ISSN: 2755-8339

Journal of Business Research and Reports

SCIENTIFIC Research and Community

Review Article

Open Access

Calling for a Paradigm Shift in Higher Education in the Age of AI -Education as We Know it is Dead – Long Live Education!!

Tabani Ndlovu[1]*and Sihle Ndlovu[2]

[1]Academic Program Chair–Marketing Higher Colleges of Technology, Madinat Zayed Campus, Abu Dhabi, UAE

[2]Faculty-GARD Division Higher Colleges of Technology, Al Dhannah Campus, Abu Dhabi, UAE

ABSTRACT

Recent years have seen an unprecedented evolution of technology with artificial intelligence (AI) proliferating every sphere of life, including Higher Education (HE) institutions. This rapid evolution has necessitated a paradigm shift as HE institutions navigate around fully utilising AI benefits while mitigating potential challenges within the teaching and learning context. On one hand, HE institutions stand to benefit from the advancement of AI capabilities through effective utilisation of AI tools' ever-increasing abilities to replicate and automate complex cognitive, administrative and analytical tasks previously attributed to human capabilities. On the other hand, this presents challenges as many longstanding pedagogical models are rooted in developing leaners' content mastery which subsequently translates into their ability to meet the requirements of standardized assessments. The proliferation of AI presents challenges to these longstanding pedagogical methodologies. This paper argues that "education as we know it, is dead," not in its purpose, objectives and relevance, but in its prevailing 'form'. Therefore, the paper calls for a reconceptualization of higher education which is aligned to the new, inescapable realities of an AI-driven landscape. While HE stands to benefit from leveraging AI's transformative opportunities in areas such as personalization of learning, enhanced access to learning opportunities, efficiency of teaching and learning as well as opportunities for global collaboration; all of which are key to success in the 21st century, simultaneously, HE institutions are faced with profound challenges. Academic integrity concerns, data privacy risks, as well as digital divides are part of the challenges that are likely to be exacerbated within HE institutions in an AI era. Therefore, a central issue explored in the paper is the widening gap between digital-native learners, who are adept at leveraging AI and emerging technologies on one hand, and their educators, many of whom lack equivalent technological fluency on the other hand. This imbalance presents challenges to traditional teaching and assessment practices. It highlights the risk of producing graduates who present artificial competencies evident only on paper but lacking authentic competencies and skills in practice. It is in this context that the paper reviews the new challenges of existing curriculum and assessment methodologies and emphasizes the urgent need for a shift towards a focus on human-centred competencies such as critical thinking, contextual reasoning, ethical judgment, creativity, collaboration and emotional intelligence; skills that AI cannot easily replicate. To this effect, immersive, problem-based and competency-based approaches are highlighted as essential strategies to meaningfully engage digital natives, encouraging ethical utilisation of the wide array of functions that AI has to offer, while at the same time, discouraging over-reliance and unethical use of generative AI for academic shortcuts. Ultimately, the paper contends that the future of higher education hinges on its ability to integrate AI responsibly while redesigning curricular structures and pedagogical approaches that prioritize higher order thinking human capabilities. To achieve this, a collaborative effort is required from all key stakeholders including educators, HE institutions, policymakers and technology experts to ensure that AI augments and enhances learning, rather than working against it. This will result in robust, meaningful, ethical, adaptive and deeply-human HE offerings capable of preparing future leaders who can thrive alongside intelligent machines and remain able to navigate the complexities of the 21st-century world.

***Corresponding author**

Tabani Ndlovu, Academic Program Chair–Marketing Higher Colleges of Technology, Madinat Zayed Campus, Abu Dhabi, UAE.

Received: February 16, 2026; **Accepted:** February 20, 2026; **Published:** February 27, 2026

Keywords: Artificial Intelligence in Education, Higher Education Transformation, Digital Natives, Academic Integrity, Competency-Based Learning, Personalized Learning, Inclusive Learning

Introduction and Background

Artificial Intelligence (AI) is defined as the study of how to make computers do things at which, at the moment, people are better [1]. This definition must be qualified by the observation that today, AI machines learn in a compounded fashion, raising the question as to how long it will take them to fully surpass human intellectual capabilities and be better than humans [2-4].

The use of AI has opened new windows of possibilities in undertaking information-based tasks [5-6]. This has significant ramifications for education, particularly higher education considering the anchorage of this field on the acquisition and processing of information for knowledge [7-8]. By its nature, higher education primarily requires learners to produce and communicate information as evidence of their mastery of tested skills and competences [9]. As AI is transformative in nature, it challenges the established approaches to education, considering that students can now easily access the same information that teachers have access to [10]. The focus on the "what" or "how" has

been made redundant as generative AI tools such as ChatGPT and Copilot can easily provide a response in seconds [11-12]. Current and future education thrusts therefore need to target higher order thinking skills, eliciting students' abilities to reason, justify or give emotional responses in given contexts that cannot easily be mimicked by machines [13-14]. To cement social skills, students need training and testing in human-related skills engendering practical, team-related, human-centred nuances that pacify the technological world. Educators should acknowledge that students will use AI and this is largely a positive thing and should be encouraged [15]. Educators have to rise above knowledge-based approaches and instead, encourage critical reasoning around the AI-based knowledge. Education is thus at crossroads in terms of how to effectively integrate AI and embrace the opportunities while mitigating the challenges inherent therein AI [16-18]. With AI developing at such a fast pace, timely, continuous education of educators remains a paramount issue that threatens to render education obsolete and invalid if educators are not continuously re-equipped with latest skills and competences to proactively teach beyond AI [19-20].

This paper examines the current impasse facing higher education, exploring possible challenges and opportunities arising from the advent of AI. The paper advocates for a paradigm shift in the development and delivery of higher education in this AI-driven age. It posits that the focus of education should change from content to context, process and rationale so as to better prepare AI-capable leaders of tomorrow who can leverage off AI to critically delve into solving 21st century problems facing the world.

What Exactly is AI in a Higher Education Context?

Within a higher education context, AI refers to the use of computational tools to aid the teaching and learning processes. In this context, computational tools replace or mimic activities that would otherwise be carried out manually by humans (in this case, higher education faculty and all stakeholders in the higher education sector, including students) [21]. Such activities include development of the curriculum, grading students' work, personalizing training of students and faculty and undertaking some administrative tasks among others [22]. While use of AI in higher education improves efficiency and allows for integration of otherwise disparate data systems into a cohesive unit for easy analysis and decision-making, this is prone to challenges as discussed in the ensuing section [23].

Challenges of AI in Higher Education

Typical challenges emanating from the use of AI centre around ethics, data privacy, credibility of the data considering AI is based on prompts entered by human beings and relies on the quality of data out there [24]. This suggests that AI-generated data needs to be sense-checked and sometimes cleaned for it to be usable. Added challenges emanate from the lack of clear regulatory guidelines for this evolutionary area that is difficult to contain as it is ever-changing. Further, the implications of using AI are unfolding continuously and incrementally, making it difficult to definitively delineate AI usage boundaries [25-26]. As AI amasses data from the open web, it is likely to replicate any embedded biases, inaccuracies and possible prejudices inherent in the source data thus perpetuating possible exclusion of certain groups in society and / or promoting inequality. Such challenges require human input to sanitize AI-generated data. Considering the above challenges and others not explored in this discussion, continued reliance on AI in the higher education sector by students in particular, suggests that there is need for a paradigm shift in what is taught, how this is taught and to what effect.

AI is an incrementally developing field, adding new dimensions in leaps and bounds everyday. Students and faculty are discovering new features on a daily basis and combating academic misconduct becomes increasingly difficult for faculty who may be overwhelmed with other academic duties, denying them ample opportunities to proactively investigate and explore new AI frontiers to take appropriate proactive action. The action required from educators is to make education more relevant and meaningful to this new age, thus making it beneficial and timely. This means that educating students on exploring AI should be one of the cornerstones of modern higher education curriculum [27]. Already, AI proliferation in professional fields can be seen in areas such as automated marketing tasks [28-29]. This means that new graduates seeking opportunities in these areas should be conversant with the use of AI to automate tasks in these new job roles. It can therefore be concluded from the foregoing sections that AI is in fact not an inconvenience, but a new tool that both students and faculty should acquaint themselves with.

Those who do not familiarise themselves with AI may find themselves on the fringes of this new revolution and thus at a disadvantage [30]. The next section gives an appraisal of current higher education approaches, identifying some of the challenges posed by the advent of technology in general and IA in particular, further engendering the urgency for change.

Typical Current Education Approaches

The current traditional education approach focuses on getting learners to master knowledge and skills and then certifies them to attest to learners' progression through a series of the institution's academic preparation processes, culminating in graduation of some form [31]. The framework is anchored in a scaffolding approach which allows learners to sequentially build knowledge and skills in successive steps and then demonstrating mastery thereof through assessments. To assess learners' mastery of skills and competences, educators typically use examinations or practical assessments where learners either have to show correct answers or demonstrate an ability to remember concepts tested through various activities or simulations.

AI poses a risk especially to assessments that require learners to generate content as evidence of mastery of taught skills and competences. The risk is that learners could easily use generative AI to produce reports or answers that they pass as their own. For the institution, the risk is that it will attest to a graduand's mastery of skills when such a graduand is devoid of such skills, having used generative AI to produce the submitted work. Unlike plagiarized work which can be detected by such applications as Turnit in or SafeAssign, AI-produced work may appear original and not be flagged up in anti-plagiarism applications. Despite its appearance as original work, AI-generated work is still academically-stolen work if it is not used transparently, hence universities around the world are treating undisclosed use of AI tools as a breach of academic integrity, often equating it with plagiarism or fraud. The risk is that such a learner may be certified on having acquired skills that in actual effect they lack. Current education models following this dogma are therefore rendered invalid if learners can now generate the required evidence from AI-driven platforms and pass such evidence as their own.

A case in point could be an accountant, being trained to accurately and studiously handle company accounts; a marketer, being trained

to effectively handle a company's marketing needs or worse still, a physician being trained and subsequently assessed on the mastery of skills and competences to undertake delicate surgical procedures that determine life or death. Attesting to such learners' mastery of their requisite skills when they have submitted AI-generated work means that society may have some practicing professionals who have not completely mastered their fields and thus pose a risk to those that they serve. This has significant ramifications for the attesting institution's reputation and society at large. It means that alternative education and assessment methods need to be found to circumvent the above risks and in some cases, save lives. The ramifications ensuing from the above could be summed up as:

- Compromised value of education churning out high-scoring graduates who are devoid of any knowledge, skills or critical thinking in their claimed specializations.
- Serious ethical concerns around the bypassing of established assessment procedures by learners. If they have done it once to pass, they are likely to take similar shortcuts to maintain or advance in their professional lives and this becomes a slippery slope.
- Lack of fairness and equity as less-deserving graduates may appear attractive with seemingly higher attainment levels compared to genuine hard-working graduates who possess authentic but comparatively less glamourous credentials.

Therefore, this paper calls for a fundamental paradigm shift in higher education systems, their ethos, training of educators and the development and delivery of content including assessment practices and procedures. Various studies have emphasized the need for educators to move away from teacher-centred, passive rote learning approaches and instead, adopt project or problem-based learning approaches. Similarly, assessment strategies also need to move away from exam-based assessments to more immersive, engaging assessments that require learners to think and apply their skills and competences in dynamic environments nuanced with context and reasoning. Such assessment strategies could include oral assessments, collaborative group-based tasks, immersive assessments and other methods that require learners to think critically and give their own input and justifications contextualized in their given circumstances. The approaches above though prevalent in some institutions and used by some educators, remain lackluster for many other higher education practitioners. At the heart of this discussion, educators themselves need to be at the forefront of technology, identifying latest trends and integrating them into their teaching and deploying AI-ready education so as to engage today's technology-savvy learner and ensure the latter is well-equipped to thrive in the AI-driven modern world. AI has become an enduring feature of the 21st century teaching and learning context. Therefore, higher education practitioners need to adapt quickly to keep pace with the new skills demand and thus support the new paradigm shift.

Why is a Paradigm Shift Necessary in Education?

As highlighted earlier, the typical educational approach prevalent in most institutions of higher learning is largely based on traditional methodologies. The thrust emphasizes compliance and uniformity. The approach is content-driven and lends itself to easy interruption by AI-generated content to respond to academic assessment tasks on knowledge acquisition (Ibid). This then means that if learners use AI to generate academic work, educators may not accurately gauge learner competences and distinguish between those who have mastered concepts from those who have simply generated their assessments using AI. Educating students to "know" has thus been made redundant. Answers to questions focusing on knowledge now reside on open web systems and can be accessed easily and instantly. Sadly, the abundance of data in web systems now creates islands of people who though connected by social media platforms, are still physically separated. So in a way, this technological revolution is creating new psychological ills for society. The above however, is not the subject of this paper hence the focus will remain on AI and its role in higher education.

The challenges highlighted above relating to digitally-connected but physically-isolated people means that people may be slowly losing human-related social skills. In short, today's education now needs to transition from knowledge to application of that knowledge in different given contexts (adaptability), embracing team inputs, rationalizing as well as critically justifying approaches taken in response to given prompts. New education frontiers should cultivate more exploration of critical thinking, creativity, emotional intelligence, ethical reasoning and other human-centred emotional and sensual elements which should bridge the human to machine interfaces. To facilitate this transition from knowledge-based education there is need for the current higher education syllabi to be significantly revamped. Revamping the current education system is easier said than done. By nature, changes to education systems, processes and content take time. Education content development and its requisite delivery are some of the most regulated processes in the people development sector. Time taken for requisite approval processes means that by the time syllabi are approved for deployment, they are most likely to be obsolete, rendering the exercise futile. Other key challenges centre around the slow pace of getting requisite approvals from accrediting bodies to change content. A further challenge exists around the availability of latest tools for equitable access by all participants and safe navigation of the AI-driven landscape to ensure ethics are maintained. Most students going through higher education systems today (2025) can be classified as Generation Z (born 1997-2012), this generation was born into, and grew up with technology and are very proficient in its use, and by extension, using AI. On the contrary, most educators can be classified as millennials and, or older generations, rendering them comparatively less-proficient with use of technology in general and AI in particular. This makes teaching digital natives very challenging especially if they are more familiar with the tools than their educators. The scenario here posits that the educator is tasked with educating a digital native who is more adept with the technological landscape, weakening the tutelage given by the less tech-savvy educator. This paper therefore surmises that "Education as we know it is dead! and yet education (in whatever guise) is the social channel on which future generations are prepared for life and leadership - Long live education!" Educators, regardless of their current preparedness for the AI-driven era, must develop new skills and assume a proactive role in preparing future leaders to engage responsibly with intelligent machines, despite any challenges that may arise.

Challenges of Teaching Digital Natives in AI-Driven Education

The discussions in this paper mainly focus on higher education including both academic and vocational. This typically focuses on learners who have completed high school and are now venturing into universities or vocational colleges (classified in the European education context as Higher Education and Further Education respectively. Typically such students tend to be around 16+ years. The majority of current higher education learners are classified as digital natives. Digital natives are technology-savvy and to them, searching the web and navigating therein comes naturally. This means that in some instances (if not most), the learners are much

more clued up on the technology used in education compared to their educators. This disparity in technological proficiency between digital natives and their generally less tech-savvy instructors may contribute to challenges in effectively addressing technology misuse in assessments, as students could potentially stay a step ahead of their educators. As a result, instructors might find it more difficult to accurately assess student work and make well-informed academic judgments. This situation suggests that aspects of the current educational model may not fully meet the needs of today's digital-native learners, highlighting the potential value in providing ongoing professional development for educators to help them stay current with technological trends. Additionally, educators need to shift the landscape and revamp their curricula to focus on new competences that can better serve the digital natives in this new landscape and to adapt to the ever-changing technology-driven world.

Digital natives spend most of their time on technology. Their attention spans have significantly been reduced, shaped largely by the snippet-sized tweets, Instagram reels and snapchat content which all typify reduced content. When they are immersed in one-hour long lectures, this is overwhelmingly brain-numbing and boring for them, especially if the lectures are content-driven. PowerPoint presentations overloaded with text and tutors delivering content in a monotonous tone tend to disengage students, often resulting in diminished attention and participation. As an alternative, learners feel that they can easily generate and access the content themselves rather than sit in boring classes with seemingly endless PowerPoint slides in a one-way teacher-centred monologue.

This paper posits that instead, today's learner has to be engaged, to be challenged, to be immersed, to be asked to reason, to rationalize, to apply concepts in given contexts and cases; to justify and to adapt. Such approaches will not easily lend themselves to content from online sources and when done in real-time class environments that involve team discussions and active participation, they deny students the opportunity to search for answers online and instead cultivate higher order thinking skills in a peer-learning environment, things that cannot be easily mimicked by AI. The above proposed approaches are not new. They are espoused in teaching approaches such as Problem-Based Learning (PBL), Competency-Based Education (CBE) among others. While the ideas themselves are not new, they have not been urgently-mainstreamed as different institutions of higher learning have pursued various approaches based on their ethos. With the advent of AI however, higher education institutions globally have an urgent need to rethink their strategies and re-evaluate what it is that they offer their students which the latter cannot just get by themselves online. Some institutions advocate for gadget-free class environments.

In such environments, students are not allowed to use gadgets, in an attempt to get them to engage independently with whatever curriculum is taught at the time. While this may help detox students, it does not squarely face the fact that the same students will be working with technology and AI as they step into the job market. So in a way, denying them the opportunity to immerse themselves in technology early is weakening their grasp of this crucial part of their future professional lives. Further, setting punitive rules around technology creates an underground movement of stealthily using the same but in a way that educators may not find easy to detect. This creates a "cat-and-mouse" game where educators are desperately trying to detect and punish use of technology while the more technologically-savvy students are one step ahead, evading every tactic being deployed to catch them. Rather than criminalize use of technology and AI, educators ought to admit that the landscape has changed and calls for new education approaches. Many educators still hold on to the idea that they will use tools to detect overreliance on AI or plagiarism. Increased development of different AI tools shows that students now have opportunities to evade most of the detection attempts, posing challenges for educators. The following examples highlight the scope of the challenges:

- Clever use of AI now means that it is increasingly difficult to detect AI-generated content using traditional plagiarism tools. This exacerbates academic dishonesty and may fuel inequitable academic decisions.
- While generative AI allows digital natives to generate content, new tools such as QuillBot or Spinbot further enable learners to take AI-generated content and rephrase it so that it may look original, rendering it undetectable and appearing as the student's own work.
- Today, learners can use deepfake algorithms to replace content, images or even references in an attempt to present seemingly authentic work. Increased sophistication in AI means that new tools will be in the offing, allowing students to always have a leg up on their educators.

In summary, if educators persist in evaluating digital natives through conventional, knowledge-based assessment methods, they are ultimately engaged in a losing battle towards authentic skills development. The overriding challenge facing higher education tutors is how to teach digital natives and fully engage them in immersive, practical education approaches to dissuade them from resorting to AI as a way to easily produce and present work as their own. Essentially, digital natives' learning styles and preferences are heavily influenced by their continuous use of technology, often characterized by short bursts of content in fleeting timeframes [32]. The continued exposure to technology-based content in this format has made digital natives to be impatient, requiring bite-sized information chunks. Educators need skills to be able to integrate technology into the curriculum so as to bring the digital natives into their usual zones. Unfortunately, integrating technology into the curriculum may not be easily possible for all educators. Further, use of technology in the curriculum needs to be effective and engaging if digitally-savvy learners are to buy in, otherwise this is like teaching fish how to swim.

As AI-related technologies are constantly changing, educators have the second added challenge of keeping abreast of all the fast changes. Updating the curriculum is a mean feat on its own and adding the need for keeping up with dynamic technological changes adds another burden for educators who may already be burdened with other academic and administrative responsibilities. The next section gives a brief highlight of some of the challenges posed by AI in the higher education sector, paving way for some recommendations on mitigation strategies that can be adopted.

Risks Posed by AI in Higher Education

The main risk of AI in higher education is certifying students with skills that they have not yet developed. This poses risks to society as such people may go on to take up jobs that require mastery of certain competences. Results put others and themselves at risk, and can potentially be fatal. AI therefore poses risks of being misused to the detriment of society. Literature is awash with various AI-related risks, some of which are discussed below:

- **Job Displacement and the Myth that AI will Replace**

Humans – There are fears that AI and technology in general threaten to replace human input in many sectors including education. While there may be some semblance of truth in this, it would be impossible to completely replace the human input in education. AI-driven systems can automate tasks around content development, delivery, grading of learners' work but the human element of student mentoring, personal guidance and advising, emotional counselling, career coaching etc. remain largely-human centred. Tutors need to reinvent themselves and make themselves relevant in this AI-driven age, focusing on acquiring more humanistic skills and competences of empathetic coaching, emotional connectedness etc., leveraging off technology in general and AI in particular to render themselves relevant in the AI age. Tutors need career guidance more than ever considering the increased encroachment of AI into previously tutor-dominated domains. Risks may arise when using AI for grading especially if AI perpetuates some biases which may be inherent in the student and / or grading data being fed into it. Tutors therefore need to review anything that AI churns out considering that AI needs to be fine-tuned and sometimes it may even churn out meaningless or inaccurate outputs.

- **AI-Engendered Bias and Discrimination -** AI-generated content typically follows the Garbage In, Garbage Out adage and may manifest data which reflects what is endemically prevalent in web-based data. Such data may lack inclusivity or may have inherent biases or discriminate certain marginalized social groups. In higher education, AI-driven data decisions may affect enrolments, potentially disadvantaging certain groups based on race, income or ethnic attributes. Similarly, predictive AI algorithms used for forecasting attainment levels, enrolment projections, students at risk among others may perpetuate certain inherent biases and propagate further discriminatory decisions that may adversely affect marginalized groups.
- **The Death of Academic Integrity -** Academic integrity basically infers that the work submitted by students is truly theirs and attests to their ability to demonstrate mastery of the assessed content. As is currently understood, academic integrity is significantly threatened by generative AI tools. While learners can be blamed for regurgitating content from AI, the larger blame should be laid on the existing education model which has not adapted to the changing nature of information generation. As discussed below, today's education questions and tasks should no longer be questioning what and why, instead, they should be targeting higher order critical thinking skills that involve using AI tools to amass information, focusing on where such information can be used; to what effect and how or why it relates to given contexts. Academic integrity should centre on each learner's ability to authentically engage with information, adapting to given contexts and rationalizing their approaches. The education approach could be immersive to observe learners in situ, including how they and their peers navigate around given contexts, rationalizing / justifying their approaches.
- **Privacy -** Concerns around privacy have deepened with increased us of AI (Solove, 2025) [33]. As AI tools amass vast data tracks on students, their backgrounds and attainment levels among others, there is a risk that such data may leak or be prone to misuse by those who access it. Some higher education institutions use AI-driven proctoring tools which use screen monitoring, capturing learners' facial features among others to monitor, raising concerns of such data being incorporated into the system's reservoirs and rendering such amenable to leaks (Jurewicz, Kafer, & Kran, 2024) [34]. Further, as AI progressively learns from the data, abstractions could be made from the data with traits publicized which could be traceable to source students in a localized context. Significant safeguards and assurances are needed to allay fears of privacy infringements.
- **Lack of Human Touch / Overreliance on Automation -**higher education establishments work with people, to produce empathetic leaders of tomorrow based on a holistic evaluation of the learner, focusing on behaviour, attainment and other attributes. The traits of emotional and relational intelligence, empathy, human connectedness among others are key in graduating future leaders who will critically handle business challenges in a humane way, given the fractious world we live in [35]. AI-driven processes on the other hand risk cold, alienated, data-driven decisions that lack empathy and ignore nuances that a human being would otherwise observe and intervene in [36]. Systems may establish thresholds which when not met, instantly cut out learners without explanation. Issues around student conduct, marginal performance, attendance among others can take very hard-line stances when left to automation. There is thus still a need for human intervention in AI-based systems to ensure that human touch comes in when occasionally needed. It is difficult to fathom a world in which everything has been automated, at least not in this lifetime.
- **Unregulated New Frontier Developing Everyday -** The AI-driven landscape is developing at a frightening pace with new trends and possibilities emerging everyday. This means that a lot of the AI spheres are not yet fully grasped and therefore may be outside the scope of current regulatory frameworks [37]. Lack of accountability may result in AI-driven education decisions that leave learners with little avenues for appeal or recourse, moreso if the decisions are based on algorithms in an automated fashion. There is need for legislative frameworks to be developed and updated incrementally to cope with the dynamic evolution of AI-based systems in general and higher education in particular.
- **AI Propagating the Digital Divide? –** To fully leverage off AI-based systems, one needs some level of IT literacy as well as access to stable internet with good bandwidth. Some learners, depending on their backgrounds may not have access to such. This may therefore further alienate users from disadvantaged backgrounds who may lack basic IT skills and or may not have access to reliable internet [38]. Such users may therefore miss out on new higher education models that seek to integrate AI. The call for modernized education approaches that leverage off AI must therefore recognise this limitation which may limit access by some.
- **Tutor Preparedness and Continuous Development –** As AI is evolving in compounded leaps and bounds, tutors who embrace this platform need to continuously reskill themselves to remain abreast of changes. This may be a challenging task considering that many educators may not be from a technology background and grasping advanced skills may require effort [39]. With crammed schedules and the need to continuously adapt teaching and learning resources, it may be difficult to find time to continuously chase AI latest trends alongside other academic and administrative duties.

Therefore, a paradigm shift to embrace AI and integrate it in today's higher education curricula is no small feat. It requires significant mindset shifts as well as a revamp of the education system, retraining of faculty and re-orienting academic setups to create a supportive ecosystem for the new model. Further, as has been discussed above, AI brings with it a new set of challenges

that the higher education sector will now have to contend with. Despite these seemingly insurmountable challenges, the higher education sector does not have much of a choice and has to rise up to the AI challenges or face extinction in its current guise. AI integration into higher education brings with it some opportunities, some of which are discussed below:

Higher Education Opportunities in the Age of AI

Personalized Learning

Through the use of AI, many functions in the higher education sector can be automated to improve the efficiency of the system. As an example, instruction systems can be tailored to suit individual students' needs. There are platforms such as Khan Academy's Khanmigo and Squirrel AI [40]. which have been used in contexts such as China, demonstrating how the system can be automated to provide diagnoses, identify learning gaps, offer tailored support as well as provide tailored and real-time feedback. Such adaptive technologies can help close tutor shortage gaps or personalize learning to suit the needs of disparate and often hard-to-reach student groups.

Enhanced Accessibility and Inclusion

Students with various disabilities can now have access to education, thanks to the inclusivity brought about by AI. Tools such as Microsoft's Immersive Reader can make texts accessible to students with dyslexia, giving them a fairer chance of success (Rasheed, et al, 2025) [41]. Functions such as speech-to-text and real-time translation services further make education more accessible to students from various challenging backgrounds, allowing them to progress at their own pace while engaging with relevant IT systems.

Data-Informed Decision-Making

With the use of AI, vast amounts of data can be analysed and synthesized to inform decision-making in the context of specific students. Student performance, dropout rates etc. can all be analysed with requisite predictions accurately generated to help educators and administrators to intervene proactively. As an example, Georgia State University used predictive analytics to make lifechanging decisions that helped significantly reduce achievement gaps [42].

Global Collaboration and Open Learning

AI supports global, decentralized learning ecosystems. Massive Open Online Courses (MOOCs) enhanced with AI capabilities allow learners across the world to access high-quality content, fostering a conducive environment for peer interactions [43]. AI-driven platforms like Coursera and edX already recommend personalized learning pathways based on user behavior and goals.

A paradigm shift entails not just technological integration, but a redesign of curricula and assessments. This shift should emphasize holistic development of the learner, featuring interdisciplinary learning. This approach should integrate humanities, arts, and STEM-what some call STEAM education. The Finnish education system, for example, is moving towards phenomenon-based learning, where students explore real-world issues through multiple disciplines, fostering deeper understanding and innovation [44].

From the foregoing discussions, it is clear that AI proliferation is inevitable. It is also a fact that the higher education sector is not entirely ready to fully embrace AI in teaching and learning. Digital native learners seem to be more technologically-savvy and therefore appear to be one step ahead of their digital visitor educators. This raises an urgent need for a paradigm shift in higher education with an ethos to embrace AI as this will feature in all aspects of work and life. Embracing AI will be challenging especially as the field is evolving and regulatory arrangements are still in developmental stages. Despite the possible challenges, AI brings with it numerous benefits which can bring about efficiency, accuracy and accessibility for students and other higher education stakeholders. Higher education cannot continue as it did previously. The status quo is not at all sustainable hence this paper's mantra that "Education as we know it is dead" Nonetheless, higher education's role in educating future leaders has never been as important, henceLong live education [45-55].

Conclusion

The higher education status quo featuring traditional assessments comprising multiple-choice tests, reports and or timed examinations has been proven to be increasingly ineffective as an accurate yardstick of gauging mastery of skills and competences in the age of AI. The current education framework and requisite assessment strategies are said to be increasingly inadequate for assessing complex competencies in the age of AI. Interestingly, use of AI in higher education offers opportunities for simulations, portfolios, collaborative wikis, peer reviews and other practical assessments. To make them effective, such use of AI needs to work alongside humans for nuanced judgment to maintain fairness and contextual understanding as well as application. Integrating AI into higher education requires educators to proactively work to mitigate the risks and challenges discussed in the above sections, while leveraging off AI to create more personalized, inclusive and effective learning environments. The key to successful AI integration in higher education lies in using the technology responsibly, ethically and in ways that genuinely enhance both teaching and learning. By proactively integrating AI, higher education institutions will proactively cultivate a culture of creativity and innovation, adapting assessments to evaluate more nuanced and contextual human skills as opposed to memory or knowledge assessments. In the proposed revised education framework, assessment strategies ought to focus more on skills and critical thinking rather than the mere reproduction of written content. This new approach will require ongoing collaborative approaches involving educators, students, technologists and policymakers to holistically harness AI's benefits while mitigating its dangers. Success lies not just in adopting advanced tools, but in doing so in ways that preserve humanity, protect students' rights and promote equity. Embedding AI in higher education demands not just an incremental adjustment, but a foundational shift in how we conceive higher education. While AI presents unprecedented opportunities for personalization, inclusion, and global access, it also brings ethical, social and infrastructural challenges that cannot be ignored. Policymakers, educators, technologists and communities must co-create a new educational paradigm that prepares learners not just to coexist with AI, but to thrive alongside it. In this vision, education becomes less about producing workers and more about nurturing empowered, empathetic, and adaptable human beings [56-64].

References

1. Ertel W (2024) Introduction to artificial intelligence. Springer Nature https://link.springer.com/book/10.1007/978-3-658-43102-0.
2. Tariq S, Iftikhar A, Chaudhary P, Khurshid K (2023) Is the technological singularity scenario possible? World Futures 79: 200-266.
3. Fang J, Su H, Xiao Y (2018) Will artificial intelligence surpass human intelligence? SSRN Electronic Journal https://www.researchgate.net/publication/325749286_Will_Artificial_

Intelligence_Surpass_Human_Intelligence.
4. Korteling JE, van de Boer-Visschedijk GC, Blankendaal RA, Boonekamp RC, Eikelboom AR (2021) Human versus artificial intelligence. Frontiers in Artificial Intelligence 4: 622364.
5. Beghetto RA (2023) A new horizon for possibility thinking: A conceptual case study of Human×AI collaboration. Possibility Studies & Society 1: 324-341.
6. Neves MP, De Almeida AB (2024) Before and beyond artificial intelligence: Opportunities and challenges. In Multidisciplinary Perspectives on Artificial Intelligence and the Law 107-121.
7. Adiguzel T, Kaya MH, Cansu FK (2023) Revolutionizing education with AI: Exploring the transformative potential of ChatGPT. Contemporary Educational Technology https://www.cedtech.net/article/revolutionizing-education-with-ai-exploring-the-transformative-potential-of-chatgpt-13152.
8. Kayyali M (2024) Future possibilities and challenges of AI in education. In Transforming Education with Generative AI IGI Global 118-137.
9. Wong B, DeWitt J, Chiu YLT (2023) Mapping the eight dimensions of the ideal student in higher education. Educational Review 75: 153-171.
10. Smolansky A, Cram A, Raduescu C, Zeivots S, Huber E, et al. (2023) Educator and student perspectives on the impact of generative AI on assessments. In Proceedings of the 10th ACM Conference on Learning @ Scale 378-382.
11. Sesay IMSGA (2024) Redefining student assessments in the age of AI-assisted learning. GSJ 12.
12. Boafo F, Anim PA, Arthur E (2024) Effective ways of assessment in the AI era. In Proceedings of the Lancaster University Education Conference https://ojs.library.lancs.ac.uk/lue/article/view/01-boafo-et-al/8.
13. George AS (2023) Preparing students for an AI-driven world: Rethinking curriculum and pedagogy in the age of artificial intelligence. Partners Universal Innovative Research Publication 1: 112-136.
14. Chasokela, D, Hlongwane J (2025) Assessing higher-order and critical skills in the era of artificial intelligence. In Educational Assessments in the Age of Generative AI IGI Global https://www.irma-international.org/chapter/assessing-higher-order-and-critical-skills-in-the-era-of-artificial-intelligence/366797/.
15. Smerdon D (2024) AI in essay-based assessment: Student adoption, usage and performance. Computers and Education: Artificial Intelligence 7: 100288.
16. Shah P (2023) AI and the future of education: Teaching in the age of artificial intelligence. John Wiley & Sons https://www.wiley.com/en-us/+and+the+Future+of+Education%3A+Teaching+in+the+Age+of+Artificial+Intelligence-p-9781394219247.
17. Greco S, Cinganotto L (2023) Re-thinking education in the age of AI. Journal of e-Learning and Knowledge Society 19: 1-6.
18. Yeo MA (2023) Academic integrity in the age of AI authoring apps. TESOL Journal 14: 716.
19. Wang X, Li L, Tan SC, Yang L, Lei J (2023) Conceptualizing and examining teachers' AI readiness. Computers in Human Behavior 146: 107798.
20. Ismail A, Aliu A, Ibrahim M, Sulaiman A (2024) Preparing teachers of the future in the era of artificial intelligence. Journal of Artificial Intelligence, Machine Learning and Neural Network 44: 31-41.
21. Bittencourt II, Chalco G, Santos J, Fernandes S, Silva J, et al. (2024) Positive artificial intelligence in education (P-AIED): A roadmap. International Journal of Artificial Intelligence in Education 34: 732-792.
22. Wang S, Wang F, Zhu Z, Wang J, Tran T, et al. (2024) Artificial intelligence in education: A systematic literature review. Expert Systems with Applications 252: 124167.
23. Sămărescu N, Bumbac R, Zamfiroiu A, Iorgulescu MC (2024) Artificial intelligence in education: Next-gen teacher perspectives. Amfiteatru Economic Journal 26: 145-161.
24. Khawrin M, Nderego E (2023) Opportunities and challenges of AI towards education: A systematic literature review. International Journal on Language Research and Education Studies 13: 266-271.
25. Kaminski ME (2023) Regulating the risks of AI. Boston University Law Review 103: 1347.
26. Hadfield GK, Clark J (2023) Regulatory markets: The future of AI governance arXiv:2304.04914 https://arxiv.org/abs/2304.04914.
27. Pasham SD (2022) Enabling Students to Thrive in the AI Era. International Journal of Acta Informatica 1: 31-40.
28. Wan Abdul Rahman WF, Che Fauzi AA, Wan Husain WS, Che Hassan SH, Nik Kamaruzaman NN, et al. (2020) The usage of artificial intelligence in marketing automation: Potentials and pitfalls. Journal of Mathematics and Computing Science (JMCS) 6: 1-8.
29. Byba V (2023) Automation of marketing decisions. Journal of Strategic Economic Research 4: 97-110.
30. Jarrett C (2021) Don't Try to Beat AI, Join It!. Quality 60: 57-58.
31. Artal-Sevil JS (2020) Are the new methodologies in higher education so effective? Death had a price https://www.researchgate.net/publication/340124948_ARE_THE_NEW_METHODOLOGIES_IN_HIGHER_EDUCATION_SO_EFFECTIVE_DEATH_HAD_A_PRICE.
32. Thompson P (2013) The digital natives as learners: Technology use patterns and approaches to learning. Computers & Education 65: 12-33.
33. Solove DJ (2025) Artificial intelligence and privacy Fla L Rev https://scholarship.law.ufl.edu/flr/vol77/iss1/1/.
34. Jurewicz M, Kafer NK, Kran E (2024) Artificial Intelligence and Privacy: Causes for Concern. Privacy Studies Journal 3: 1-32.
35. Goleman D, Cherniss C (2024) Optimal leadership and emotional intelligence. Leader to leader 7-12.
36. Sass R (2025) Empathy, Fairness, and Ethical Trade-Offs in Human-Centered Versus Algorithm-Driven Decision-Making: R. Sass. Philosophy & Technology 38: 95.
37. Shahghasemi E (2025) AI; A human future. Journal of Cyberspace Studies 9: 145-173.
38. Lazanyuk IV, Eyeberdiyeva MM, Diaz MHAZ (2025) AI and the Digital Divide: Challenges and Opportunities. Management of Digital Technologies in the Innovative Economy 283-288.
39. Gao R (2025) The Erosion and Reconstruction of Teachers' Authority in the Context of Artificial Intelligence. Journal of Theory and Practice in Education and Innovation 2: 26-33.
40. Khan Academy (2025) Khan Academy's framework for responsible AI in education. Khan Academy Blog https://blog.khanacademy.org/khan-academys-framework-for-responsible-ai-in-education/
41. Rasheed T, Bashir A, Hanif S, Gul H (2025) Leveraging AI to mitigate educational inequality: Personalized learning resources, accessibility, and student outcomes. The Critical Review of Social Sciences Studies 3: 2399-2412.

42. Georgia State University (2018) How Georgia State University used predictive analytics to eliminate achievement gaps. Georgia State University News. Retrieved December 10, 2025, from https://news.gsu.edu/2018/10/23/how-georgia-state-university-used-predictive-analytics-to-eliminate-achievement-gaps.
43. Wongmahesak K, Karim F, Wongchestha N (2025) Artificial Intelligence: A Catalyst for Sustainable Effectiveness in Compulsory Education Management. Asian Education and Learning Review 3: 4-4.
44. Adipat S (2024) Transcending traditional paradigms: the multifaceted realm of phenomenon-based learning. In Frontiers in Education https://www.frontiersin.org/journals/education/articles/10.3389/feduc.2024.1346403/full.
45. Baidoo-Anu D, Ansah LO (2023) Education in the era of generative artificial intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. Journal of AI 7: 52-62.
46. Bartelse J, van Vught F (2009) The European higher education classification: Objectives and concepts. In Mapping the Higher Education Landscape https://link.springer.com/chapter/10.1007/978-90-481-2249-3_4.
47. Caba Machado V, McIlroy D, Padilla Adamuz FM, Murphy R, Palmer-Conn S (2023) The associations of use of social network sites with perceived social support and loneliness. Current Psychology 42: 14414-14427.
48. Cilliers EJ (2017) The challenge of teaching Generation Z. People: International Journal of Social Sciences 3: 188-198.
49. Dastane O, Haba HF (2023) The landscape of digital natives research: A bibliometric and science mapping analysis. FIIB Business Review https://www.researchgate.net/publication/367311456_The_Landscape_of_Digital_Natives_Research_A_Bibliometric_and_Science_Mapping_Analysis.
50. Education Advisory Board (EAB) (2019) Georgia State University's predictive analytics success story. EAB https://eab.com/insights/case-study/student-success/georgia-state-university-predictive-analytics/.
51. Fink D, Stoll L (2005) Educational change: Easier said than done. In Extending Educational Change: International Handbook of Educational Change Springer 17-41.
52. Gagliardi JS (2023) The analytics revolution in higher education. In The Analytics Revolution in Higher Education Routledge 1-14.
53. Harland T (1998) Moving towards problem-based learning. Teaching in Higher Education 3: 219-230.
54. Hussain B, Mirza M, Baines R, Burns L, Stevens S, et al. (2023) Loneliness and social networks of older adults in rural communities: A narrative synthesis systematic review. Frontiers in Public Health 11: 1113864.
55. Jónasson JT (2016) Educational change, inertia and potential futures: Why is it difficult to change the content of education? European Journal of Futures Research 4: 1-14.
56. Kinkead J, Truman A, Ash D, Bodell M, Harvey J, et al. (2024) Is the pen mightier than the laptop? Digital natives and their preferred writing tools. Young Scholars in Writing 21 82-100.
57. Li L (2024) Reskilling and upskilling the future-ready workforce for Industry 4.0 and beyond. Information Systems Frontiers 26: 1697-1712.
58. Matei T (2016) Making the shift: Moving from a teacher-centred classroom to a student-centred classroom. In Noi tendinţe în predarea limbajelor de specialitate 114-118.
59. PK FA (1984) What is artificial intelligence?. Success is no accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do 65: 85-108.
60. Prensky M (2004) The emerging online life of the digital native 253-263.
61. Purwanto MB, Hartono R, Wahyuni S (2023) Essential skills challenges for the 21st-century graduates. Asian Journal of Applied Education 2: 279-292.
62. Ruksana TP (2024) AI-driven pedagogy: Unveiling ChatGPT's influence in education. Journal of Applied Science, Engineering, Technology and Management 2: 9-14.
63. University of Edinburgh Digital Education. (n.d.) (2021) Co developing ethical principles for the use of AI in education with Squirrel AI. University of Edinburgh. Retrieved December 10, 2025, from https://www.de.ed.ac.uk/project/co-developing-ethical-principles-use-ai-education-squirrel-ai
64. University of Oxford (2024) Oxford releases new guidance on AI use for students. Cherwell. Retrieved December 10, 2025, from https://cherwell.org/2024/01/16/oxford-releases-new-guidance-on-ai-use-for-students