licensed AI tools creates an environment of unregulated, peer-driven adoption, heightening risks to academic integrity (Mollel, 2025). Uganda's Busitema University case echoes these deficits, where AI use remains informal and unsupported due to infrastructural and policy voids (Eryenyu et al., 2024).

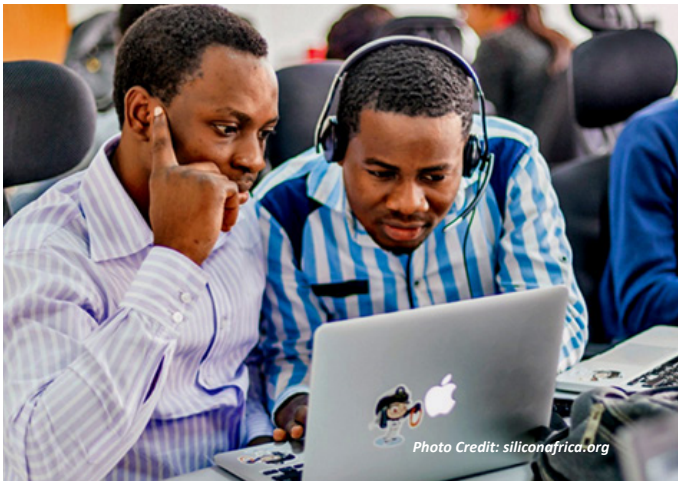
These systemic barriers undermine faculty morale and deter innovation. Without ecosystems that provide resource hubs, technical support, and research funding, AI integration becomes an individual burden rather than a collective institutional strategy (INASP & IUCEA, 2023).

Employability Gap: The Result of Inaction

Employers increasingly demand graduates with AI literacy, data skills, and the ability to solve context-specific problems (Mhlanga, 2023). Yet, when faculty lack AI competence, students graduate unprepared.

Kenya illustrates this paradox. Despite high student adoption of AI tools, curricula, and faculty practices lag, resulting in graduates with fragmented or superficial competencies (Omariba, 2025). Tanzania faces a similar issue, where widespread student adoption of ChatGPT is disconnected from structured skill development, leaving graduates as consumers rather than innovators (Mollel, 2025).

Rwanda's case demonstrates risks of graduates entering the workforce without critical AI skills, given the absence of curriculum reforms and faculty training (Sebihi et al., 2025). Uganda reflects comparable outcomes, with students relying on AI for assignments but lacking institutional guidance to translate these tools into employable skills (Eryenyu et al., 2024).



This employability gap risks widening inequalities and perpetuating dependency on foreign technologies. Faculty, when empowered, can serve as crucial bridges by embedding local case studies and problem-based learning into AI-enhanced teaching.

Data Sovereignty: An Ethical Imperative Led by Faculty

AI integration raises profound questions about data sovereignty, algorithmic bias, and cultural representation. Most AI tools are developed in the Global North, embedding Western values, languages, and epistemologies (Couldry & Mejias, 2019). For Africa, reliance on such platforms risks digital colonialism, where local knowledge systems are marginalized.

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Faculty are central to mitigating these risks. Trained educators can guide students on ethical AI use, advocate for open-source tools, and promote research that prioritizes African languages and contexts (Ogada et al., 2024). Without such agency, African higher education risks perpetuating dependency rather than fostering sovereignty.

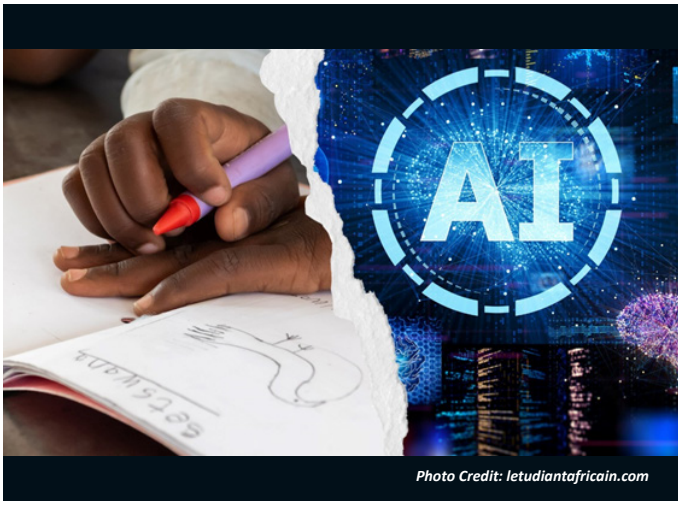
Kenya's case reflects this dilemma: high adoption of foreign AI tools, coupled with limited faculty oversight, has raised concerns about plagiarism, bias, and the erosion of academic integrity (Wang'ang'a, 2024). Rwanda's University of Rwanda reported concerns about algorithmic bias and data privacy, particularly given the absence of institutional policies (Sebihi et al., 2025). Tanzania's unregulated environment heightens risks of over-reliance on external platforms (Mollel, 2025). Uganda's case highlights risks of uncritical AI use undermining research integrity (Eryenyu et al., 2024).

Addressing data sovereignty requires equipping faculty with the skills to critique, adapt, and develop locally relevant AI tools.

Comparative Perspectives Across Africa

Variations in AI adoption across Africa reflect broader disparities. North and Southern Africa, particularly Egypt, Tunisia, South Africa, and Mauritius, are more advanced, offering structured AI programs and housing research institutes (Kurien & Agbokponto Soglo, 2024). East Africa (Kenya, Rwanda, Tanzania, Uganda) shows growing activity but faces infrastructural deficits, policy voids, and limited faculty capacity. West Africa lags further behind, with less documented activity.

The continental picture underscores two dynamics. First, student adoption often outpaces institutional readiness, creating risks of misuse and shallow engagement. Second, faculty remain the weakest link. Without comprehensive professional development, universities cannot translate AI's potential into sustainable, context-sensitive benefits (Chisom, Unachukwu, & Osawaru, 2023).



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Conclusion

AI presents both opportunities and risks for African higher education. While students have embraced AI tools, faculty remain underprepared, curricula are outdated, and ecosystems are underdeveloped. The employability gap widens, and data sovereignty remains fragile. Faculty empowerment is therefore not supplementary but strategic and is the cornerstone for ensuring AI strengthens education, employability, and cultural sovereignty. Investment in continuous professional development, supported by robust policies and infrastructure, is the most urgent step toward Africa's AI-driven future.

Policy and Strategic Recommendations

For University Leadership

1. Co-design and pilot a contextually relevant, ethical, and scalable AI curriculum framework for Eastern African universities that enhances graduate employability, fosters local AI innovation, and mitigates the socio-economic risks of AI-driven inequality.

2. Establish centres for teaching excellence with AI hubs to provide continuous faculty training, AI resource hubs, and technical support.

3. Implement mandatory professional development in AI pedagogy and ethics, tailored to disciplines.

4. Revise promotion and tenure guidelines to reward digital pedagogy and AI integration.

5. Develop clear ethical frameworks for plagiarism, data privacy, and algorithmic bias.

For National Governments

1. Invest in digital infrastructure, ensuring affordable high-speed internet for all universities.

2. Launch faculty AI training funds to support advanced certifications and sabbaticals.

3. Align national policies with AI Integration, embedding faculty development in education strategies.

For Regional Bodies and Development Partners

1. Facilitate regional faculty exchange programs and establish certification standards for AI pedagogy.

2. Fund indigenous AI Research in local languages, agriculture, and health.

3. Broker multi-stakeholder partnerships connecting universities with technology companies and NGOs.

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