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Rewriting the Rules

The Philippine AI Roadmap and its Transformative Implications for Higher Education

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Higher Education Research and Policy Reform Program

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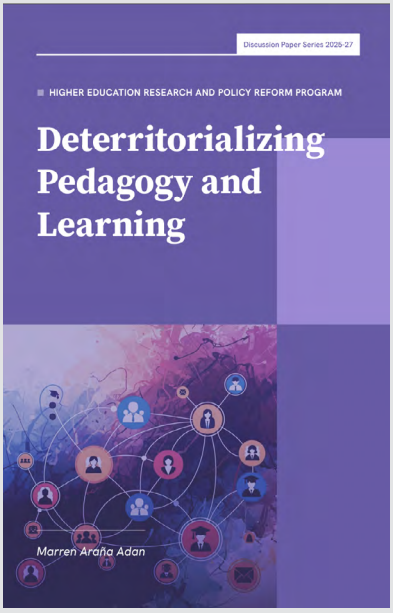

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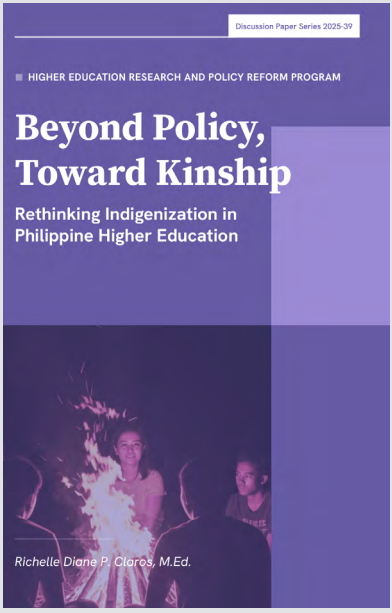

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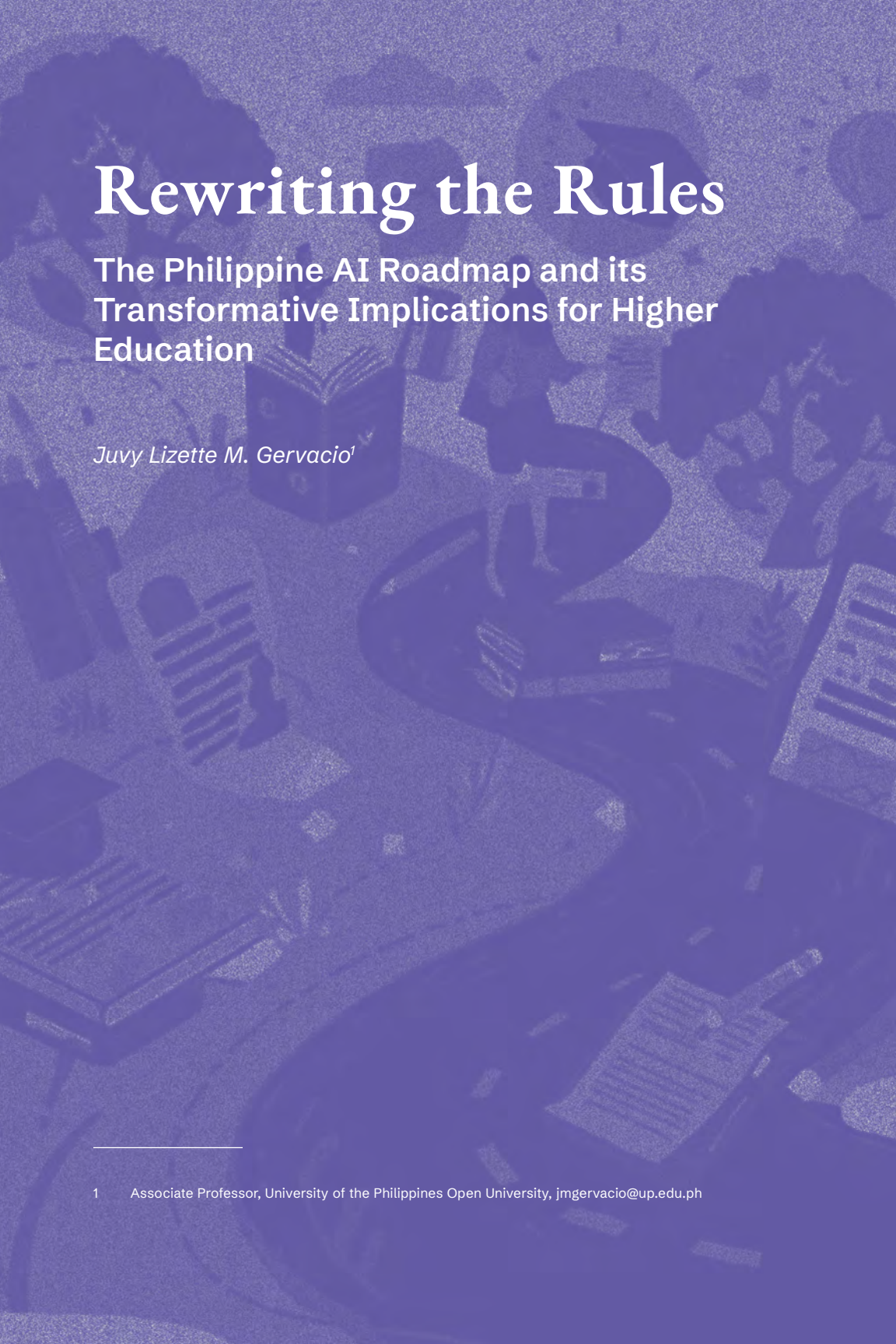

Rewriting the Rules

The Philippine AI Roadmap and its Transformative Implications for Higher Education

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Key Points

- The creation of a coherent AI policy (macro-meso-micro levels) is important in crafting the rules of intelligence.
- The Philippine government's AI roadmap aims to build digital and AI skills to boost employability and competitiveness in the global digital economy.
- This study uses a multi-level governance framework to analyze AI policy documents across global, national, and institutional levels, using the University of the Philippines and University of the Philippines Open University as a case study.
- The analysis identifies gaps in funding, regulation, and institutional capacity for AI implementation.
- Capacity development programs are needed to support teachers, researchers, and academic staff in the effective use of AI in higher education.
- Incentives for AI-driven pedagogical innovation should be promoted to encourage responsible and creative integration of AI in teaching and learning.

Introduction

Background/Policy Landscape/Rationale

The Philippines is an archipelagic nation in Southeast Asia with over 110 million people spread across more than 7,600 islands. It has a young population, with a median age of 25.7 years. It is classified as a lower-middle-income country, with a GDP of approximately US$440 billion in 2023 (World Bank 2023). It is one of Southeast Asia's fastest-growing economies, experiencing a GDP growth rate of 5.6 percent in 2023. This growth is driven by strong consumer demand, remittances, and a rebound in services and construction post-pandemic.

However, despite its growth, the country faces several economic challenges such as high levels of inequality and poverty, with about 18 percent of the population living below the poverty line (Philippine Statistics Authority 2023).

With regard to digital transformation and mobile connectivity, the Philippines has made progress with its 85 million internet users, with a penetration rate of approximately 73 percent, and mobile phone subscriptions exceeding 140 million, indicating high digital engagement (We Are Social 2023).

However, internet speed and reliability still trail behind peers in the ASEAN region. The digital divide, particularly among the poor and in geographically isolated areas, limits inclusive access to technology and online learning.

Moreover, the country is still building its cybersecurity readiness, ranking 61st globally in the Global Cybersecurity Index (ITU 2023), with ongoing efforts to improve digital literacy, data protection, and cybercrime enforcement.

These challenges have implications for online learning, e-governance, and economic competitiveness. Bridging the digital divide is essential for ensuring inclusive growth, particularly as artificial intelligence (AI) and digital platforms increasingly shape global labor markets. AI refers to a range of technologies that enable computers to perform tasks performed by human. In higher education, AI applications are diverse, from learning design to providing support as well as assessments.

Recognizing this imperative, the Philippine government has initiated strategic efforts to position the country within the global digital economy. The Philippine Skills Framework for AI, developed by the Department of Science

and Technology (DOST) and industry partners, outlines the competencies needed for various AI-related roles (DOST-PCIEERD 2021). It emphasizes the urgent need to build digital literacy, data proficiency, and advanced AI skills to enhance individual employability and national competitiveness.

Statement of the Argument/Research Questions

Against this backdrop, the integration of AI into Philippine higher education is a complex, multilayered endeavor. While national strategies and institutional policies are emerging; the coherence, implementation and impact on teaching and learning remain unclear.

The Philippines has a visionary policy framework and pockets of institutional excellence in AI for education. However, realizing its potential requires a concerted national effort to strengthen the links between macrolevel strategy, mesolevel implementation, and microlevel classroom practice, with a dedicated focus on equity, ethics, and educator empowerment.

This paper seeks to providing a systematic analysis of the AI in higher education ecosystem in the Philippines. This paper aims to:

a. present the capacity development needs of higher education educators, with a focus on presenting the findings regarding the current usage, perceptions, and training requirements related to Generative AI (GenAI);

b. discuss the salient features of the various AI guidelines, examining the macro-, meso-, and microlevels of AI guidelines such as the UNESCO's global recommendations, the Philippine National Artificial Intelligence Strategy Roadmap (NAISR), and the specific AI guidelines enacted by the University of the Philippines and the University of the Philippines Open University;

c. analyze the coherence of the various guidelines based on the normative framework; and

d. provide recommendations on AI guidelines and strategies to higher education institution to bridge the gap between policy and practice.

Review of Related Literature

To better understand the implication of AI in higher education, it is important to define its role in various aspects of teaching and learning including its benefits and challenges. Moreover, it is also deemed necessary to discuss the current use of AI among adult learning educators and the institutional support that they get to provide an overview on the need for an effective AI policy in higher education.

The role of AI in Teaching and Learning

Artificial Intelligence (AI) is expected to reshape higher education, moving beyond automation to enable more dynamic, responsive, and inclusive learning environments. In addition to enhancing daily academic and administrative tasks, AI offers powerful tools for research in the form of data analytics to literature review and even supports evidence-based policymaking and strategic decision-making (Dwivedi et al. 2021). The integration of AI in pedagogical frameworks represents a shift toward more data-informed and learner-centered education.

Benefits of AI

The positive impacts of AI in education include:

a. Interactive Content and Immersive Learning. AI-driven platforms and immersive technologies such as simulations, virtual labs, and augmented reality engage learners through multisensory experiences such as sight, sound, and touch. This active participation fosters deeper cognitive engagement and improves comprehension and retention of complex subjects (Pimentel et al., 2021).

b. Personalized Learning Pathways. AI enables education that adapts in real time to individual learners' needs, preferences, and pace. By analyzing data on student performance, engagement patterns, and knowledge gaps, AI systems can tailor content, recommend resources, and adjust difficulty levels (Luckin et al. 2022). This personalized approach helps optimize learner motivation and academic success.

c. Assessment and Real-Time Feedback. AI-powered assessment tools utilize machine learning and natural language processing to evaluate student

responses, identify strengths and weaknesses, and provide immediate, actionable feedback (VanLehn, 2011; Zawacki-Richter et al. 2019). This supports formative assessment practices, allowing educators to intervene precisely and helps students understand their progress continuously.

Challenges of AI

While AI offers transformative potential for education, its integration presents significant ethical, practical, and pedagogical challenges that require proactive governance. Key issues include threats to academic integrity, the perpetuation of systemic biases, and the risk of deepening educational inequity.

a. Academic Integrity and Assessment Design. The proliferation of various generative AI tools challenges traditional notions of authorship and originality, raising urgent questions about plagiarism and authentic learning (Perkins et al. 2023). This necessitates a fundamental redesign of assessment strategies, shifting focus from easily replicated outputs to the evaluation of critical thinking, process, and creative synthesis (Cotton et al. 2023).

b. Algorithmic Bias and Fairness. AI systems can amplify societal biases present in their data, leading to unfair or discriminatory outcomes for students from marginalized groups (Baker and Hawn 2021). This risk underscores the need for transparent, auditable AI systems to ensure algorithmic fairness in educational contexts.

c. Equity and the Digital Divide. Different levels of access to technology and digital literacy skills risks creating a "second-level digital divide," where only some students benefit from AI-enhanced learning, thereby exacerbating existing inequalities (Williamson and Eynon 2020). Equitable implementation demands institutional investment in infrastructure, access, and comprehensive digital skills training for all stakeholders.

The Need for an AI Policy and Strategy in Higher Education

AI is expected to make a huge impact on the education sector and could also contribute in the attainment of the sustainable development Goals (SDGs) by 2030. Thus, it is deemed important to craft an AI policy and strategy that will be able to regulate on the use of AI, specifically for the education sector.

UNESCO noted that many countries have committed towards the creation of AI research centers including the recruitment and training of AI professionals. It also recognizes the need for capacity development in AI wherein higher education institutions (HEIs) play a very important role.

Based on the Survey conducted by the Asia–Europe Meeting (ASEM) in 2024 on the Use of GenAI among Adult Learning Educators from the Philippines, the data shows that 78 percent of those interviewed use GenAI while the rest (22 percent) claimed not to use it (see table 1).

Table 1. Current use of AI among Adult Learning Educators, Philippines, 2024

Use of AI	Number of Participants	Percentage
Yes	142	78.02
No	40	22.08

Source: Asia Europe Meeting (ASEM) Survey on Adult Learning Educators, 2024.

Nearly half of educators also lack any formal AI training, yet an overwhelming majority recognize its necessity. This urgent demand for rapid capacity-building reflects educators' awareness that AI competency is now essential to their professional practice (see table 2).

Table 2. Need for AI Training for Adult Learning Educators, Philippines, 2024

Use of AI	Number of Participants	Percentage
Yes	172	94.51
No	10	5.49

Source: Asia Europe Meeting (ASEM) Survey on Adult Learning Educators, 2024.

Institutional support is also inconsistent. While many organizations acknowledge AI's importance, few allocate meaningful resources or develop strategic roadmaps. Table 3 reveals that bout 40.66 percent claimed that management announced AI support but provided limited or no resources, and 20.33 percent state no AI initiative announced. Only 16.48 percent have resources with strategic roadmap.

Table 3. Institutional Support for AI, 2024

Adoption of AI	Number of Responses	Percentage
The management has announced no AI initiative (1)	37	20.33
Management has announced support for AI initiatives, but limited or no resources have been allocated for them. (2)	74	40.66
Management has allocated resources for AI initiatives, but no strategic AI roadmap. (3)	41	22.53
Management has allocated resources for AI initiatives with a strategic AI roadmap. (4)	30	16.48

Source: Asia Europe Meeting (ASEM) Survey on Adult Learning Educators, 2024

Methodology and Framework: Analyzing AI Integration in Philippine Higher Education

This study employs a qualitative normative research methodology centered on a comprehensive document analysis to map and evaluate the integration of artificial intelligence (AI) within Philippine higher education. The primary aim is to trace the trajectory of policy development and identify patterns of convergence, adaptation, and implementation gaps across different levels of governance. The analysis is structured using a multi-level governance framework, examining the interplay between supranational (macrolevel), national (meso-level), and institutional (micro-level) policy spheres (Burns and Köster 2016).

For the use of AI among adult educators, the primary data source was the International Survey on the Use of AI in Higher Education and Training, conducted across 18 countries between June and September 2024 under the Asia–Europe Meeting (ASEM) for Lifelong Learning where the author served as the Collaborator for the Philippines. The survey collected quantitative and qualitative data on the experiences, perceptions, and practices of adult educators in relation to AI technologies.

The University of the Philippines (UP) System, including the University of the Philippines Open University (UPOU), serves as a critical instrumental case study to examine how a leading national institution interprets and operationalizes broader policies within its specific context (Stake 1995).

Multilevel Analytical Framework

The research is structured around a three-tiered analytical model to dissect the flow and coherence of AI governance:

1. Macro (Supranational) Level: This level constitutes the global normative environment. Analysis focuses on key soft-law instruments and ethical frameworks that set the agenda for member states. Primary documents include UNESCO's Recommendation on the Ethics of Artificial Intelligence (2021), which provides a universal values-based framework, and the ASEAN Guide on AI Governance and Ethics (2024), which offers a regional adaptation for Southeast Asia. These documents establish foundational principle such as human oversight, fairness, and accountability that inform national policy development.

2. Meso (National) Level: This level encompasses the Philippine state's translation of global norms into domestic strategy and regulation. Key documents analyzed are the National Artificial Intelligence Strategy Roadmap (NAISR) 2.0 (DTI 2024) and relevant policies from the Commission on Higher Education (CHED) concerning digital education and curriculum innovation. This stage evaluates how national actors like the Department of Trade and Industry (DTI) and CHED interpret macro-level guidance, allocate strategic priorities, and create (or lack) a conducive regulatory and funding environment for implementation.

3. Micro (Institutional) Level: This is the level of practical implementation within Higher Education Institutions (HEIs). The case of the UP System is examined through its institutional policies, notably the UP Principles for Responsible and Trustworthy Artificial Intelligence (2023) and the UPOU Memorandum on AI in Teaching and Learning (2024). Analysis at this level assesses how abstract national strategies and global ethics are concretized into operational guidelines, curriculum changes, academic integrity rules, and specific teaching and learning practices.

Document Selection and Analysis

Data collection involved the systematic identification and review of publicly available policy documents, strategic roadmaps, institutional guidelines, and official statements from the three levels defined above. These secondary materials were subjected to a qualitative content analysis.

The analysis proceeded in two interconnected phases:

1. Descriptive Mapping: Documents were first categorized within the macro-meso-micro framework to construct a clear policy landscape and trace declaratory linkages between levels.

2. Normative Evaluation: The content was then evaluated against pre-established normative criteria derived from the literature on educational technology and public policy implementation. These criteria include:

    a. Coherence: The logical alignment and consistency of objectives and principles across the three levels.

    b. Efficacy: The presence of concrete implementation mechanisms, resource allocation, and monitoring plans within policies.

    c. Equity: The consideration of access, inclusivity, and the digital divide in policy formulation.

    d. Adaptability: The flexibility of frameworks to address rapid technological change and diverse institutional contexts.

This methodological approach allows for a critical assessment of how global AI ethics is localized into national strategy and, ultimately, institutional practice. By applying this multi-level framework to the UP and UPOU case study, the study identifies not only points of successful policy translation but also critical issues such as funding gaps, regulatory voids, and capacity shortages that hinder the coherent and equitable integration of AI in Philippine higher education.

Discussion and Analysis

The Macro Perspective: The UNESCO and ASEAN AI Policy and Guidelines

The rapid integration of AI into all facets of society, including education results to the urgent need for frameworks that serve as ethical guidelines to reduce societal harm. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) is at the forefront of establishing a universal normative foundation for AI. The adoption of the "Recommendation on the Ethics of Artificial Intelligence" by all 193 Member States in November 2021 marks a historic milestone, representing the first global agreement on ethical AI principles (UNESCO 2021a).

This macrolevel framework aims to ensure that AI development is aligned with human dignity, equity, and sustainable development, particularly within education and research. The UNESCO's approach provides an essential, human-centric blueprint for national governments and educational institutions to navigate the ethical integration of AI.

The UNESCO Recommendation is structurally built upon ten core principles designed to be interdependent and universally applicable. These principles provide the ethical bedrock for all subsequent policy actions:

1. Proportionality and Do No Harm: AI systems should not exceed what is necessary to achieve legitimate aims and must be designed to prevent foreseeable harm.

2. Safety and Security: Ensure the robustness, reliability, and security of AI systems throughout their lifecycle.

3. Fairness and Nondiscrimination: Actively prevent bias and discrimination, promoting diversity, and protecting vulnerable groups.

4. Sustainability: Ensure that AI development is environmentally sound and contributes to ecological health and the Sustainable Development Goals.

5. Right to Privacy and Data Protection: Upholding data governance grounded in privacy preservation and individual agency over personal data.

6. Human Oversight and Determination: Maintaining meaningful human control and discretion over AI systems, with ultimate decision-making authority residing with humans.

7. Transparency and Explainability: Ensuring AI operations are understandable and that decisions can be explained (Explainable AI or XAI), fostering trust.

8. Responsibility and Accountability: Establishing clear lines of accountability for all stakeholders involved in the AI lifecycle.

9. Awareness and Literacy: Promoting public understanding of AI, its benefits, and risks, empowering individuals to engage critically.

10. Multistakeholder and Adaptive Governance: Encouraging inclusive, collaborative governance models that can evolve with the technology (UNESCO 2021a).

The recommendations for member states create a comprehensive roadmap for educational adaptation and call for a multifaceted strategy such as:

1. Universal AI Literacy: Governments should collaborate across sectors to provide equitable AI literacy education at all levels, aiming to close global knowledge gaps (UNESCO 2021a).

2. Foundational Skills Development: A priority is placed on bridging digital divides by ensuring all learners acquire prerequisite skills (e.g., computational thinking, basic digital literacy) as a foundation for AI education.

3. Public Awareness Campaigns: Promoting awareness of AI's societal impact, including its implications for human rights, is deemed essential for democratic oversight (Vinuesa et al. 2020).

4. Research on Ethical Pedagogy: Encouraging research into the responsible use of AI in teaching and teacher training to mitigate risks and leverage opportunities.

5. Inclusive Participation: Actively promoting the leadership of women, marginalized groups, and diverse cultures in AI education and development to combat bias.

6. Interdisciplinary AI Ethics Curricula: Developing curricula that fuse technical AI skills with humanistic, ethical, and social science perspectives, tailored to national contexts.

7. Investment in AI Ethics Research: Prioritizing and incentivizing public and private investment in AI ethics research.

8. Ethics Training for Researchers: Mandating ethics training for AI researchers, requiring ethical considerations in design, dataset analysis, and publication.

9. Data Access for Research: Encouraging private-sector data sharing with the scientific community, in compliance with privacy standards, to fuel equitable research.

10. Science-Based Policy: Ensuring AI policy is informed by rigorous, independent, and interdisciplinary scientific research.

11. Robust Scientific Practice: Encouraging scientific communities to critically assess the limits and robustness of their AI-driven methodologies (UNESCO 2021a).

Further, UNESCO identifies four critical actors in any effective generative AI (GenAI) policy ecosystem: governmental regulatory agencies, providers of AI tools, institutional users (like schools and universities), and individual users (UNESCO 2021a). This delineation clarifies the chain of responsibility, emphasizing that governance cannot rest with one group alone but requires coordinated action across the socio-technical landscape.

To operationalize its ethical vision within classrooms, UNESCO published two pivotal documents in 2024: the AI Competency Framework for Students and the AI Competency Framework for Teachers (UNESCO 2024a; UNESCO 2024b). These frameworks provide the crucial link between macrolevel ethics and microlevel pedagogical practice.

The Student Competency Framework outlines four key competency domains: (a) Human-Centered Mindset, (b) Ethics of AI, (c) AI Techniques and Applications, and (d) AI System Design (UNESCO, 2024a).

The Teacher Competency Framework is correspondingly detailed, with five domains: (a) Human-Centered Mindset, (b) Ethics of AI, (c) AI Foundations and Applications, (d) AI Pedagogy, and (e) AI for Professional Development. Its progression levels—Acquire, Deepen, and Create—guide teachers from building their own knowledge to innovatively integrating AI into their teaching practice and professional growth. This framework empowers educators to become confident facilitators of AI-enhanced, ethically-grounded learning (UNESCO 2024b).

Aside from UNESCO's global framework, this is complemented and reinforced by regional initiatives that tailor ethical governance to local contexts and regulatory traditions. The Association of Southeast Asian Nations (ASEAN), has adopted a more flexible, guidance-based model with its ASEAN Guide on AI Governance and Ethics (2024). This guide promotes trustworthy and ethical AI through nonbinding best practices, reflecting the region's diverse developmental stages and governance styles. It focuses on inclusive growth, human-centricity, and security, with recommendations for both national and regional action. Key regional proposals include establishing an ASEAN Working Group on AI Governance, adapting the guide for Generative AI, and creating a compendium of practical use cases (ASEAN 2024). This approach allows for contextual adaptation while fostering regional cooperation on shared challenges, such as digital divides and capacity building.

The Meso Level: The Philippine National Artificial Intelligence Roadmap

In 2021, the Philippines embarked on a formal journey to harness AI with the launching of the National Artificial Intelligence Roadmap by the Department of Trade and Industry (DTI). This was aimed to position the country as a "center for AI excellence" in the Asia-Pacific region, outlining strategic priorities such as the development of AI research and development centers, fostering public–private partnerships (PPPs), and promoting AI adoption in key sectors (DTI 2021).

Recognizing the need for an updated and more dynamic framework, the government subsequently released the National Artificial Intelligence Strategy Roadmap (NAISR) 2.0 in July 2024, reinforcing the vision of a "whole-of-nation" approach to becoming a competitive AI hub in Southeast Asia (DTI, 2024).

The NAISR 2.0 is structured around several interconnected strategic pillars:

1. Governance and Ecosystem Development: The roadmap emphasizes creating a more cohesive governance structure. It calls for strengthened inter-agency coordination, led by the DTI, and deeper public-private-academic partnerships to drive execution. While stopping short of legislating a dedicated AI authority, it lays the groundwork for a more synchronized national effort to avoid fragmented initiatives (DTI 2024; International Telecommunication Union [ITU] 2023).

2. Research, Development, and Innovation: The strategy promotes AI innovation by promoting the establishment of dedicated AI research and development centers. It underscores the need for significant investment in digital infrastructure, including high-performance computing resources and widespread, reliable connectivity, which are essential substrates for a thriving AI ecosystem (DTI 2024).

3. Human Capital and Education: This pillar is a centerpiece of the roadmap. It directly addresses the critical talent shortage by mandating the alignment of the higher education system with industry demands. Specific directives include expanding specialized AI undergraduate and graduate programs, supporting the creation of Ph.D. tracks, and modernizing curricula to include data science, machine learning, and AI ethics. The strategy envisions a synergistic model where industry-led upskilling complements rather than substitutes a robust, formal educational pipeline to build deep, sustainable talent (DTI 2024; Commission on Higher Education [CHED] 2023).

4. Ethics, Safety, and Inclusive AI: Reflecting global best practices, NAISR 2.0 integrates a strong mandate for responsible AI. It commits to developing national guidelines for ethical AI use, focusing on transparency, accountability, fairness, and safety.

5. Sectoral Adoption and International Collaboration: The roadmap identifies key priority areas for AI application, such as precision agriculture, healthcare delivery, smart manufacturing, and streamlined governance. Furthermore, it champions proactive international collaboration to facilitate knowledge transfer, attract investment, and ensure the Philippines' participation in shaping global AI standards (DTI 2024).

In essence, the NAISR 2.0 transitions the national dialogue from conceptual planning to strategic execution. It provides a comprehensive framework that links ethical governance, advanced education, targeted research, and cross-sector adoption. However, its ultimate success is contingent upon overcoming persistent challenges, including securing sustained funding, enacting supportive legislation, and executing the ambitious capacity-building programs within academia and the workforce. The roadmap thus stands as the nation's definitive statement of intent, outlining the necessary steps to evolve from an AI consumer to a capable AI innovator and responsible stakeholder in the global digital economy.

On the regulatory front, the Philippines has a foundational advantage with the Data Privacy Act of 2012, enforced by the National Privacy Commission (NPC). However, the regulatory framework for AI-specific concerns remains underdeveloped, with no standalone AI governance law or comprehensive ethical framework (NPC 2022). Here, too, higher education institutions hold a key role. Universities are vital spaces for pioneering research into AI ethics, algorithmic fairness, and governance models. Academic experts are often at the forefront of public discourse on these issues, yet this expertise is not systematically leveraged to inform national policy (Felipe 2023). Strengthening the link between ethical research in academia and the drafting of national guidelines is essential for building trustworthy and inclusive AI systems.

The Micro Perspective: The University of the Philippines (UP) AI Policy and Strategy

Established on 18 June 1908, the University of the Philippines (UP) System holds a unique mandate to lead in national development across its eight constituent universities (UP, n.d.). Among these, the University of the Philippines Open University (UPOU) specializes in expanding access through open and distance e-learning (ODeL). In line with its leadership role, UP has positioned itself at the forefront of the country's artificial intelligence (AI) discourse, not only through academic programs but also by establishing a foundational ethical framework for the technology's development and use.

In August 2023, UP formally released its "Principles for Responsible and Trustworthy Artificial Intelligence," designed to guide AI integration within the university and serve as a model for the nation (UP 2023). This initiative is a direct contribution to the strategic goals outlined in the national AI roadmap,

demonstrating the academic sector's critical role in operationalizing high-level policy. The principles are organized into several thematic pillars:

1. Ethical and Societal Foundation: The framework is anchored in a commitment to the common good, mandating that AI benefit humanity, with particular emphasis on empowering vulnerable and marginalized groups. It insists on cultural sensitivity, requiring AI systems to be responsive and sustainable within diverse cultural contexts, and embeds and strict accountability for all entities involved in AI projects (UP 2023).

2. Research and Development Guidelines: For research and development, the principles enforce human authority over AI decisions. They demand transparency in system operations, evaluation for fairness and bias, guarantees of safety, and an environmentally friendly approach that assesses sustainability impacts (UP 2023).

3. Educational Integration and Capacity Building: In the educational domain, UP prioritizes the primacy of learning goals through learner-centered pedagogy. It commits to human capital development by strengthening and creating programs to build a highly skilled, ethical AI workforce. The university mandates capacity building for AI literacy across its community and specific training for faculty in pedagogical integration. Furthermore, it advocates using AI to enhance education management and delivery, from admissions to administrative efficiency. Finally, it emphasizes collaboration with other institutions to share best practices and co-develop programs (UP 2023).

These principles are actively operationalized through UP's academic and research structures. The university also offers AI instruction at undergraduate and graduate levels and hosts the country's first PhD program in AI Research is centralized through the UP Center for Intelligent Systems, which conducts transdisciplinary work in AI, data science, and complex systems. To implement its principles and foster stakeholder collaboration, UP has established the UP AI Advancement Committee (AIAC). It serves as the implementing arm, coordinating efforts among academia, government, the private sector, and civil society to advance responsible AI (UP 2023).

As an autonomous constituent university of the University of the Philippines (UP) System, the University of the Philippines Open University (UPOU) holds a unique and critical mandate. Established in 1995, UPOU is dedicated

exclusively to the delivery of higher education through Open and Distance e-Llearning (ODeL) methodologies. Its mission is to provide equitable, high-quality education to Filipinos nationwide, directly supporting national development by equipping learners with 21st-century skills (UPOU, n.d.). In line with this mission and the broader UP System's Principles for Responsible and Trustworthy AI, UPOU has taken a proactive step by issuing specific operational guidelines for AI use in its digital learning environments.

On 9 January 2024, UPOU released Memorandum No. 2024-001: Guidelines on the Use of Artificial Intelligence in Teaching and Learning. This document provides a clear and actionable framework for faculty and students, translating high-level ethical principles into practical pedagogy for the distance education context (UPOU 2024).

1. Guidelines for Faculty: The memorandum directs faculty to integrate AI as a strategic tool that enhances, rather than undermines, educational outcomes. For course design, AI applications must:

    a. Support Attainment of Learning Outcomes: AI tools should be aligned with and directly contribute to achieving defined course objectives.

    b. Complement Other Technologies: AI should be part of a diverse technological toolkit that addresses varied learning preferences and needs.

    c. Promote Lifelong Learning Skills: The use of AI should foster critical thinking, digital literacy, and self-directed learning competencies essential for the future workforce.

2. For course delivery: The guidelines are as follows:

    a. Transparent Declaration: Clearly communicating to students the permitted extent and purpose of AI use in learning activities, assessments, and facilitation.

    b. Ethical Prohibition: Affirming that AI must not be used for harmful or illegal purposes, thereby upholding a safe and responsible learning ecosystem (UPOU 2024).

3. Guidelines for Students. Recognizing the pervasive access students have to AI tools, the guidelines establish clear standards for responsible use, emphasizing academic integrity:

    a. Declaration and Citation: Students must explicitly declare and properly cite any AI-generated content submitted as part of their coursework.

    b. Avoidance of Plagiarism: The use of AI does not circumvent plagiarism policies; students are responsible for ensuring work is their own and properly sourced.

    c. Transparency in Research: Students must disclose the use of AI in any data collection or analysis processes for academic work.

    d. Ethical Prohibition: Mirroring the faculty guidelines, students are prohibited from using AI for harmful or unlawful activities (UPOU 2024).

Key Findings

On Normative Coherence

Based on the review of documents, it can be said that there is a strong coherence between UNESCO's global ethics, the NAISR's national vision, and UP's institutional principles. All three frameworks emphasize:

- The importance of a human-centric approach to AI.
- The necessity of capacity building and education.
- The imperative of ethical principles like fairness, accountability, and transparency.
- The role of AI in promoting inclusive development.

This alignment suggests that the Philippines is conceptually in sync with global best practices and has successfully translated these concepts into its national and institutional guidelines.

However, the dissonance lies not in the "what" but the "how." UNESCO provides high-level principles, and the NAISR 2.0 provides a strategic

vision, but it is at the micro level, with UP and UPOU, where concrete, actionable guidelines have first emerged. This creates a paradoxical situation where the institution is leading the state. The NAISR 2.0 lacks the detailed implementation plan, dedicated funding, and regulatory teeth that would be needed to roll out UP-like policies across the country's HEIs.

On the Need for Capacity Development for Teachers

The most significant barrier to realizing the visions outlined above is the readiness of the teachers themselves. There is a need to train more higher education teachers and academic staff on the AI use not only in curriculum design, assessment, and teaching methods but on the education management from student enrolment to graduation.

On AI Policies and Guidelines

The Philippines shows emerging national AI roadmaps and ethical principles with the University of the Philippines taking the lead at the micro level, producing a partial, bottom-up coherence ahead of comprehensive national HE guidance.

Conclusion

The Philippines has a strong vision for using AI in higher education, as shown by its national AI plan and the pioneering work of universities like the University of the Philippines (UP) and UP Open University (UPOU). These institutions have created important rules for using AI ethically and effectively in teaching, setting a strong example for the country.

However, a significant gap remains between this national plan and what happens in most classrooms. There is no clear, nationwide set of rules to help all higher education institutions on the use of AI properly. At the same time, many teachers feel unprepared to use this new technology or to manage its challenges, like preventing cheating and ensuring fairness.

To move forward, the country needs to take two practical steps:

1. Create clear national guidelines for AI in education, using the excellent models from UP/UPOU and other HEIs as a starting point, so every institution has the same basic standards.

2. Invest in training and supporting teachers so they have the skills and confidence to use AI as a positive tool for learning.

In short, the Philippines has a good AI plan and strong leaders in higher education. The next step is to turn these examples into practical support for every teacher and student, ensuring the promise of AI improves education for all.

Recommendations and Policy Implications

1. For National Policymakers (Strengthening the Meso-level)

a. Establish a National AI Capacity Development Program that will address the need for AI training for faculty, research, and academic staff in higher education. This includes the use of open educational resources (OERs) and sharing of good practices.

b. Integrate AI competencies into CHED policies, including AI literacy and digital pedagogy as core competencies in the faculty development plans and program standards for all disciplines, not just ICT.

c. Establish a dedicated fund, potentially sourced from public and private partnerships, to subsidize training, provide scholarships for advanced AI degrees for faculty, and support infrastructure upgrades in public HEIs.

2. For Higher Education Institutions Empowering the Microlevel

a. Develop contextualized institutional AI policies. Every HEI should build upon the model of UP/UPOU and create its own comprehensive AI policy, addressing research, administration, teaching, and learning, tailored to its specific mission and student body.

b. Create faculty learning communities. Move beyond one-off workshops to establish sustained FLCs where educators can collaboratively explore, experiment, and critique AI tools in a supportive peer environment. Establish expert committees to assist faculty on the technical and ethical aspects of AI.

c. Incentivize AI pedagogical innovation. Recognize and reward faculty who successfully develop and implement innovative AI-enhanced teaching strategies through awards, grants, and consideration in promotion and tenure.

3. For the Academic Community (Individual Level)

a. Encourage and support educators so that they will view AI not as a threat but as a powerful tool to be mastered, critically evaluated, and harnessed for enhancing their teaching practice.

b. Redesign assessments to value the process of learning, critical thinking, and skills that AI can support but not replace.

c. Participate in regular forums to debate the ethical implications of AI, share experiences, and collectively shape the evolving norms of its use in their academic fields.

References

Association of Southeast Asian Nations (ASEAN). 2024. *ASEAN Guide on AI Governance and Ethics. Jakarta: ASEAN Secretariat*. https://asean.org/wp-content/uploads/2024/02/ASEAN-Guide-on-AI-Governance-and-Ethics_beautified_201223_v2.pdf.

Baker, Ryan S., and Andrew Hawn. 2021. "Algorithmic Bias in Education." *International Journal of Artificial Intelligence in Education* 32 (4): 1052–92.

Burns, Tracey, and Florian Köster, eds. 2016. *Governing Education in a Complex World*. Paris: OECD Publishing.

Cotton, Debby R. E., Paul A. Cotton, and James R. Shipway. 2023. "Chatting and Cheating: Ensuring Academic Integrity in the Era of ChatGPT." *Innovations in Education and Teaching International* (advance online publication). https://doi.org/10.35542/osf.io/mrz8h.

Department of Trade and Industry (DTI). 2021. *Philippine National Artificial Intelligence Roadmap*. Manila: Republic of the Philippines. https://www.dti.gov.ph.

Department of Trade and Industry (DTI). 2024. *National Artificial Intelligence Strategy Roadmap (NAISR) 2.0*. Manila: Republic of the Philippines.

Dwivedi, Yogesh K., Laurie Hughes, Elvira Ismagilova, Gijs Aarts, Crispin Coombs, Tom Crick, et al. 2021. "Artificial Intelligence (AI): Multidisciplinary Perspectives on Emerging Challenges, Opportunities, and Agenda for Research, Practice and Policy." *International Journal of Information Management* 57 (101994). https://doi.org/10.1016/j.ijinfomgt.2019.08.002.

Felipe, Clarence. 2023. "The Governance Gap: Regulating Artificial Intelligence in the Philippines." *Philippine Law Journal* 97 (1): 45–78.

International Telecommunication Union (ITU). 2023. *Global Cybersecurity Index 2023*. Geneva: ITU. https://www.itu.int/en/ITU-D/Cybersecurity/Pages/global-cybersecurity-index.aspx.

Luckin, Rose, Mutlu Cukurova, Charlotte Kent, and Benedict du Boulay. 2022. "Empowering Educators to Be AI-Ready." *Computers and Education: Artificial Intelligence* (2022).

National Privacy Commission. 2022. *Advisory Guidelines on the Use of Artificial Intelligence*. Manila: Republic of the Philippines.

Perkins, Mike, James Roe, Dirk Postma, Jamie McGaughran, and David Hickerson. 2023 "AI and Academic Integrity: Restoring Pedagogical Balance." *Journal of Academic Ethics* (advance online publication).

Philippine Statistics Authority. 2023. *Poverty Statistics*. Quezon City: PSA. https://psa.gov.ph.

Pimentel, Diana, Laurent Faucon, and Helena Oliveira. 2021. "Immersive Technologies in Education: A Systematic Review of Virtual and Augmented Reality in Learning." *Educational Technology Research and Development*.

Stake, Robert E. 1995. *The Art of Case Study Research*. Thousand Oaks, CA: SAGE Publications.

UNESCO. 2021. *Recommendation on the Ethics of Artificial Intelligence*. Paris: United Nations Educational, Scientific and Cultural Organization.

UNESCO. 2024. *AI Competency Framework for Students*. Paris: United Nations Educational, Scientific and Cultural Organization, 2024.

UNESCO. 2024. *AI Competency Framework for Teachers*. Paris: United Nations Educational, Scientific and Cultural Organization, 2024.

University of the Philippines. 2023. *Principles for Responsible and Trustworthy Artificial Intelligence*. Quezon City: Office of the Vice President for Academic Affairs, 23 August 2023.

University of the Philippines Open University. 2024. Memorandum No. 2024-001: Guidelines on the Use of Artificial Intelligence in Teaching and Learning. Los Baños, Laguna, 9 January 2024.

VanLehn, Kurt. 2011. "The Relative Effectiveness of Human Tutoring, Intelligent Tutoring Systems, and Other Tutoring Systems." *Educational Psychologist*.

We Are Social. 2023. *Digital 2023: The Philippines*. Singapore: We Are Social. https://datareportal.com.

Williamson, Ben, and Rebecca Eynon. 2020. "Historical Threads, Missing Links, and Future Directions in AI in Education." *Learning, Media and Technology* 45 (3): 223–35. https://doi.org/10.1080/17439884.2020.1798995.

World Bank. 2023. *Philippines Economic Update*. Washington, DC: World Bank. https://www.worldbank.org.

Zawacki-Richter, Olaf, Victoria I. Marín, Melissa Bond, and Franziska Gouverneur. 2019. "Systematic Review of Research on Artificial Intelligence Applications in Higher Education: Where Are the Educators?" *International Journal of Educational Technology in Higher Education* 16 (39). https://doi.org/10.1186/s41239-019-0171-0.

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