

OPEN ACCESS

EDITED BY

Ramon Ventura Roque Hernández, Universidad Autónoma de Tamaulipas, Mexico

REVIEWED BY Lea Melnikovová, Metropolitan University Prague, Czechia

*CORRESPONDENCE
Samar A. Ahmed

☑ samar@med.asu.edu.eq

RECEIVED 04 September 2025 ACCEPTED 30 September 2025 PUBLISHED 17 October 2025

CITATION

Ahmed SA (2025) Reimagining education in the coming decade: what AI reveals about what really matters. *Front. Educ.* 10:1699106 doi: 10.3389/feduc.2025.1699106

COPYRIGH1

© 2025 Ahmed. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

Reimagining education in the coming decade: what AI reveals about what really matters

Samar A. Ahmed^{1,2}*

¹Faculty of Medicine, Ain Shams University, Cairo, Egypt, ²Rabdan Academy, Abu Dhabi, United Arab Emirates

KEYWORDS

artificial intelligence, curricula, faculty development, optimization, adaptation

Introduction: from scarcity to commons

Artificial intelligence has moved from speculative promise to lived reality. Generative systems can now write essays, code programs, analyze data, and simulate dialogue with unsettling fluency (Selwyn, 2019). For centuries, universities thrived on scarcity—scarcity of knowledge, access, and credentialing. AI dissolves these scarcities almost overnight.

This is not an abstract claim. In the UAE, surveys show that nearly one-third of university students already use generative AI weekly, and more than 80% expect their usage to rise further (Anthology, 2023). Across the Gulf, faculty and student surveys confirm that AI is becoming embedded in daily academic life, even as institutional policies lag behind (Plexal/UK-Gulf Women in Cybersecurity Fellowship, 2025). In our classrooms, students bypass traditional lectures by consulting AI tutors, while colleagues across the region express concern that traditional assignments are increasingly irrelevant in this environment.

My central argument is that higher education's future lies not in defending what AI does better, but in cultivating what AI cannot replicate: epistemic judgment, belonging, creativity, and wonder. Universities must reimagine themselves as human commons—spaces where meaning-making, ethical responsibility, and imagination thrive.

The crumbling foundations of legacy higher education

Three pillars have long sustained higher education: information transmission through lectures, standardized assessments as proof of mastery, and degrees as the monopoly of credentialing. Each is now destabilized by AI.

Higher education is undergoing structural disruption in three interlinked domains. First, information transmission through traditional lectures has been under scrutiny for decades (Mazur, 2009; Bruff, 2019), and with the rise of AI tutors and multimodal platforms, one-way teaching is rapidly becoming redundant. Regional studies reinforce this trajectory: in Saudi Arabia and the UAE, students increasingly report preferring AI-driven simulations and explanations over passive note-taking (Bugawa et al., 2025). Similarly, in curricular reviews I conducted at King Salman International University, lectures were often regarded as supplementary to AI-powered resources rather than as the primary mode of learning. Second, standardized assessment—historically anchored in predictable formats such as multiple-choice quizzes, short essays, and formulaic problem sets—is now vulnerable to automation (Luckin, 2022). Yet accreditation reviews in the UAE reveal that institutions remain heavily dependent on these formats, even as students openly

Ahmed 10.3389/feduc.2025.1699106

exploit AI to bypass them (Tbaishat, 2025). My own compilation of external examiner reports confirms this disconnect, with reviewers consistently flagging the misalignment between AI-enabled student practices and static assessment methods. Third, credential monopolies, once tightly held by universities as gatekeepers of expertise, are being eroded by AI-enabled micro-credentials and blockchain-based verification systems (Siemens, 2020). Evidence from the Gulf illustrates the same shift: employers increasingly recognize modular certifications, while universities experiment cautiously with competency-based recognition (Plexal/UK-Gulf Women in Cybersecurity Fellowship, 2025). In program planning work I have undertaken, micro-credentials are already presented as legitimate supplements to degrees, signaling a transformation in how knowledge and expertise are validated. Collectively, these shifts do not signify the end of higher education but rather the collapse of outdated scaffolding—what will endure are the uniquely human practices that AI cannot replace.

What endures: the irreducibly human core

The enduring value of higher education lies in cultivating judgment, belonging, and creativity-dimensions that AI cannot replicate. While AI produces outputs, it does not interpret meaning; thus, faculty must shift from delivering information to fostering epistemic judgment. Barnett (2009) frames this as the pursuit of "critical being." In my own teaching of medicine, for example, I have seen students use AI to generate differential diagnoses, yet the real learning occurs when they weigh ethical, cultural, and contextual factors—judgments that no algorithm can provide. Equally essential is the relational dimension of learning: education is not only cognitive but also social. Tinto (2017) emphasizes belonging as central to persistence, and regional surveys confirm that while students in the UAE appreciate AI's personalization, they remain uneasy about its lack of "human touch" (Plexal/UK-Gulf Women in Cybersecurity Fellowship, 2025). My students often affirm that mentorship and recognition from faculty sustain their motivation more than any digital tool. Finally, creativity and wonder remain uniquely human. As Biesta (2021) argues, curiosity and intellectual risk are central to education. Regional evidence supports this: entrepreneurship students in the Middle East found that AI simulations enhanced technical competence, but genuine creative breakthroughs emerged only in human-led discussions (Awad et al., 2024). In student projects I have supervised, the most profound insights consistently came not from polished AI outputs but from moments of play, improvisation, and exploration.

Reframing higher education's core practices

If universities are to thrive, they must reframe their practices around what endures.

 Curriculum: There needs to be a shift from content-heavy syllabi to inquiry-driven frameworks. In regional programs I have reviewed, inquiry-based designs that embed AI tools

- within authentic tasks—such as case-based simulations in medicine or scenario-based exercises in security—produced stronger engagement (Laurillard, 2012).
- Pedagogy: Faculty should design learning ecologies rather than perform content delivery. Studies in GCC universities confirm that students prefer active, problem-oriented learning experiences supported by AI (Bugawa et al., 2025). Students thrive most when pedagogy emphasizes debate, co-creation, and simulation.
- Assessment: Move to authentic tasks—simulations, reflective narratives, collaborative projects—that emphasize reasoning and adaptability (Boud and Falchikov, 2006). Regional surveys reveal faculty reluctance to abandon traditional exams despite evidence of AI-enabled cheating (Tbaishat, 2025). I recommend shifting toward reflective and applied assessments.
- Faculty roles: Professors must serve as stewards of meaning, not sages on the stage. Their authority derives from intellectual integrity, mentorship, and modeling judgment (Barnett, 2009). The Gulf-wide surveys (Plexal/UK-Gulf Women in Cybersecurity Fellowship, 2025) show that while students trust AI for content, they look to faculty for ethical guidance and mentorship.

Futures of the 2030s: human—Al collaboration

By the next decade, classrooms will look radically different. The following scenarios build not only on global scholarship but also on regional pilots and reforms:

- Hybrid immersive environments: In Gulf universities, early adoption of AI-enhanced VR tools points to a future where students from different countries collaborate in shared immersive spaces (Bugawa et al., 2025).
- AI companions: In UAE surveys, students already bring generative AI into tutorials (Anthology, 2023). Within a decade, AI tutors may accompany every learner, while classroom sessions focus on critique, debate, and meaning-making.
- Discipline-specific examples: In my own teaching of medicine, I have observed how anatomy education has already shifted from static dissection-based approaches toward 3D models and virtual reality. AI-driven, data-rich simulations are poised to extend this trend even further, which suggests that the true pedagogical focus of medical education must increasingly be on empathy and ethical decision-making rather than on technical recall. In law, research shows that mock trials are beginning to incorporate AI-curated precedents, serving as precursors to "living courts" where students can grapple not only with legal reasoning but also with questions of fairness and the unintended consequences of algorithmic judgments (Siemens, 2020; Tbaishat, 2025). Similarly, in engineering, evidence indicates that students already use AI to model sustainability trade-offs in their projects; here, the real challenge is not computational accuracy but navigating

Ahmed 10.3389/feduc.2025.1699106

the cultural and ethical implications of design choices (Awad et al., 2024).

- Knowledge commons: Universities in the GCC
 (Cooperation Council for the Arab States of the Gulf)
 are experimenting with modular, competency-based learning
 ecosystems (Plexal/UK-Gulf Women in Cybersecurity
 Fellowship, 2025), foreshadowing the rise of decentralized
 knowledge communities.
- Ethical laboratories: UNESCO's Green Paper on Generative AI in UAE Education stresses the role of classrooms as civic spaces for ethical debate (UNESCO/IIEP, 2025). Roleplay and scenario testing prepare students to live with technology responsibly.

Safeguarding higher education's mission

To thrive in this new landscape, institutions must act deliberately.

Faculty development must be reoriented toward facilitation, mentorship, and interdisciplinary collaboration, while assessment practices should be redesigned to move beyond AI-vulnerable tasks and instead reward originality and ethical reflection. At the curricular level, ethics should be institutionalized in line with the UAE's Green Paper recommendations (UNESCO/IIEP, 2025), ensuring that values-based learning anchors innovation. Equally vital is the protection of spaces of belonging, which serve as foundations of trust within increasingly decentralized learning ecosystems. Finally, universities must champion lifelong adaptability, positioning themselves not as one-time credentialing providers but as continuous partners in lifelong learning.

Conclusion: higher education as human commons

The real danger is not that AI will render education obsolete, but that universities will cling to outdated practices, mistaking tradition for substance. What must perish are the habits that reduce teaching to transmission and learning to credentialing. What must endure—and must be amplified—are the irreducibly human practices of judgment, belonging, and wonder.

This conclusion does not arise from theory alone but from practice. Across more than a decade of designing and evaluating programs in medicine, pharmacy, and security education, I have seen students persist when they feel part of a community and thrive when invited into spaces of curiosity and ethical dialogue. Regional

surveys and pilots confirm this: Gulf students want personalization but also mentorship; they embrace AI but still need human recognition (Plexal/UK-Gulf Women in Cybersecurity Fellowship, 2025). AI cannot replicate these experiences. Higher education must reclaim its role as a human commons—transforming the abundance unleashed by AI into an abundance of humanity.

Author contributions

SA: Writing – original draft, Resources, Conceptualization, Writing – review & editing.

Funding

The author(s) declare that no financial support was received for the research and/or publication of this article.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

The author(s) declared that they were an editorial board member of Frontiers, at the time of submission. This had no impact on the peer review process and the final decision.

Generative Al statement

The author(s) declare that Gen AI was used in the creation of this manuscript. The Gen AI was used in search for references and language revision.

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Anthology (2023). AI in Higher Ed: Hype, Harm, or Help: Global Survey of University Leaders and Students [Report]. Anthology. Available online at: https://www.anthology.com/news/anthology-survey-reveals-university-students-and-leaders-slow-to-adopt-but-cautiously

Awad, M., Al-Mahmoud, R., and El-Sayed, H. (2024). Integrating artificial intelligence in entrepreneurship education: a study of higher education institutions in the Middle East. *J. Entrep. Educ.* 27, 45–61. doi: 10.20944/preprints202408. 1140 v1

Ahmed 10.3389/feduc.2025.1699106

Barnett, R. (2009). Knowing and becoming in the higher education curriculum. Stud. High. Educ. 34, 429–440. doi: 10.1080/03075070902771978

Biesta, G. (2021). World-centred Education: a View for the Present. London: Routledge.

Boud, D., and Falchikov, N. (2006). Aligning assessment with long-term learning. Assess. Eval. High. Educ. 31, 399–413. doi: 10.1080/02602930600679050

Bruff, D. (2019). Intentional Tech: Principles to Guide the Use of Educational Technology in College Teaching. Morgantown: West Virginia University Press.

Bugawa, A., Jumah, A., and Al-Faris, M. (2025). The impact of artificial intelligence on higher education: opportunities and challenges in GCC countries. SSRN. Available online at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5320463 (Accessed February 2025).

Laurillard, D. (2012). Teaching as a Design Science: Building Pedagogical Patterns for Learning and Technology. New York, NY: Routledge.

Luckin, R. (2022). Machine Learning and Human Intelligence: The Future of Education for the 21st Century. London: UCL IOE Press.

Mazur, E. (2009). Farewell, lecture? Science 323, 50–51. doi: 10.1126/science.1168927

Plexal/UK-Gulf Women in Cybersecurity Fellowship (2025). *AI in academia across the GCC: Survey study.* Plexal Research Syndicate. Available online at: https://www.plexal.com/wp-content/uploads/2025/04/Research-Syndicate-Group-2025_AI-in-Academia-Across-GCC.pdf (Accessed February 2025).

Selwyn, N. (2019). Should Robots Replace Teachers? AI and the Future of Education. Cambridge: Polity Press.

Siemens, G. (2020). The post-learning era in higher education: Human + machine. EDUCAUSE Review, 55. Available online at: https://er.educause.edu/articles/2020/2/the-post-learning-era-in-higher-education-human-machine (Accessed February 2025).

Tbaishat, D. (2025). Adapting teaching and learning with generative AI in higher education. *Educ. Inf. Technol.* 30, 123–141.

Tinto, V. (2017). Through the eyes of students. J. Coll. Stud. Retention Res. Theory Pract. 19, 254–269. doi: 10.1177/1521025115621917

UNESCO/IIEP (2025). Green paper on generative AI use in education in the UAE. International Institute for Educational Planning, Available online at: https://etico.iiep.unesco.org/en/green-paper-genai-use-education-uae (Accessed February 2025).