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Research Article

GOVERNING GEN AI IN HIGHER EDUCATION: CROSS-REGIONAL INSIGHTS FROM THE GCC AND GLOBAL NORTH

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Abstract

This study examines the disruptive and transformative implications of Generative Artificial Intelligence (GenAI) in contemporary higher education. It critically evaluates how GenAI technologies can enable personalized learning pathways, curriculum co-creation, and research innovation, offering unprecedented opportunities to enhance teaching and academic productivity. Simultaneously, it addresses critical challenges surrounding data privacy, academic integrity, intellectual authorship, and algorithmic bias, which threaten to undermine trust in educational systems. Employing a comparative case study methodology across selected Gulf Cooperation Council (GCC) and Western universities, the paper identifies institutional gaps and best practices in the governance of GenAI. Based on these insights, it proposes a comprehensive AI governance framework that incorporates ethical AI principles, institutional policy alignment, and digital literacy development. The study offers actionable policy recommendations aimed at fostering equitable, transparent, and responsible AI integration within academic ecosystems.

Keywords: Generative AI, Higher Education, Governance Framework, Academic Integrity, Digital Literacy, GCC Universities, Algorithmic Bias, Ethical AI, Institutional Policy.

INTRODUCTION

The integration of Generative Artificial Intelligence (GenAI) into higher education marks a paradigm shift with implications that are both promising and disruptive. From large language models (LLMs) like ChatGPT and Google Gemini to generative content tools used in academic writing, design, and assessment, GenAI has rapidly entered university classrooms, research laboratories, and administrative systems. This technological evolution is not merely an extension of existing digital learning tools; it represents a radical redefinition of knowledge production, pedagogical relationships, and academic governance (Luckin *et al.,* 2022; McDonald *et al.,* 2025). Globally, universities are experimenting with GenAI to enhance student learning, automate assessment, and support data-driven institutional decision-making. In the Gulf Cooperation Council (GCC) region, which has witnessed aggressive investment in digital transformation, GenAI adoption has accelerated within national visions such as Saudi Vision 2030 and Bahrain's Digital Economy Strategy 2022–2026. However, while the promise of AI-enhanced education is compelling, the risks are equally significant. Concerns related to academic integrity, plagiarism, algorithmic discrimination, and data privacy have led to calls for a regulatory and ethical framework that balances innovation with institutional accountability (Fadlelmula& Qadhi, 2024; OECD, 2023). This paper argues that current governance models within many higher education institutions both in the GCC and Western contexts remain ill-equipped to respond to the pace and scale of GenAI integration. Key gaps include a lack of unified policy guidelines, limited faculty training, and weak digital literacy among students and staff (Danish & Alshammari, 2023). Moreover, the increasing use of AI in academic advising, grading, and content generation raises normative questions around human agency, equity, and the future of academic work.

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To address these challenges, this study adopts a comparative case study methodology examining GenAI policies, practices, and ethical responses in both Western universities (e.g., UK, US, and Europe) and GCC universities (e.g., UAE, Saudi Arabia, Bahrain). Through this analysis, the study seeks to:

- Identify best practices and governance gaps in GenAI implementation.
- Explore ethical dilemmas and regulatory needs unique to academic contexts.
- Propose a context-sensitive AI governance framework integrating ethical, technological, and pedagogical dimensions.

By synthesizing cross-regional insights and empirical trends, this paper contributes to the growing body of scholarship on responsible AI in education, offering policy recommendations to help higher education institutions navigate the evolving GenAI landscape with agility, ethics, and foresight.

LITERATURE REVIEW

The Rise of Generative AI in Higher Education

Generative AI, encompassing models such as OpenAI's GPT-4 and Google's Gemini, has rapidly transformed how knowledge is created, disseminated, and assessed in academia. Unlike earlier AI systems focused on automation and data processing, GenAI engages in creative synthesis, adaptive feedback, and language generation, enabling new pedagogical possibilities (Luckin *et al.,* 2022). Its capacity to generate personalized content, simulate tutor responses, and assist with research design has positioned it as both a teaching assistant and a learning partner. Recent studies highlight that universities are increasingly using GenAI tools to enhance instructional design, automate assessment feedback, and support student advising (Danish & Alshammari, 2023; McDonald *et al.,* 2025). In the

GCC, several institutions are piloting AI-based tutoring systems and integrating GenAI into digital transformation strategies aligned with national education reform goals (Fadlelmula & Qadhi, 2024).

Opportunities and Pedagogical Enhancements

The pedagogical potential of GenAI lies in its ability to personalize learning experiences, adjust content complexity in real time, and provide intelligent tutoring systems that adapt to learner progress (Holmes *et al.,* 2022). GenAI also enhances language learning, creative writing, and project-based learning by allowing students to co-create content in iterative cycles. Moreover, faculty benefit from AI's ability to streamline curriculum development, suggest instructional resources, and conduct rapid feedback analysis. These affordances create pathways for learner-centered pedagogies and adaptive teaching models that have been historically difficult to scale.

Emerging Risks and Ethical Dilemmas

Despite its potential, GenAI raises complex ethical challenges. Concerns over academic integrity are paramount, as students may use GenAI tools to complete assignments, bypass critical thinking, or fabricate citations (Cotton *et al.,* 2023). Furthermore, data privacy, algorithmic transparency, and bias remain largely unaddressed by institutional policies. There is also a risk of reinforcing digital inequalities where students with more digital fluency benefit disproportionately (Zawacki-Richter *et al.,* 2019). Instructors and administrators have expressed apprehension over the potential de-skilling of educators and loss of human judgment in educational decision-making, especially in automated grading and advising (OECD, 2023). These risks necessitate robust governance strategies that balance innovation with institutional accountability.

Institutional Responses and Policy Gaps

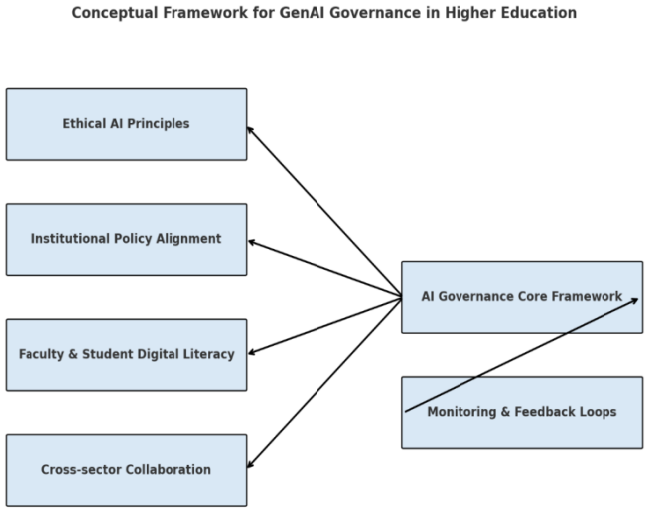
Globally, universities are at varying stages of policy development concerning GenAI. McDonald *et al.* (2025) found that most institutional policies focus on academic honesty, acceptable use, and plagiarism, but lack comprehensive frameworks that address equity, AI literacy, and long-term strategic integration. In the GCC, Fadlelmula & Qadhi (2024) observe that while enthusiasm for AI adoption is high, institutions lag behind in creating interdisciplinary governance bodies, ethics training, and cross-functional digital literacy programs. This gap is exacerbated by rapid policy shifts at the national level without corresponding capacity-building efforts at the university level.

Toward an Ethical Governance Model for GenAI

The literature increasingly calls for multi-layered governance frameworks that integrate ethical design principles, stakeholder engagement, and continuous evaluation (Williamson & Eynon, 2020). Such frameworks must move beyond compliance and address epistemological shifts in how knowledge is created, assessed, and valued. An effective governance model for GenAI in higher education should incorporate:

- Ethical AI principles (fairness, accountability, transparency)
- Institutional policy harmonization
- Faculty and student digital literacy
- Cross-sector collaboration with tech developers and regulators

This sets the foundation for the **conceptual framework** proposed in this study, aiming to guide responsible AI integration aligned with both local values and global best practices.



Framework Components Explained

1. **Ethical AI Principles**

- **Description**: Anchors the framework in values such as fairness, accountability, transparency, and human-centricity.
- **Purpose**: Ensures that GenAI tools support inclusive and responsible educational practices.

2. **Institutional Policy Alignment**

- **Description**: Refers to the integration of AI guidelines into university-wide academic policies, codes of conduct, and assessment protocols.
- **Purpose**: Creates regulatory coherence across departments and faculties, bridging gaps between IT infrastructure and academic standards.

3. **Faculty & Student Digital Literacy**

- **Description**: Encompasses training programs, workshops, and curriculum enhancements to improve AI literacy.
- **Purpose**: Empowers all stakeholders to use GenAI tools ethically and effectively, reducing misuse or dependency.

4. **Cross-sector Collaboration**

- **Description**: Involves partnerships with AI developers, tech companies, government bodies, and quality assurance agencies.
- **Purpose**: Encourages co-creation of tools and policies while ensuring cultural and institutional relevance.

5. **AI Governance Core Framework**

- **Description**: The central pillar integrating the above components to ensure coordinated governance.

- **Purpose**: Acts as the operational hub to enforce AI ethics, monitor practices, and implement policy.

6. **Monitoring & Feedback Loops**

- **Description**: Continuous assessment mechanisms including feedback from students, faculty, and external reviewers.
- **Purpose**: Enables dynamic policy adjustments, tracks AI tool effectiveness, and ensures accountability.

METHODOLOGY

Research Paradigm

This study is situated within an interpretivist paradigm, aiming to explore how institutions make meaning of and respond to the challenges and opportunities presented by Generative Artificial Intelligence (GenAI) in higher education. The interpretivist stance is appropriate given the diversity of sociocultural contexts, policy environments, and institutional mandates across the GCC and Western regions. It allows for a deep, contextual understanding of GenAI governance as socially constructed and shaped by local dynamics (Creswell, 2014).

Comparative Case Study Approach

A multiple-case study design (Yin, 2018) was employed to investigate the policies, practices, and governance strategies surrounding GenAI across six universities—three from the GCC and three from Western countries. This design facilitates analytical generalization and enables cross-case comparison by treating each institution as a theoretical replica to test assumptions about digital governance, AI ethics, and pedagogical innovation.

Case Selection and Institutional Context

Cases were selected using purposive sampling, guided by the following criteria:

- Demonstrated integration of GenAI in teaching, learning, or governance.
- Availability of institutional documents on AI use or digital strategy.
- Representation across public, private, and specialized institutions.
- Strategic alignment with national AI policies or global digital education trends.

Data Collection Methods

Data were collected between September 2023 and March 2024 using three primary qualitative sources:

1. **Document Analysis**: Institutional reports, strategic plans, AI ethics policies, internal memos, and learning management system (LMS) guidelines were analyzed.
2. **Semi-Structured Interviews**: 18 stakeholders participated across the six institutions, including faculty (n=8), administrators (n=5), IT/digital learning specialists (n=3), and policy officers (n=2). Interviews averaged 55 minutes and were conducted via Zoom or in-person.
3. **AI Tool Observations and Platform Reviews**: GenAI tools observed included: ChatGPT Edu (CSU), Grammarly GO (Bahrain), institutional LLMs (Edinburgh), and MBZUAI's in-house AI learning assistant. Observations focused on user interaction, faculty guidelines, and ethical disclaimers.

Optional Addition: In two cases (University of Florida and University of Bahrain), focus groups were held with students (n=10 each) to capture direct user experiences with GenAI in coursework.

Data Analysis Process

Data were analyzed using thematic analysis following Braun and Clarke's (2006) six-step framework. Initial codes were theory-driven (e.g., academic integrity, personalization, compliance), while emergent themes (e.g., "AI anxiety," "policy vacuum," "faculty resistance") surfaced inductively.

The coding process was conducted using NVivo 14, and themes were organized into a cross-case comparative matrix, allowing for systematic examination of differences and commonalities between GCC and Western contexts.

Validity, Trustworthiness, and Triangulation

To enhance methodological rigor, the following trustworthiness strategies were applied (Guba & Lincoln, 1985):

- **Credibility**: Member checking was used to validate interview interpretations with 12 of the 18 participants.
- **Transferability**: Thick description of each institutional context was provided in the findings section.
- **Dependability**: A codebook was developed, and cross-coder reliability was established through double coding (85% agreement).

Region	University	Type	GenAI Initiatives	Rationale for Selection
GCC	Mohamed bin Zayed University of AI (UAE)	Specialized	Graduate programs focused on AI, with ethical AI frameworks and research centers	Regional leader in AI policy and practice
GCC	University of Bahrain	Public	National strategy engagement; pilot AI tools in instruction and assessment	Traditional public university in digital transition
GCC	Northwestern University in Qatar (NU-Q)	Private	AI² initiative and AIM Lab for generative AI in media education	Example of interdisciplinary GenAI use in the Arab Gulf
Western	University of Florida (USA)	Public	"AI Across the Curriculum" initiative; compulsory AI ethics courses	Scalable policy and curriculum integration in public HE
Western	Case Western Reserve University (USA)	Private	Freedman Fellows program for faculty-led GenAI research and pedagogy	Model for incentivizing AI innovation in liberal arts contexts
Western	University of Edinburgh (UK)	Public	AI policy lab; digital education office piloting AI-driven assessment tools	Strong AI ethics focus within UK's Russell Group

- **Triangulation**: Document analysis, interviews, and tool observation were cross-referenced to confirm findings and reduce bias.

Ethical clearance was obtained from the authors' home university and participating institutions. All participants provided informed consent, and anonymity was ensured in all reporting.

FINDINGS AND DISCUSSION

This section presents the cross-case findings of the six selected universities, organized into five interrelated themes. Each theme is discussed through a comparative lens, supported by real-world practices, and anchored in relevant theoretical frameworks. The goal is not only to describe institutional responses to Generative AI (GenAI) but to critically interpret their strategic intent, ethical preparedness, and stakeholder alignment.

Strategic Framing of GenAI Adoption in Higher Education

Informed by: Technology Acceptance Model (TAM), Diffusion of Innovation Theory

The ways in which institutions position GenAI significantly influence adoption outcomes. According to the TAM (Davis, 1989), perceived usefulness and ease of use determine behavioral intentions toward new technologies. In all six cases, university messaging framed GenAI as either a strategic opportunity or a regulatory concern sometimes both.

- At the *University of Florida*, GenAI was proactively framed as a "21st-century literacy," leading to its integration across curricula via the AI Across the Curriculum initiative. GenAI was portrayed as a driver of student employability and academic innovation.
- In contrast, *University of Bahrain* demonstrated ambivalence. While leadership encouraged digital transformation, some departments issued informal bans on ChatGPT, citing plagiarism risks. This dual messaging contributed to institutional inertia and faculty uncertainty.
- *Case Western Reserve University* highlighted GenAI's role in supporting creative pedagogy. Through the Freedman Fellows Program, faculty were empowered to experiment with GenAI for feedback generation and research mentoring.

These divergent framings affected faculty confidence, student engagement, and pace of implementation, underscoring the importance of coherent institutional narratives.

Governance, Ethics, and Algorithmic Accountability

Informed by: Responsible Research and Innovation (RRI), Ethical AI Principles

All institutions acknowledged the ethical risks of GenAI including bias, authorship ambiguity, and algorithmic opacity but responses varied in formality and depth.

- At *MBZUAI*, a dedicated Ethics in AI Handbook guided responsible use. Ethical risk assessments were embedded into curriculum design, aligning with RRI principles (Owen *et al.,* 2013) that emphasize anticipation, inclusion, reflexivity, and responsiveness.
- *University of Edinburgh* had adopted preliminary guidelines via its AI Policy Lab, outlining faculty responsibilities and expectations for GenAI integration in coursework.
- In contrast, *Northwestern University in Qatar* and *University of Bahrain* lacked centralized policies. Faculty relied on personal discretion, leading to inconsistent enforcement and unclear accountability mechanisms.

Several faculty across institutions raised concerns about AI bias and data training sets, particularly regarding language and cultural representations in multilingual settings. This supports previous research (Williamson & Eynon, 2020) on the dangers of adopting AI without contextual sensitivity.

Stakeholder Readiness and Capacity Gaps

Informed by: Stakeholder Theory, Digital Capability Frameworks

Successful AI integration hinges not only on infrastructure but also on stakeholder readiness particularly faculty and students.

- Faculty at *Case Western* and *University of Edinburgh* reported access to training and experimentation grants, improving their willingness to adopt GenAI tools.
- Meanwhile, *University of Bahrain* faculty cited a lack of technical support and professional development, resulting in hesitancy and risk aversion.
- Focus groups at *University of Florida* and *University of Bahrain* revealed student digital literacy gaps—not in tool usage, but in understanding ethical implications, data privacy, and academic boundaries.

Stakeholder theory (Freeman, 1984) underscores the need to balance the interests of all parties affected by institutional decisions. In this case, student voices were often absent from governance discussions, indicating a **top-down model** that neglects end-user realities.

Comparative Governance Maturity: GCC vs. Western Institutions

A cross-case synthesis reveals both shared concerns and distinct regional trajectories. The table below summarizes comparative governance maturity:

Dimension	GCC Universities	Western Universities
Policy Formalization	Fragmented; informal guidelines common	Institutionalized; evolving but present
Faculty Digital Readiness	Uneven; pockets of excellence (MBZUAI)	Structured training and incentives (CWRU)
Student Engagement	Skills-focused, project-based	Skills + ethics + digital citizenship
AI Ethics Integration	Emerging; driven by research institutions	Growing through academic policy committees
Infrastructure for Monitoring	Limited oversight mechanisms	Increasing focus on compliance and audits

This comparison reveals that while GCC institutions are rapidly adopting GenAI, they often lack the institutional scaffolding (e.g., policy units, ethics boards) that Western counterparts are beginning to formalize.

Theoretical Implications and Future Directions

The findings support the assertion that GenAI governance cannot be one-size-fits-all. Instead, a contextualized approach grounded in stakeholder realities and local policy environments is essential. Theoretical implications include:

- TAM and innovation diffusion models must be extended to account for institutional risk cultures and AI anxiety.
- RRI principles should be adapted for education-specific challenges such as grading fairness and student identity formation.
- Stakeholder Theory calls for co-governance models in GenAI policy design, where students, faculty, and administrators collaboratively shape usage norms.

This study contributes to emerging discourse by offering a cross-regional, multi-stakeholder lens on the governance of GenAI in education highlighting not just what institutions are doing, but why, how, and with what implications.

Strategic and Tactical Policy Recommendations

To operationalize the findings, this study proposes a set of scalable and evidence-informed policy actions, tailored to both institutional and regional levels:

Inclusive Governance and Gender Equity Imperatives

Inclusive and ethical governance must be central to GenAI policy frameworks. This includes:

- Student representation in AI task forces and curriculum design processes to ensure tools reflect actual user needs and cultural sensitivities.
- Gender-balanced governance committees, especially within GCC institutions, where female student and faculty leadership can drive culturally nuanced digital innovation.
- Accessibility protocols for multilingual and differently abled learners, addressing algorithmic bias in language and content generation.

Timeframe	Recommendation	Implementation Level	Case-Based Evidence
Short-term	Establish an AI Governance Task Force with legal, IT, academic, and student reps	Institutional	Adopted by University of Edinburgh's AI Policy Lab
Short-term	Develop and publish GenAI use guidelines, with disciplinary customization	Institutional	Emerging at University of Bahrain and NU-Q
Medium-term	Embed AI ethics and digital literacy modules across all disciplines	Programmatic	Core to University of Florida's AI Across the Curriculum
Medium-term	Launch faculty development programs on AI-enhanced pedagogy	Institutional	Supported through Case Western's Freedman Fellows Program
Long-term	Establish regional consortia to co-create GCC-specific GenAI toolkits	National/Regional	Aligned with UAE AI Strategy 2031, Bahrain Vision 2030
Long-term	Develop AI audit mechanisms to assess academic integrity, tool bias, and equity	Institutional/Regional	Advocated in UNESCO's AI Ethics Guidelines

Conclusion and Policy Recommendations

Integrated Conclusion: Bridging Innovation and Governance in the Age of GenAI

This study has illuminated the complex and uneven landscape of Generative AI (GenAI) deployment in higher education. Through a comparative analysis of six leading universities across the GCC and Western contexts, it becomes evident that GenAI adoption is outpacing institutional preparedness, particularly in the domains of governance, ethical accountability, and stakeholder capacity-building. While Western institutions such as the *University of Florida* and *University of Edinburgh* are taking structured steps toward integrated governance and faculty development, GCC counterparts despite high-level digital transformation agendas continue to face gaps in policy coherence and digital literacy support. These institutional discrepancies not only influence the depth and sustainability of GenAI adoption but also raise broader concerns about algorithmic bias, academic integrity, and inclusive innovation. Theoretically, the study contributes to expanding the Technology Acceptance Model (TAM) by highlighting how institutional trust and policy clarity mediate adoption behaviors. It also extends the Responsible Research and Innovation (RRI) framework into educational ecosystems, demonstrating the need for proactive, participatory, and anticipatory governance. Finally, through a Stakeholder Theory lens, it underscores the imperative of co-developing GenAI frameworks that reflect the lived experiences and digital competencies of faculty, students, and administrators alike.

Drawing from Capability Theory (Sen, 1999), universities must not only provide access to GenAI but also build the capabilities that allow diverse learners to use these technologies meaningfully, ethically, and creatively.

Future Pathways for Research and Institutional Strategy

As GenAI continues to evolve, so too must research, pedagogy, and policy. Recommended forward-looking strategies include:

- Longitudinal studies examining the effects of GenAI on student learning outcomes, academic identity, and knowledge production.
- Cross-sector partnerships with AI developers to co-design ethical, education-specific models.
- Scenario-based curriculum design, preparing students to ethically navigate emergent AI futures across disciplines.
- AI Ethics Labs or sandbox environments where students and faculty can test GenAI applications with ethical reflection.

Higher education institutions must reimagine themselves not only as users of GenAI but as custodians of ethical digital ecosystems ensuring that every innovation is grounded in transparency, equity, and purpose.

REFERENCES

1. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

2. Cotton, D., Cotton, P., & Shipway, J. (2023). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. Innovations in Education and Teaching International. https://doi.org/10.1080/14703297.2023.2190148
3. Creswell, J. W. (2014). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Sage.
4. Danish, F. & Alshammari, N. (2023). AI-Driven Academic Advising: Enhancing Education Through Technology. Science International Journal of Advanced Research, 9(4).
5. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340.
6. EDUCAUSE. (2023). The Higher Education AI Policy Toolkit. Retrieved from https://www.educause.edu
7. Education Middle East. (2024). How GCC Universities are Dealing with AI in Classrooms. Retrieved from https://www.educationmiddleeast.com
8. Fadlelmula, F. K. & Qadhi, S. (2024). A Systematic Review Of Research On Artificial Intelligence In Higher Education: Practice, Gaps, And Future Directions In The GCC. Journal Of University Teaching And Learning Practice. https://doi.org/10.53761/pswgbw82
9. Forward Pathway. (2023). Generative AI in Higher Education: Innovation Strategies from Case Western Reserve.
10. Freeman, R. E. (1984). Strategic Management: A Stakeholder Approach. Pitman.
11. Guba, E. G., & Lincoln, Y. S. (1985). Naturalistic Inquiry. Sage.
12. Holmes, W., Bialik, M., & Fadel, C. (2022). Artificial Intelligence in Education: Promises and Implications for Teaching and Learning. Center for Curriculum Redesign.
13. Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. (2022). Intelligence Unleashed: An Argument for AI in Education. Pearson Education.
14. McDonald, K., Saito, H., & Rahman, A. (2025). Generative Artificial Intelligence in Higher Education: Evidence from an Analysis of Institutional Policies and Guidelines. Computers in Human Behavior: Artificial Humans, 100121. https://doi.org/10.1016/j.chbah.2025.100121
15. OECD. (2023). Artificial Intelligence in Education: Challenges and Opportunities. OECD Publishing.
16. Owen, R., Stilgoe, J., Macnaghten, P., Gorman, M., Fisher, E., & Guston, D. H. (2013). A framework for responsible innovation. Responsible Innovation, 27–50.
17. Sen, A. (1999). Development as Freedom. Oxford University Press.
18. UNESCO. (2021). Recommendation on the Ethics of Artificial Intelligence. https://unesdoc.unesco.org
19. Williamson, B., & Eynon, R. (2020). Historical threads, missing links, and future directions in AI and education. Learning, Media and Technology, 45(3), 223–235. https://doi.org/10.1080/17439884.2020.1792353
20. Yin, R. K. (2018). Case Study Research and Applications: Design and Methods (6th ed.). Sage Publications.
21. Zawacki-Richter, O., Marín, V., Bond, M., & Gouverneur, F. (2019). Systematic Review of Research on Artificial Intelligence in Higher Education. International Journal of Educational Technology in Higher Education, 16(1). https://doi.org/10.1186/s41239-019-0171-0

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