BALANCING AI'S PUSH WITH HUMAN VALUE: THE CASE OF THE HIGHER EDUCATION SECTOR

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Abstract
Generative Artificial Intelligence (GenAI) has caused a significant disruption to the higher education sector by increasing the efficiency of pedagogy, hastening research activities, and advancing automation processes. However, this rapid development has given rise to considerable "Professional Friction" driven by faculty apprehension related to job replacement, deskilling, and a threat to academic integrity. The present conceptual investigation examines the interface between GenAI technological advancement and the value of the human professor with the aim of developing a framework for harmonization. The article introduces a unique conceptual model: The Balanced Scale Model, which consists of three integral parts: AI's Push - a worldwide drive for adaptive learning and technological acceleration, Professional Friction - the devaluation of the professor's role and expertise, and Institutional Mediators - strategic initiatives to bridge the gap between GenAI and academia. The research indicates that a paradigm shift is required to transition from viewing GenAI as a replacement for the educator to viewing GenAI as a part to be synthesized with the educational community. The use of institutional mediators transforms the professor's role to a "Human Architect". This allows the professor to break free from routine and mechanical tasks to focus on high-value human activities that GenAI cannot accomplish, such as ethical mentoring, thematic research, and the curation of complex learning experiences. This model provides a strategic pathway for administrators and researchers to manage GenAI-related anxiety to ensure a balanced future where GenAI enhances and improves the "human element" of higher education.
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1. INTRODUCTION

Recent advances in artificial intelligence (AI), particularly those related to generative AI, have triggered debate about how these technologies will change how we work across many fields – including education (Chan & Tsi, 2024). Like many industries, higher education institutions across the globe have been greatly affected by the rise in the use of generative artificial intelligence (GenAI) tools. This has caused higher education to critically assess how it delivers education as well as how it uses technology in higher education (Hughes et al. 2025). The shift in educational technology has resulted in both optimistic projections of new and enhanced teaching resources, as well as significant anxiety about the potential

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replacement of human instructors (Chan & Tsi, 2024). Many professors perceive that the possibility of AI replacing their positions represents a serious threat, as they are concerned with job interference and a potential decline in the quality of the educational experience (Lee et al., 2024). Academics have expressed worries about the integrity of academic work, hindering critical thinking abilities, lowering academic quality/stature, and the threat to established academic systems (Hughes et al, 2025). In addition, professors are worried that there will be a negative effect on student learning due to the reduction of face-to-face contact between faculty and students, and many express ethical concerns related to the growing use of AI in education (Abdelaal & Sawi, 2024).

Despite a fear of GenAI taking white-collar jobs from people and violation of intellectual property rights, many academic scholars do see GenAI as having the potential to provide brighter days for higher education, through a better delivery of educational experiences and teaching (Hughes et al, 2025; Nicola-Richmond et al, 2025; Singh & Ngai, 2024).

This paper examines various dimensions of the perceived threat that may exist when it comes to job security, academic integrity, and the overall purpose of human-cantered educational experiences in an AI-enhanced world (George & Sevak, 2025; Hughes et al., 2025; Singh & Ngai, 2024).

Based on a review of the literature that has been shared to date, this article develops a conceptual model called "Balancing AI's Push with Human Value" which creates a visual representation of how the academic community will change due to the advancement of artificial intelligence (AI). It describes the process of how external technology-based pressures and internal professional-based concerns will be accommodated through institutional processes which will redefine the identity and role of the professoriate.

2. METHOD

The current study employed a thematic conceptual synthesis to develop the "Balanced Scale Model." The entire research process was divided into three strategic phases represented in Figure 1.

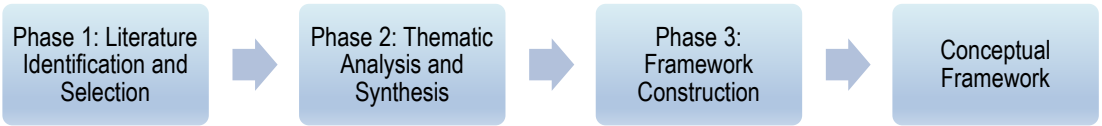

FIGURE 1. PHASES OF THE LITERATURE IDENTIFICATION AND CONCEPTUAL SYNTHESIS
Source: Author's research

Phase 1: Literature Identification and Selection - a comprehensive literature review was done from October 2024 through February 2025 using various Electronic Publication Databases (Google Scholar, Scopus, and JSTOR). There were several hundred articles, institutional reports, and miscellaneous documents that addressed some aspect of artificial intelligence and higher education, related to 302 publications found.

From this group, only 86 publications were selected to evaluate further once title and abstract reviews were completed. Of these 86, 58 articles and reports were chosen for use in developing a thematic synthesis and creating a conceptual framework based on their level of relevance. The literature selection criteria include

- Recency: A focus was placed on peer-reviewed literature from 2023 to 2025 to reflect the dynamic nature of Generative AI's development, particularly in relation to Large Language Models (LLMs).
- Credibility: A focus was placed on high-impact journal publications and credible institutional reports from organizations such as UNESCO and the World Economic Forum.
- Diversity: Literature was intentionally selected to reflect an array of academic traditions to avoid geographic limitations.

Phase 2: Thematic Analysis and Synthesis - Thematic analysis was employed to synthesize the literature to understand the current status of GenAI's integration. The literature was synthesized into three main conceptual domains:

- Technological Drivers (AI's Push);
- Psychosocial Barriers (Professional Friction); and
- Governance Interventions (Institutional Mediators).

Literature was excluded if it was exclusive to K-12 education or solely discussed AI architecture without pedagogical applications to maintain the focus on the professoriate.

Phase 3: Framework Construction - the final phase was to synthesize the literature into the Balanced Scale Model. The model acts as a theoretical bridge between the current discourse of AI as a threat and AI as a tool to propose a new form of professional identity: the "Human Architect."

3. LITERATURE REVIEW

3.1 From mass production to hyper-personalization

The past century of higher education has operated under the "Factory Model," which involved one instructor giving a lecture to a large group of students (average number around 100) who were expected to learn at the same rate. Artificial intelligence technology has broken through that barrier and developed a new methodology of learning called Adaptive Learning Ecosystems. Through analyzing individual student interaction patterns throughout their learning experiences, AI tutors are capable of changing their teaching strategies, i.e. if a student does not understand something such as fluid dynamics or macro-economic through the traditional reading process; the AI tutor would switch their technique from providing a text

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explanation, to providing a visual simulation explanation (Rojas & Chiappe, 2024). By enabling each student to acquire mastery of content, the AI tutor ensures that no one is denied an opportunity to learn simply because the individual fails using a particular teaching style. Additionally, the AI-driven feedback mechanism allows for immediate and personalized feedback about the student's progress in acquiring a body of knowledge and facilitates the iterative process of improving a student's understanding, unlike traditional feedback that often arrives much too late to be meaningful in terms of improving subsequent lessons (Karkoulian et al., 2024). By using sophisticated algorithms, AI will provide a level of support that is as granular in nature as to yield a truly individualized educational experience for learners and provide the necessary responsiveness to their continually changing needs (Elycheikh et al., 2024). Hyper-personalization goes beyond simply helping students immediately. Students performing at advanced levels may study even more sophisticated topics in further detail and explore other subjects in an interrelated manner using suitably aligned AI resources that continually adapt to their intellectual curiosity and pace, which serves to enhance the intellectual development of those students (Smith et al., 2024). Finally, AI-enabled predictive learning analytics can leverage large-scale behavior data to identify students who are most at-risk of not completing their studies and proactively tailor the necessary intervention for those at-risk students, optimizing student success and/or student retention rates (Elycheikh, et al., 2024).

In addition, AI-enabled methodologies that offer real-time feedback allow for immediate, detailed feedback on a student's performance helps to continuously improve their learning strategies and develop engagement in more intricate aspects of learning (Wu & Carroll, 2025). As a result of the adaptive nature of this model, academic success is facilitated by accurately meeting each student's unique needs for learning (Khairullah et al., 2025; Mishra, 2024). These types of instructional delivery enhancement enable educators to spend more time on higher cognitive skills by developing critical thinking and solving complex problems (Huong, 2024). AI's ability to personalize the way education is delivered will ensure that every student receives support through additional resources, various methods of explanation, or multiple practice opportunities aimed at filling in knowledge gaps and enhancing comprehension (Nagaraj et al., 2023).

The ability for AI-powered adaptive assessments to change in real time based on how well students are demonstrating understanding of the content enables more accurate measures of student understanding and reduces the potential for students to feel either overwhelmed or underchallenged by assessments (Mouta et al., 2023).

3.2 AI and research at the speed of thought

The introduction of AI technology to research methods has exponentially sped up the speed of innovation and invention by allowing researchers to use the power of computers and their processing capabilities to

comb through enormous amounts of information, helping them to identify many patterns, and to generate new theories much faster than they were able to before.

For years research was slowed down by "grunt work". This included tasks such as cleaning raw data and conducting literature searches using a manual system and creating new projects through the process of experimentation. By performing these functions on behalf of the researcher, AI is helping to remove the obstacles that slow down their ability to make new discoveries. For example, AI-based literature review tools are able to quickly synthesize thousands of pieces of literature from various pieces of research and then extract the most significant findings from that body of work and help the researcher to find "trends" in their area of research; factors that a researcher may not otherwise have seen in a reasonable amount of time (Demartini et al., 2024). Likewise, intelligent systems have the ability to perform complex data analysis, which includes identifying relationships and outlier variables within the data set, resulting in creating more rigorous as well as a larger body of scientific research (Chaika, 2023). AI has the ability to analyze quickly to also help in designing experiments by being able to read data and optimize parameters as well as simulate results. This means laboratory work takes less time and fewer resources (Upreti, 2025). AI's accuracy and rapidity of data analysis provide clearer insights into complex data sets. In addition, the ability of AI to collect data and have many different applications makes AI a tool for bridging the gap between disciplines and thus providing collaboration opportunities between researchers (Asirit & Hua, 2023).

AI algorithms can examine massive amounts of data (petabytes) in many different fields. Examples would be astrophysics and genomics. The ability to quickly analyze such a large volume of data is a tremendous advantage over human researchers who could take thousands of years to analyze the outcomes of such research. By accelerating the speed of research through AI techniques, new questions can be analyzed that either could not be studied or were too difficult to be investigated before. With this type of analytical power, researchers are able to discover deeper patterns than were previously available, resulting in a more integrated understanding of very complex phenomena. Additionally, researchers will be able to use more than one scientific discipline to study the same phenomenon, fostering collaboration (Sandhu, 2024). Researchers will be able to create new insights and breakthroughs because of the optimization of the research methodology and use of rigorous data analysis techniques. These new methods will enable scientists to not only have a greater understanding of complex problems but also create inventive solutions to numerous past obstacles (Džogović et al., 2024; Limongi, 2024). Specifically, AI has the capability to process & analyse large amounts of data faster and more accurately than any human could, enabling researchers to conduct even more detailed analyses with greater precision and find valuable patterns, for instance, in the areas where AI has changed the way we think about data-driven predictions include the

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ability of AI to analyze very large genetic databases to make predictions about an individual's susceptibility to disease and to revolutionise the way doctors develop new medicines through personalized medicine (Limongi, 2024; Tade et al., 2023). The ability of AI to analyze and identify relationships between genes is particularly evident in pharmaceutical research; here, AI has played an instrumental role in using machine learning to identify genetic variations that are associated with a disease and in predicting how patients will respond to a particular drug or treatment, which in turn leads to the rapid development of new treatments and drugs (Džogović et al., 2024; Tade et al., 2023). In fact, AI pharmaceutical researchers are using advanced algorithms to analyze the enormous amounts of biological data generated by researchers and clinical trials, in order to identify potential new drugs and predict both their efficacy and safety, and as a result, AI is able to greatly simplify the overall pharmaceutical research and development process (Abubakar et al., 2025; Tade et al., 2023). Moreover, AI will assist researchers in generating hypotheses and designing experiments; AI will be able to generate novel avenues of research based upon existing data and predictive models (Haouam, 2025; Liu et al., 2024). With the help of AI to automate many of the more tedious and time-consuming tasks associated with research, researchers will have more time to dedicate to the creative and critical evaluation of their work, and AI will have shifted the role of the researcher from being a processor of data to an innovator who develops new concepts (Potineni, 2025). By allowing researchers to investigate newly discovered relationships among unrelated disciplines, artificial intelligence promotes the formation of new ideas through cross-disciplinary collaboration while breaking down barriers between traditional academic departments (Zhang et al., 2025). The combination of human skills and advanced artificial intelligence capabilities enables many breakthroughs in scientific research by analyzing data and exposing concealed relationships within the data set to assist scientists in creating new concepts for commercial purposes (D'Alessandro et al., 2025).

3.3 The administrative "de-cluttering"

Removing the "bureaucratic tax" from education is perhaps the most tangible transformation. The burden of many administrative tasks has now been transferred into automated processes through AI to be performed automatically:

Automation of Enrolment - Automatically match students to courses based on their previous experiences and career goals. The admissions process is made easier both through human error being minimized, as well as less bureaucracy at each step (Tarisayi, 2023). Furthermore, students are placed in the programs that they aspire and would be successful in and have a better chance of doing so because of the automatic matching with their career aspirations (Esangbedo, et al., 2023). Through this reduction of barriers, resources provided to the educational institution are being utilized more efficiently, thus ensuring student success right from inception of enrolment (Kavitha, et al., 2024). In addition, by using AI systems

for scheduling and resource management, educational institutions will be able to operate at maximum efficiency and have very low overhead (Sandhu, 2024). AI is also being increasingly used in sorting applicants and enhancing campus safety through advanced security systems, improving overall effectiveness and safety of education institutions (Lin & Yu, 2023). Moreover, AI is also optimizing overall resource utilization, through predicting enrolment trends and building infrastructure needs through proactive planning and budgeting (Džogović et al., 2024).

Predictive Retention - Developing systems capable of identifying students at risk of withdrawing from school several weeks in advance of their academic performance declining provides support to the individual the moment it is most needed by implementing human intervention when it is most effective. Proactive identification of these types of students provides timely intervention or support to ensure student success and institutional retention (Suazo-Galdamés & Chaple-Gil, 2025). These types of systems utilize various sources of data which can include but are not limited to academic performance, engagement level, and demographic data, to create sophisticated predictive modelling configurations that determine which students require immediate attention (Abdelaal & Sawi, 2024). In addition to this, the use of AI-based early warning systems (as previously discussed) allows academic advisors and support staff to provide timely and targeted resources/assistance to individual students and/or provide individualized guidance to create a more supportive and responsive learning environment (Onesi-Ozigagun et al., 2024). Furthermore, these types of systems provide academic institutions with the ability to identify students whose academic performance would benefit from targeted assistance, provide that student with appropriate and relevant guidance, and effectively reduce document administrative inefficiencies (Slimi & Villarejo-Carballido, 2024) resulting in improved institutional efficiency. Consequently, the institution will be optimally and responsively structured to benefit all users, faculty and student, by reducing administrative burden and improving resource allocation (Suazo-Galdamés & Chaple-Gil, 2025). Furthermore, AI can further improve resource allocations by reviewing funding sources and identifying areas that could yield potential cost savings, thus optimally utilizing financial resources in an efficient, effective, and accountable manner (Onesi-Ozigagun et al., 2024).

3.4 The new pedagogy: the human architect

What is the fate of the professor when Artificial Intelligence (AI) manages learning material movement? The "learning architect" is becoming a new career option as the teacher's function evolves from "sage on the stage" to "guide and facilitate high-level discourse." This requires a teacher who creates personalized learning paths with students through the creation of critical thinking and intellectual growth by establishing environments where students can have rich interactions with multifaceted issues, and differing viewpoints

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on those issues. This evolution in teaching methodology resulting from AI's ability to automate the routine production of educational activities will allow teachers to focus more on creating higher ordered cognitive skills and emotional IQs needed to navigate the increasingly complex society we live in (Gallastegui & Forradellas, 2024; Khairullah et al., 2025). This change will elevate the professor to that of the designer of unique learning experiences for students, utilizing AI to adapt materials to the individual needs of the learner; at the same time, this will allow for the concentration of human effort on instilling within the student the ability to use wisdom, ethical thought and collaborative problem-solving (Ma et al., 2025; Chaika, 2023). The new paradigm conceives teaching as a continually evolving mode of facilitating inquiry and promoting independent thinking rather than simply being a mode of delivering information to students. More specifically, the professor is a "cognitive architect" who creates complex paths for student learning and provides the experience necessary for the student to effectively use Artificial Intelligence to provide adaptive content and feedback, allowing humans to have deeper and more sophisticated interactions with their students (Katsamakas et al., 2024; Chaika, 2023). Through the application of AI, the strategic restructuring of the academic role will enable a greater emphasis on soft skills and ethics which are related to Human qualities and cannot be duplicated by AI (Chadha, 2024). The proposed reimagined academic role allows for educators to focus on developing students' critical thinking, creative thinking and problem-solving skills, which are becoming increasingly important in today's fast-changing global economy (Katsamakas et al., 2024; Prazeres & Pina, 2024). With the newly imagined academic role, educators will continue to have a central role in the learning process, providing students with wisdom and the complex cognitive abilities that cannot be developed by AI. In a world where facts are products provided by AI, the university's value to students is now in the development of their ability to think critically, use ethical judgment, and to work with others to solve difficult problems. We have transitioned from teaching students what to think, to teaching them how to operate the machine (Chan & Colloton, 2024). To facilitate this transition, significant change must occur in Curriculum Development, focusing on metacognition (how we think about our own thinking) and the ethical implications of artificial intelligence (AI), thus changing higher education from simply an institution that produces graduates to a co-collaborative community in which humans and AI create knowledge and innovative solutions (Atchley et al., 2024; Latif et al., 2024). This transition emphasizes the urgent need for institutions of higher learning to redesign how curricula, teaching/learning processes and assessment strategies are developed for the purpose of developing these higher order thinking skills in students (Bennett, 2023; Zhang & Fenton, 2024). This transformative way of developing student skills understands that while AI may excel at transmitting knowledge, only human educators can support the development of epistemic judgment, creativity, and a sense of community within the learning environment (Ahmed, 2025). To ensure that this integration of AI into the educational infrastructure is successful, AI literacy must be cultured in all areas of study, allowing students

to understand the foundational concepts, practical applications and advanced techniques for using these powerful tools responsibly (Ma et al., 2025).

According to Mayer (2024) and Waring (2024), AI has not replaced universities; instead, it has removed some of the laborious tasks associated with education, creating space for humanity's one true value – the ability to intellectually create. This shift means that universities must redirect their efforts toward teaching and developing distinct human capabilities, such as analytical thinking, creativity, and morality, that employers are demanding in an increasingly AI-centric world. The reorientation of the higher education system has changed the role of higher education institutions in society from being a source of information to being a source of transformation of high-level cognitive and social-emotional skills necessary for successful navigation of 21st-century challenges (George, 2025; Lee & Low, 2024). This re-examination of educational priorities has placed strong emphasis on developing metacognitive strategies to enable students to more effectively evaluate and control their own thinking processes, resulting in deeper, more flexible, and more sophisticated understandings of complex phenomena (Zhang & Fenton, 2024).

3.5 Perceived threats to academic roles and job security

Generative artificial intelligence (GenAI) has the potential to rapidly accelerate technology adoption throughout higher education by providing a way to democratize information access and create more streamlined learning environments that function as researchers (Razi et al., 2024; Yusuf et al., 2024). However, the concern of how AI will affect the role of faculty and their involvement with students raises apprehension for many individuals who work in knowledge-oriented professions (Razi et al., 2024). Faculty members, who are usually one of the primary stakeholders within post-secondary institutions, express concern about how the use of AI will impact them professionally by taking away specific duties—grading, providing content delivery, and exercising expertise—which would reduce their perceived value and create resistance against using AI in post-secondary education (Wainaina & Sun, 2025). Other concerns associated with the widespread use of GenAI include violation of academic integrity, eroding critical thinking abilities, and disrupting established methods of teaching throughout higher education (Hughes et al., 2025). While concern around the potential for AI to create job displacement is a recognized concern in most industries, it also applies within higher education (Chan & Colloton, 2024). Specifically, faculty members recognize that GenAI will likely disrupt the relationship between faculty and students based on loss of trust and create further social and power imbalances between them due to differences in access to advanced technologies (Razi et al., 2025). There is also apprehension regarding whether or not automation driven by AI will produce a workforce comprised of students lacking practical skills and fewer opportunities for the development of critical thinking skills, particularly on problem solving and conducting

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research with a high degree of accuracy. As demonstrated by Hughes et al. (2025), "AI overload", which occurs when users with lower comfort levels with technology avoid using AI, could prevent users from using AI to its full potential and assist them in achieving a higher level of efficiency when using AI to assist their learning (Chan & Colloton, 2024). Academic administrators have also expressed a concern about the overdependence of students and faculty members on AI, biases resulting from the increased usage of AI, and negative effects on the skills of students. Thus, all parties agree that, in order to address these concerns, there will need to be some type of formally developed policies or procedures as outlined in "Generative AI in Higher Education" (2025) (Neupane et al., 2024).

3.6 Ethical, pedagogical, and academic integrity concerns

The growing integration of artificial intelligence (AI) is posing serious moral dilemmas with regards to academic dishonesty and the possible facilitation of plagiarism via AI tools (Razi et al., 2024). These AI resources challenge long-standing definitions of authorship and originality, thereby forcing institutions to reevaluate their views towards academic integrity and to put into place strategies for detecting their use (Hughes et al., 2025; Wu & Carroll, 2025). The capacity of AI to produce text that may represent unapproved copies of published content presents significant challenges for regulators attempting to control both academic integrity and plagiarism (Wu et al., 2024). Additionally, because there are significant developments in the technologies behind AI, it has become increasingly difficult for educators to distinguish between student vs AI produced material, thereby establishing a likelihood for students and educators to lose trust towards each other (Chan & Tsi, 2023). The extensive integration of AI in higher education settings has raised further concerns with respect to intellectual property rights protection as well as the privacy of students' personal information, which requires a comprehensive assessment of how student information is utilized as well as how AI-generated content is identified (Singh & Ngai, 2024). For instance, AI-detection tools have been found to misclassify neurodivergent students as well as non-native English-speaking students, which has resulted in unfair academic consequences for such students, further creating a lack of trust within the academic community (Wainaina & Sun, 2025). The ethical dilemmas associated with AI in educational settings, as well as with respect to the aforementioned factors, are further compounded by the issue of algorithmic bias, which has been a major concern with respect to AI integration in educational settings, as it is feared that AI, which is often trained using datasets that can be inherently biased, can further exacerbate social differences in society, affecting a particular segment of students within educational settings (Karimi & Khawaja, 2023; Zhai et al., 2024). Therefore, there is a need for a comprehensive policy framework with respect to AI integration in educational settings, which addresses both the current limitations in educational settings as well as the future prospects of further marginalizing a segment of students from underrepresented groups in society (Chan & Hu, 2023; Özbay et

al., 2025). As a result, educational settings are now creating comprehensive guidelines as well as educational materials with respect to AI ethics, as well as its usage within educational settings (Jiao et al., 2024; Prazeres & Pina, 2024). However, most AI tools function as a "black box," which makes it a complex process to identify bias within AI tools (Uddin & Abu, 2024).The developing complexity of these systems' mechanisms means that an ever-increasing amount of cooperation will be needed via the use of explainable AI (Abusalah, 2021) if we are to enable the required level of transparency and accountability in their application, particularly in educational environments that are deemed as sensitive or critical (Ma, 2025). As students are now able to gain large amounts of information from the knowledge that is available to them through large language models, instructors will have a more challenging time accurately assessing the true levels of comprehension and interpretation that students possess regarding the subject matter they are being taught (Karkoulian et al., 2024). This lack of transparency also undermines student trust and limits their ability to learn from feedback or to contest decisions made by algorithms with which they have had a negative experience (Nagaraj et al., 2023).

3.7 Nuanced perspectives: benefits amidst concerns

Even though there are challenges and concerns regarding the use of Artificial Intelligence (AI) in education, many educators agree that when used carefully and ethically, AI has significant benefits that can improve both the teaching and administration of higher education institutions. AI has the ability to provide personalized learning experiences, automate repetitive tasks, and provide advanced analytics capabilities that can help educators and administrators make better decisions regarding student performance and the operation of their institution, thus allowing them to use resources more efficiently and effectively to provide better educational outcomes for students (Figueroa et al., 2024). For example, AI can help to increase student engagement by monitoring students continuously and providing tailored supports when needed, as well as assisting with data collection and analysis as part of streamlining certain administrative processes (which frequently require a significant amount of faculty time in traditional settings) (Chaika, 2023). Furthermore, AI can aid in the promotion of global education with immediate feedback and bridging of knowledge gaps between different groups of students from around the world (Slimi & Villarejo-Carballido, 2024). With the utilization of AI, teachers will have ample time to focus on complex teaching and interaction with students rather than performing tasks that require little human intelligence (Adamakis & Rachiotis, 2025; Khan et al., 2025). However, in order to reap the benefits of AI in teaching and learning in educational institutions, there are challenges that need to be addressed in the implementation of AI in educational settings (Alghamdi & Alghizzi, 2025; Pisica et al., 2023). For educational institutions to successfully implement AI in academic and operational settings in the future, it is

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critical to create an environment in which human and artificial intelligence can co-exist successfully without risks (Liang et al., 2025). For this to happen successfully, there needs to be the creation of guidelines in academic settings in which innovation and academic integrity can co-exist by critically examining AI-generated output rather than accepting it at face value (Trinché, 2025). There is immense potential in the creation of new educational experiences with AI technologies in academic settings by allowing AI to perform tasks such as giving personalized feedback to students and relieving teachers of some of their tasks (Deepshikha, 2025; Urmeneta et al., 2024). However, in order to achieve this, there needs to be a balance between the extent of AI utilization and human oversight (Chembe et al., 2023; Prazeres & Pina, 2024). Research indicates that in many academic settings, AI can greatly enhance student access to educational resources and create personalized experiences for students (Al-Zahrani & Alasmari, 2024; Yusuf et al., 2024).

3.8 Gaps in existing research: focus on academic perspectives

Recent literature reflects a growing body of research that has examined both the pedagogical use and ethical issues surrounding the usage of artificial intelligence (AI) in post-secondary education, but there remains a lack of research that examines university professors' feelings regarding their job being taken over by artificial intelligence technology. This study will help fill this void by exploring university professors' attitudes, fears, and expectations related to the use of artificial intelligence as it might relate to their job security and the possible impact this technology will have on their jobs as university professors. By exploring these feelings toward artificial intelligence held by faculty members directly involved in higher education, this study will provide valuable information that will help to inform policy decisions and develop institutional strategies that will help to develop a sustainable relationship between human educators and AI (Çifçi et al., 2024). In providing insights into these perceptions, the study will also provide institutions with information about how to proactively address faculty's concerns and develop training programs to retrain university professors for AI augmented roles instead of being replaced by AI (Ifraheem et al., 2024; Ren & Wu, 2025). This type of approach goes beyond just looking at how AI can create challenges or opportunities and instead focuses on developing an ecosystem that creates a combined synergy between AI and human skill sets so they work together to add to the educational space. It is important to really examine what the instructors think of AI's barriers or solutions before being able to integrate it successfully into higher education. This means understanding these things from an 'insider's view' (Karkoulian, et al., 2024).

4. CONCEPTUAL FRAMEWORK

Through its reliance on the extensive body of existing literature, this article develops and introduces a conceptual framework designed to address the transformative change that is being felt in the higher education sector. The Balanced Scale Model, as it will be called, brings together the dominant themes that have been established in the research thus far, including the external driver of artificial intelligence advancement and the internal drivers of faculty members' professional tensions, as they relate to job security and integrity. As such, it can be seen how the framework developed in this article provides a means for mediators within higher education to balance the advancement of technology with the inimitable worth of the human instructor.

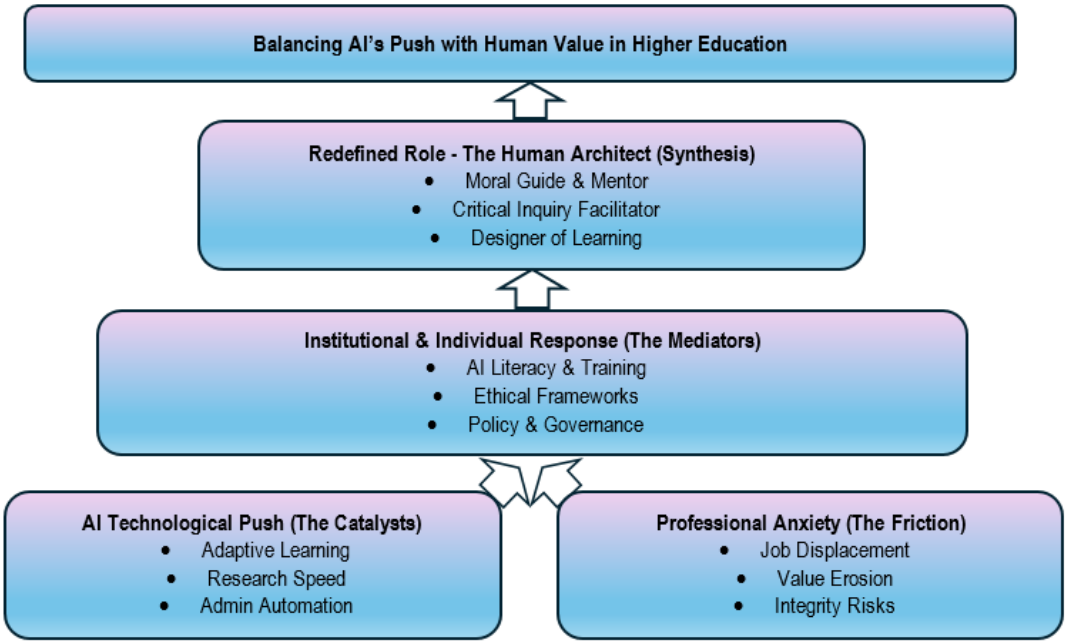

FIGURE 2. THE BALANCED SCALE MODEL
Source: Author's research

This conceptual framework of Balancing AI's Push with Human Value in Higher Education provides a visual model for understanding the transformation of the professoriate in the context of artificial intelligence. It moves from a narrative of replacement to a synthesis model. This framework illustrates a dialectical process whereby external and internal forces are mediated by institutional intervention to create a new sense of academic identity. The following sections were included in the model:

AI Technological Push (The Catalysts), external force: this section, on the left side of the framework, represents exogenous forces driving change. These are the pushes that require a response from the field:

- Adaptive Learning: Technologies designed to adjust the speed and scope of student learning.
- Research Speed: Artificial Intelligence's ability to process vast amounts of data and create hypotheses at unprecedented speeds.

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- Administrative Automation: Optimizing tasks such as grading and scheduling.

Professional Anxiety (The Friction), internal force: on the right side, the framework maps the natural psychological pushback from faculty as we sprint through digital change. It's the friction you feel when tech accelerates faster than people are ready for:

- Job Displacement: the fear of structural unemployment, or teaching becoming a gig.
- Value Erosion: a felt devaluation of human know-how in the face of pure algorithmic efficiency.
- Integrity risks: from ongoing battles related to academic dishonesty to the mostly opaque, "black box" aura in AI tools themselves.

Institutional & Individual Response (The Mediators): the model argues that the outcome of this AI–faculty relationship is not set in stone, but a target of interventions focused on:

- AI Literacy: training that converts fear to practical fluency.
- Ethical Frameworks: use AI responsibly and ensure its guardrails.
- Policy & Governance: institutional rules that protect intellectual property and guarantee human judgment.

The Re-Defined Role: the Human Architect - the Synthesis at the bottom, the end state isn't replacement but transformation. The professor becomes a "Human Architect," focusing on high-value human work AI can't imitate:

- Moral Guide: Pioneering the moral landscape of knowledge.
- Critical Inquiry: enabling deep, Socratic questioning and healthy skepticism.
- Designer of Learning: moving from mere content delivery to curation of rich learning experiences.

5. APPLICATION OF THE CONCEPTUAL FRAMEWORK AND FURTHER EMPIRICAL RESEARCH

The proposed framework offers a methodology for moving from theory to validation. Through an understanding of the complex relationships that exist between technology and human agency, it is possible to identify factors that either hinder or help the progression of the professoriate.

5.1 Theoretical application: an analytical lens

The framework is applied practically as a coding script for qualitative and quantitative research:

- Data Categorization: The quadrants of Push, Friction, Mediation, and Synthesis can represent primary themes for thematic analysis of interviews conducted with faculty members or focus groups.

- Gap Identification: By matching existing institutional data to the Mediators quadrant, it is possible for administrators to identify if their Institutional Response is leaning toward restriction or empowerment.
- Longitudinal Tracking: The framework allows for tracking a faculty member's journey from Professional Anxiety to The Human Architect over an extended, multi-year time frame of AI training.

5.2 Directions for further empirical research

To take the discussion beyond the realm of the conceptual, the following directions for further research have been suggested as a means of validating the framework:

A. Quantitative Determination of the Impact of "Mediators" on "Friction"

Future research should seek to quantify the relationship between institutional support and faculty anxiety through survey methodologies. For instance:

- Hypothesis: Universities that have invested in AI Literacy & Training will have significantly lower Job Displacement Anxiety compared to those that have focused on Policy & Governance.
- Variable: Quantifying "Self-Efficacy" as a means of measuring the success of the "Human Architect."

B. Qualitative Determination of "Human Architect"

While "AI's Push" is well documented, the actual nature of the Redefined Role is an area ripe for phenomenological exploration. For instance:

- Research Question: How do faculty members in the humanities and science, technology, engineering, and math (STEM) fields define Moral Guidance and Critical Inquiry in an environment dominated by AI?
- Research Methodology: Comparative case studies of various academic departments to determine whether Synthesis is discipline specific.

C. The "Black Box" of Academic Integrity

Empirical research is necessary to examine the Friction caused by Integrity Risks:

- Focus: Rather than detection, studies could assess the efficacy of "Human-AI Co-creation" assignments. Do these assignments help to mitigate the use of "cheating"? Do they help to increase the sense of value for the faculty as "Designers of Learning"?

The true test of the value of this framework is its ability to shift the conversation from the inevitability of technology to the intentionality of human intervention. By focusing on the Mediators, we can identify the keys to turning a technological threat into a professional renaissance.

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6. LIMITATIONS OF THE STUDY

This research provided a framework that will enable our understanding of artificial intelligence and developing academic roles; however, it presents limitations. First, the research was conceptual in nature and not empirical; therefore, while the proposed Balanced Scale Model is theoretically based, it will be tested through both qualitative and quantitative data in the future. Second, the literature review focused on the most recent years (2023-2025) in order to represent current thoughts and ideas about generative AI; however, this limitation of time may have limited the historical view that can be taken with respect to how technology has transformed higher education. Third, the research reviewed scholarly articles published in English and indexed in major databases, which may have excluded scholarly publications that are published in other languages or from other regions of the globe. Future research must validate the proposed framework through the gathering of empirical data through faculty surveys, interviews, or institutional case studies to determine how the push of AI, professional friction, and institutional mediators operate within different higher education systems.

7. CONCLUSION

The paper has introduced a wide-ranging conceptual framework that describes the complex interaction of artificial intelligence and the role of the professor in higher education, suggesting that the perceived threat of artificial intelligence can be turned into an opportunity for professional evolution through institutional and individual responses. The framework proposes a model that describes the "Push" of artificial intelligence capabilities against the "Friction" of professional anxieties through specific interventions to redefine the role of the professor as a "Human Architect" (Yan, 2025). The framework proposes a conceptual model for analysis of the complex interaction of artificial intelligence and the role of the professor and suggests specific directions for future research, focusing on quantitative and qualitative research into mediators and outcomes. This approach is consistent with the need for evidence-based strategies for artificial intelligence in higher education, moving from "speculative discourse to evidence-based pedagogical and systemic transformations" (Alghamdi & Alghizzi, 2025; Özbay et al., 2025).

The framework suggests that the future of higher education is not a zero-sum game for humans and artificial intelligence. Rather, it proposes a balance that enables artificial intelligence to deal with the "mechanical" aspects of higher education and leave the "meaningful" aspects to the human professor.

DECLARATION OF COMPETING INTEREST

The author declares that there are no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

During the preparation of this work, the author used Jenni.ai to assist with literature synthesis, structure the initial manuscript outline, and refine the clarity of the prose. After using this tool, the author reviewed and edited the content as needed and takes full responsibility for the content of the published article.

REFERENCES

Abdelaal, N. M., & Sawi, I. A. (2024). Perceptions, challenges, and prospects: University professors' use of artificial intelligence in education. *Australian Journal of Applied Linguistics*, *7*(1), 1309. https://doi.org/10.29140/ajal.v7n1.1309

Abubakar, M., Varma, S. C. G., & Volikatla, H. (2025). *AI-Driven Drug Discovery: Breaking Barriers in Pharmaceutical Research and Development*. https://doi.org/10.2139/ssrn.5194673

Abusalah, A. (2021). AI in education: A systematic literature review. *Journal of Cases on Information Technology (JCIT), 23*(1), 1-20. https://doi.org/10.4018/JCIT.2021010101

Adamakis, M., & Rachiotis, T. (2025). Artificial intelligence in higher education: A state-of-the-art overview of pedagogical integrity, artificial intelligence literacy, and policy integration. *Encyclopedia*, *5*(4), 180. https://doi.org/10.3390/encyclopedia5040180

Ahmed, S. (2025). Reimagining education in the coming decade: what AI reveals about what really matters. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1699106

Alghamdi, L. H., & Alghizzi, T. M. (2025). Educators' reflections on AI-automated feedback in higher education: a structured integrative review of potentials, pitfalls, and ethical dimensions. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1704820

Al-Zahrani, A. M., & Alasmari, T. (2024). Exploring the impact of artificial intelligence on higher education: The dynamics of ethical, social, and educational implications. *Humanities and Social Sciences Communications*, *11*(1). https://doi.org/10.1057/s41599-024-03432-4

Asirit, L. B. L., & Hua, J. H. (2023). Converging perspectives: Assessing AI readiness and utilization in Philippine higher education. *Polaris Global Journal of Scholarly Research and Trends*, *2*(3), 1. https://doi.org/10.58429/pgjsrt.v2n3a152

Atchley, P., Pannell, H., Wofford, K., Hopkins, M. M., & Atchley, R. A. (2024). Human and AI collaboration in the higher education environment: opportunities and concerns. *Cognitive Research Principles and Implications*, *9*(1), 20. https://doi.org/10.1186/s41235-024-00547-9

Bennett, L. (2023). Optimising the interface between artificial intelligence and human intelligence in higher education. *International Journal of Teaching Learning and Education*, *2*(3), 12. https://doi.org/10.22161/ijtle.2.3.3

Chadha, A. (2024). Transforming higher education for the digital age. *Journal of Interdisciplinary Studies in Education*, *13*. https://doi.org/10.32674/em2qsn46

Chaika, O. (2023). The role of artificial intelligence in higher education. *Молодь і Ринок*, 69. https://doi.org/10.24919/2308-4634.2023.287898

Chan, C. K. Y., & Colloton, T. (2024). *Generative AI in Higher Education*. https://doi.org/10.4324/9781003459026

Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, *20*(1). https://doi.org/10.1186/s41239-023-00411-8

Chan, C. K. Y., & Tsi, L. H. Y. (2023). The AI revolution in education: Will AI replace or assist teachers in higher education? *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2305.01185

Chan, C. K. Y., & Tsi, L. H. Y. (2024). Will generative AI replace teachers in higher education? A study of teacher and student perceptions. *Studies in Educational Evaluation*, *83*, 101395. https://doi.org/10.1016/j.stueduc.2024.101395

Chembe, C., Nasilele, N. B., & Msendo, R. (2023). The fuss about artificial intelligence in education sector: Should we worry? *Zambia ICT Journal*, *7*(2), 30. https://doi.org/10.33260/zictjournal.v7i2.269

Çifçi, İ., Çetin, G., Şahin, M. A., & Karatay, C. (2024). Educator's AI interactions in higher education. *DergiPark (Istanbul University)*. https://dergipark.org.tr/tr/pub/usdad/issue/86150/1550379

D'Alessandro, F., Santarelli, E., & Vivarelli, M. (2025). The KSTE + I approach and the advent of AI technologies: evidence from the European regions. *The Journal of Technology Transfer*. https://doi.org/10.1007/s10961-025-10225-7

Deepshikha, D. (2025). A comprehensive review of AI-powered grading and tailored feedback in universities. *Discover Artificial Intelligence*, *5*(1). https://doi.org/10.1007/s44163-025-00517-0

Demartini, C. G., Sciascia, L., Bosso, A., & Manuri, F. (2024). Artificial intelligence bringing improvements to adaptive learning in education: A case study. *Sustainability*, *16*(3), 1347. https://doi.org/10.3390/su16031347

Džogović, S. A., Zdravkovska-Adamova, B., & Serpil, H. (2024). From theory to practice: A holistic study of the application of artificial intelligence methods and techniques in higher education and science. *Journal Human Research in Rehabilitation*, *14*(2), 293. https://doi.org/10.21554/hrr.092406

Elycheikh, A., Svetlana, M., & Magda, P. (2024). Critical integration of generative AI in higher education: Cognitive, pedagogical and ethical perspectives. *Global Journal of Human-Social Science*, 1. https://doi.org/10.34257/ljrhssvol25is13pg1

Esangbedo, C. O., Zhang, J., Esangbedo, M. O., Kone, S. D., & Xu, L. (2023). The role of industry-academia collaboration in enhancing educational opportunities and outcomes under the digital driven Industry 4.0. *Journal of Infrastructure Policy and Development*, *8*(1). https://doi.org/10.24294/jipd.v8i1.2569

Figueroa, B. M., Eaton, S. E., Pethrick, H., Hayden, A., Brennan, R. W., Wiens, J., & McDermott, B. (2024). Academic integrity and artificial intelligence in higher education (HE) contexts: A rapid scoping review. *Canadian Perspectives on Academic Integrity*, *7*(3). https://doi.org/10.55016/ojs/cpai.v7i3.78123

Gallastegui, L. M. G., & Forradellas, R. F. R. (2024). Optimization of the educational experience in higher education using predictive artificial intelligence models. *Revista de Gestão Social e Ambiental*, *18*(5). https://doi.org/10.24857/rgsa.v18n5-104

Generative AI in Higher Education (2025). In *Edward Elgar Publishing eBooks*. Edward Elgar Publishing. https://doi.org/10.4337/9781035326020

George, A. L. (2025). Beyond degrees: redefining higher education institutions as ethical AI hubs. *AI & Society*. https://doi.org/10.1007/s00146-025-02303-z

George, B., & Sevak, K. (2025). Artificial intelligence in higher education: Opportunities and concerns. *Research and Practice in Technology Enhanced Learning*, *21*, 19. https://doi.org/10.58459/rptel.2026.21019

Haouam, I. (2025). Leveraging AI for advancements in qualitative research methodology. *Journal on Artificial Intelligence*, *7*(1), 85. https://doi.org/10.32604/jai.2025.064145

Hughes, L., Malik, T., Dettmer, S., Al-Busaidi, A. S., & Dwivedi, Y. K. (2025). Reimagining higher education: Navigating the challenges of generative AI adoption. *Information Systems Frontiers*. https://doi.org/10.1007/s10796-025-10582-6

Huong, X. V. (2024). The implications of artificial intelligence for educational systems: Challenges, opportunities, and transformative potential. *The American Journal of Social Science and Education Innovations*, *6*(3), 101. https://doi.org/10.37547/tajssei/volume06issue03-17

Ifraheem, S., Rasheed, M., & Siddiqui, A. (2024). Transforming education through artificial intelligence: Personalization, engagement and predictive analytics. *Journal of Asian Development Studies*, *13*(2), 250. https://doi.org/10.62345/jads.2024.13.2.22

Jiao, J., Afroogh, S., Chen, K. J., Atkinson, D., & Dhurandhar, A. (2024). The global landscape of academic guidelines for generative AI and Large Language Models. *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2406.18842

Karimi, H., & Khawaja, S. (2023). The impact of artificial intelligence on higher education in England. *Creative Education*, *14*(12), 2405. https://doi.org/10.4236/ce.2023.1412154

Karkoulian, S., Sayegh, N., & Sayegh, N. (2024). ChatGPT unveiled: Understanding perceptions of academic integrity in higher education - A qualitative approach. *Journal of Academic Ethics*. https://doi.org/10.1007/s10805-024-09543-6

Katsamakas, E., Pavlov, O. V., & Saklad, R. (2024). Artificial intelligence and the transformation of higher education institutions. *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2402.08143

Kavitha, K., Joshith, V. P., Rajeev, N. P., & Asha, S. (2024). Artificial intelligence in higher education: A bibliometric approach. *European Journal of Educational Research*, 1121. https://doi.org/10.12973/eu-jer.13.3.1121

Khairullah, S. A., Harris, S., Hadi, H. J., Sandhu, R., Ahmad, N., & Alshara, M. A. (2025). Implementing artificial intelligence in academic and administrative processes through responsible strategic leadership in the higher education institutions. *Frontiers in Education*, *10*. https://doi.org/10.3389/feduc.2025.1548104

Khan, S., Mazhar, T., Shahzad, T., Khan, M. A., Rehman, A. U., Saeed, M. M., & Hamam, H. (2025). Harnessing AI for sustainable higher education: ethical considerations, operational efficiency, and future directions. *Discover Sustainability*, *6*(1). https://doi.org/10.1007/s43621-025-00809-6

Latif, E., Zhou, Y., Guo, S., Gao, Y., Shi, L., Nayaaba, M., Lee, G., Zhang, L., Bewersdorff, A., Fang, L., Yang, X., Zhao, H., Jiang, H., Lu, H., Li, J., Yu, J., You, W., Liu, Z., Liu, V., … Zhai, X. (2024). A Systematic Assessment of OpenAI o1-Preview for Higher Order Thinking in Education. *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2410.21287

Lee, C.-C., & Low, M. M. (2024). Using genAI in education: the case for critical thinking. *Frontiers in Artificial Intelligence*, *7*, 1452131. https://doi.org/10.3389/frai.2024.1452131

Lee, D., Arnold, M., Srivastava, A., Plastow, K., Strelan, P., Ploeckl, F., Lekkas, D., & Palmer, E. (2024). The impact of generative AI on higher education learning and teaching: A study of educators' perspectives. *Computers and Education Artificial Intelligence*, *6*, 100221. https://doi.org/10.1016/j.caeai.2024.100221

Liang, J., Stephens, J. M., & Brown, G. (2025). A systematic review of the early impact of artificial intelligence on higher education curriculum, instruction, and assessment [Review of *A systematic review of the early impact of artificial intelligence on higher education curriculum, instruction, and assessment*]. *Frontiers in Education*, *10*. Frontiers Media. https://doi.org/10.3389/feduc.2025.1522841

Limongi, R. (2024). The use of artificial intelligence in scientific research with integrity and ethics. *Review of Artificial Intelligence in Education*, *5*. https://doi.org/10.37497/rev.artif.intell.educ.v5i00.22

Lin, L., & Yu, S. (2023). The transformative impact of artificial intelligence on educational financial management. *Accounting and Corporate Management*, *5*(12). https://doi.org/10.23977/acccm.2023.051203

Liu, Z., Liu, K., Zhu, Y., Lei, X., Yang, Z., Zhang, Z., Li, P., & Liu, Y. (2024). AIGS: Generating Science from AI-Powered Automated Falsification. *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2411.11910

Ma, Y., Yufang, S., Ming-da, L., Zhang, Y., Chai, W., Huang, A., & Zhao, X. (2025). Preparing students for an AI-driven world: Generative AI and curriculum reform in higher education. *Frontiers of Digital Education*, *2*(4). https://doi.org/10.1007/s44366-025-0067-6

Mayer, C. (2024). Thriving in an AI-dominated world: Why higher education must produce graduates who are uniquely human and technically competent. *International Journal of Emerging and Disruptive Innovation in Education: VISIONARIUM*, *2*(1), 2. https://doi.org/10.62608/2831-3550.1015

Mishra, Mr. S. (2024). Revolutionizing education: The impact of AI-enhanced teaching strategies. *International Journal for Research in Applied Science and Engineering Technology*, *12*(9), 9. https://doi.org/10.22214/ijraset.2024.64127

Mouta, A., Sánchez, E. M. T., & Llorente, A. M. P. (2023). Design of a future scenarios toolkit for an ethical implementation of artificial intelligence in education. *Education and Information Technologies*, *29*(9), 10473. https://doi.org/10.1007/s10639-023-12229-y

Nagaraj, B., Kalaivani, A., R, S. B., Akila, S., Sachdev, H. K., & Kumar, N. K. S. (2023). The Emerging Role of Artificial Intelligence in STEM Higher Education: A Critical Review [Review of *the Emerging Role of Artificial Intelligence in STEM Higher Education: A Critical Review*]. *International Research Journal of Multidisciplinary Technovation*, 1. https://doi.org/10.54392/irjmt2351

Neupane, A., Shahi, T. B., Cowling, M., & Tanna, D. (2024). Threading the GenAI needle: Unpacking the ups and downs of GenAI for higher education stakeholders. *Journal of Applied Learning & Teaching*, *7*(2). https://doi.org/10.37074/jalt.2024.7.2.4

Nicola-Richmond, K., Dawson, P., Helen, P., & Macfarlane, S. (2025). It takes a village... Program-wide approaches to redesigning assessment in a time of generative artificial intelligence (GenAI). *Journal of University Teaching and Learning Practice*. https://doi.org/10.53761/zpp2ja61

Onesi-Ozigagun, O., Ololade, Y. J., Eyo-Udo, N. L., & Ogundipe, D. O. (2024). Revolutionizing Education through AI: A Comprehensive Review of Enhancing Learning Experiences [Review of Revolutionizing Education through AI: A Comprehensive Review of Enhancing Learning

Experiences. *International Journal of Applied Research in Social Sciences*, *6*(4), 589. Fair East Publishers. https://doi.org/10.51594/ijarss.v6i4.1011

Özbay, M., Özbay, F., & Tutkunca, S. S. (2025). Artificial Intelligence in Universities: A Study on Academics' Views. *DergiPark (Istanbul University)*. https://dergipark.org.tr/en/pub/romaya-journal/issue/94393/1774843

Pisica, A. I., Edu, T., Zaharia, R. M., & Zaharia, R. (2023). Implementing artificial intelligence in higher education: Pros and cons from the perspectives of academics. *Societies*, *13*(5), 118. https://doi.org/10.3390/soc13050118

Potineni, B. (2025). AI as a research accelerator: Human-AI synergy in scientific discovery and innovation. *World Journal of Advanced Research and Reviews*, *26*(1), 2937. https://doi.org/10.30574/wjarr.2025.26.1.1183

Prazeres, F. G., & Pina, A. J. da S. (2024). AI Integrated Learning for Higher Education Social Science Educators. *DergiPark (Istanbul University)*. https://dergipark.org.tr/tr/pub/usdad/issue/86150/1529088

Razi, A., Bouzoubaa, L., Pessianzadeh, A., Seberger, J. S., & Rezapour, R. (2024). Not a Swiss Army Knife: Academics' Perceptions of Trade-Offs Around Generative Artificial Intelligence Use. *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2405.00995

Razi, A., Bouzoubaa, L., Pessianzadeh, A., Seberger, J. S., & Rezapour, R. (2025). Not a Swiss Army Knife: Academics' Perceptions of Trade-Offs Around Generative Artificial Intelligence Use. *Research Square*, 06 January 2025, PREPRINT (Version 1). https://doi.org/10.21203/rs.3.rs-5686084/v1

Ren, X., & Wu, M. L. (2025). Examining teaching competencies and challenges while integrating artificial intelligence in higher education. *TechTrends*. https://doi.org/10.1007/s11528-025-01055-3

Rojas, M. C. V., & Chiappe, A. (2024). Artificial Intelligence and Digital Ecosystems in Education: A Review [Review of *Artificial Intelligence and Digital Ecosystems in Education: A Review*]. *Technology Knowledge and Learning*, *29*(4), 2153. Springer Science+Business Media. https://doi.org/10.1007/s10758-024-09732-7

Sandhu, Ms. S. (2024). Impact of artificial intelligence in education sector. *International Journal for Research in Applied Science and Engineering Technology*, *12*(4), 1234. https://doi.org/10.22214/ijraset.2024.59101

Singh, R. G., & Ngai, C. S. B. (2024). Top-ranked U.S. and U.K.'s universities' first responses to GenAI: key themes, emotions, and pedagogical implications for teaching and learning. *Discover Education*, *3*(1). https://doi.org/10.1007/s44217-024-00211-w

Slimi, Z., & Villarejo-Carballido, B. (2024). Unveiling the potential: Experts' perspectives on artificial intelligence integration in higher education. *European Journal of Educational Research*, 1477. https://doi.org/10.12973/eu-jer.13.4.1477

Smith, D. P., Sokoya, D., Moore, S., Okonkwo, C., Boyd, C., Lacey, M., & Francis, N. J. (2024). Embedding Generative AI as a digital capability into a year-long MSc skills program. *Research Square*, 08 October 2024, PREPRINT (Version 1). https://doi.org/10.21203/rs.3.rs-5204546/v1

Suazo-Galdamés, I. C., & Chaple-Gil, A. M. (2025). Impact of intelligent systems and AI automation on operational efficiency and user satisfaction in higher education. *Ingénierie Des Systèmes d Information*, *30*(4), 1057. https://doi.org/10.18280/isi.300421

Tade, R. S., Jain, S. N., Satyavijay, J. T., Shah, P. N., Bari, T. D., Patil, T. M., & Shah, R. P. (2023). Artificial Intelligence in the Paradigm Shift of Pharmaceutical Sciences: A Review [Review of

Artificial Intelligence in the Paradigm Shift of Pharmaceutical Sciences: A Review]. *Nano Biomedicine and Engineering*, *16*(1), 64. https://doi.org/10.26599/nbe.2023.9290043

Tarisayi, K. S. (2023). Strategic leadership for responsible artificial intelligence adoption in higher education. *CTE Workshop Proceedings*, *11*, 4. https://doi.org/10.55056/cte.616

Trinché, T. L. A. (2025). *Decision Matrix for Prioritizing Generative AI Risks in Higher Education*. https://doi.org/10.21203/rs.3.rs-7494968/v1

Uddın, M. M., & Abu, S. (2024). Navigating ethical frameworks to mitigate academic misconduct while leveraging generative AI. *Research Square,* 20 June 2024, PREPRINT (Version 1). https://doi.org/10.21203/rs.3.rs-4607113/v1

Upreti, I. M. (2025). The role and implications of artificial intelligence in higher education: Opportunities and challenges. *International Journal for Research in Applied Science and Engineering Technology*, *13*(4), 6214. https://doi.org/10.22214/ijraset.2025.69838

Urmeneta, A., Roméro, M., Petre, V., Âveanu, G., Lepage, A., Collin, S., Alexandre, F., Comte, M.-H., Lagarrigue, A., Viéville, T., Durampart, M., Bonfils, P., Galy, I., Camponovo, J., Tressols, F., Boulord, C., Borgne, Y. L., Corieri, P., Caucheteux, C., … Girard, M.-A. (2024). Creative Applications of Artificial Intelligence in Education. In *Palgrave studies in creativity and culture*. https://doi.org/10.1007/978-3-031-55272-4

Wainaina, P., & Sun, Y. (2025). Educators' perceptions and willingness to integrate Generative Artificial Intelligence in teaching and research: evidence from Kenyan higher education. *Discover Education*, *4*(1). https://doi.org/10.1007/s44217-025-00820-z

Waring, P. (2024). Artificial intelligence and graduate employability: What should we teach Generation AI? *Journal of Applied Learning & Teaching*, *7*(1). https://doi.org/10.37074/jalt.2024.7.1.42

Wu, C., & Carroll, J. M. (2025). Evolving perspectives on generative AI in higher education: Insights from two years of university stakeholder analysis. *TechTrends*. https://doi.org/10.1007/s11528-025-01150-5

Wu, C., Zhang, H., & Carroll, J. M. (2024). AI Governance in Higher Education: Case Studies of Guidance at Big Ten Universities. *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2409.02017

Yan, L. (2025). From Passive Tool to Socio-cognitive Teammate: A Conceptual Framework for Agentic AI in Human-AI Collaborative Learning. *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2508.14825

Yusuf, A., Pervin, N., & Román-González, M. (2024). Generative AI and the future of higher education: a threat to academic integrity or reformation? Evidence from multicultural perspectives. *International Journal of Educational Technology in Higher Education*, *21*(1). https://doi.org/10.1186/s41239-024-00453-6

Zhai, C., Wibowo, S., & Li, L. D. (2024). The effects of over-reliance on AI dialogue systems on students' cognitive abilities: a systematic review [Review of *The effects of over-reliance on AI dialogue systems on students' cognitive abilities: a systematic review*]. *Smart Learning Environments*, *11*(1). Springer Nature. https://doi.org/10.1186/s40561-024-00316-7

Zhang, J., & Fenton, S. H. (2024). Preparing healthcare education for an AI-augmented future [Review of *Preparing healthcare education for an AI-augmented future*]. *Npj Health Systems*, *1*(1), 4. https://doi.org/10.1038/s44401-024-00006-z

Zhang, P., Zhang, H., Xu, H., Xu, R., Wang, Z., Wang, C., Garg, A., Li, Z., Ajoudani, A., & Liu, X. (2025). Scaling Laws in Scientific Discovery with AI and Robot Scientists. *arXiv (Cornell University)*. https://doi.org/10.48550/arxiv.2503.22444