ETHICAL AI IN EDUCATION: TACKLING THE NEXT FRONTIER OF INNOVATION IN HIGHER LEARNING

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Abstract
The incorporation of Artificial Intelligence (AI) throughout many societal sectors has emerged as an inexorable phenomenon, transforming industries and reconfiguring conventional methodologies. Neither higher education, for instance, has been able to escape this technological transformation. Artificial intelligence is progressively integrated into contemporary educational systems, transforming instruction, learning, research, and administration. The ethical ramifications of using AI in higher education are becoming relevant. As AI technologies continue to evolve, it is more crucial to address the issue of their appropriate and equitable use in educational. Integrating these technologies with intelligent tutoring systems enables learners to get prompt feedback and support resources. It significantly enhances the learning experience. Moreover, AI-powered chatbots and virtual assistants are used to aid students in real time by addressing their inquiries and providing resources or guidance throughout their academic pursuits. This study suggests that future research should concentrate on the long-term impacts of AI on student learning and well-being. Researchers might investigate the impact of AI on students' critical thinking, empathy, and autonomy. Additional research is required to explore potential techniques for minimising prejudice in AI systems and to determine how AI may be designed to foster inclusion and equity in education. By focussing on these domains, future researchers can ensure that AI evolves into a technology that serves both students and educators while upholding ethical standards.

Keywords; Ethical, Artificial intelligence, Education, Frontier of innovation, Higher learning

Introduction

The incorporation of Artificial Intelligence (AI) throughout many societal sectors has emerged as an inexorable phenomenon, transforming industries and reconfiguring conventional methodologies. Neither higher education, for instance, has been able to escape this technological transformation. Artificial intelligence is progressively integrated into contemporary educational systems, transforming instruction, learning, research, and administration. The ethical ramifications of using AI in higher education are becoming relevant. As AI technologies continue to evolve, it is more crucial to address the issue of their appropriate and equitable use in educational contexts. The evolution of AI in education has progressed from rudimentary early learning management systems to sophisticated programmes that can individually adapt to each student and even forecast their academic outcomes.

The emergence of AI technologies in education is attributed to advancements in machine learning, natural language processing, and cognitive computing, enabling individuals and systems to adapt to the specific requirements of learners (Jones, 2022). AI-driven technologies such as adaptive learning platforms, virtual tutors, and automated grading systems are prominent examples that provide new potential for teaching and learning (Luckin et al.,2016). In recent years, the use of AI in education has expanded, especially due to the heightened desire for personalized learning. Educators have always faced challenges in delivering personalized education that addresses the diverse requirements of all learners. AI technologies has the capability to address this difficulty by analyzing extensive datasets to delineate personalized learning trajectories (Nguyen, et al., 2023). Adaptive learning systems

consistently evaluate a student's progress and then modify the content and speed of training, attaining a degree of customization that is challenging to achieve by human educators (Zawacki-Richter et al., 2019). AI is increasingly transforming content and altering student interactions. Through the integration of Augmented Reality (AR) and Virtual Reality (VR) technologies enhanced by AI, education has been transformed into more immersive and adaptable experiences. Students can now navigate an unrestricted learning environment and experiment with intricate concepts under near-realistic settings. (Woolf, 2020).

Integrating these technologies with intelligent tutoring systems enables learners to get prompt feedback and support resources. It significantly enhances the learning experience. Moreover, AI-powered chatbots and virtual assistants are used to aid students in real time by addressing their inquiries and providing resources or guidance throughout their academic pursuits (Zhai, Ding, & Wang,2021). In addition to its function in education, Artificial Intelligence (AI) has a significant position in contemporary research methodologies. Artificial intelligence techniques are used at Western institutions to save research expenses by optimizing data processing. Consequently, AI enables researchers to efficiently analyze extensive datasets with precision and rapidity. Machine learning algorithms are being used in social sciences and educational research to predict patterns and monitor trends (Brynjolfsson & McAfee, 2020). This modification enables researchers to establish their decision-making in data and to reveal connections that might otherwise go undetected. Ultimately, it enhances the quality of study outcomes.

Besides its influence on education, AI is also revolutionizing university operations in areas like research and administrative tasks. Global universities are using AI-driven solutions to enhance the efficiency of their internal processes, including student recruiting, admissions, and enrollment (Selwyn, 2020). AI-driven analytical instruments enable institutions to forecast students' prospective accomplishments, anticipate dropout rates, and provide interventions as required and at where necessary.

(Huang et al., 2021) AI has the capacity to enhance educational methods and augment a teacher's abilities rather than supplanting them. By utilizing AI-driven technology, educators may formulate more tailored instructional strategies to accommodate the specific requirements of each group. They can precisely identify students' strengths and weaknesses via data analysis. This creates a feedback loop: educators continually adjust their instructional strategies based on real-time student performance data (Holmes et al., 2022). This elevated level of education provides a more engaging and effective learning atmosphere, which results in improved academic performance for students.

Moreover, in the realm of evaluation, AI has transformed the processes of grading and providing feedback. AI-driven grading systems enable educators to assess homework, essays, and examinations with enhanced efficiency and more impartiality. Investing in this technology alleviates the administrative workload on educators while providing students with more immediate and comprehensive feedback (Brynjolfsson & McAfee, 2020). Simultaneously, AI-driven anti-plagiarism technologies have become essential for safeguarding students' capacity to produce unique work and accurately attribute their sources (Woolf, 2020). In higher education, the principle of data analysis has also been very influential. AI-driven data analysis accelerates a scientist's work and enhances its accuracy, allowing researchers to manage extensive data sets that would otherwise be impractical to handle manually. An AI programme can analyze extensive databases of academic literature to extract relevant sources, identify emerging research trends, and integrate knowledge across several disciplines (Nguyen, et al., 2023). These data analysis skills not only reduce the time required for essential research but also enhance interdisciplinary cooperation and promote communication among academics from other areas. In the domain of school administration, AI is revolutionizing the traditional system in which decisions were made by human bureaucrats. AI algorithms can examine vast amounts of institutional data, including student demographics, financial records, and resource

use across three distinct areas. Consequently, resources are allocated more judiciously, resulting in improved service for individuals from their institutions and enhanced managerial efficiency. For instance, AI-driven predictive methodologies assist schools and universities in analyzing fluctuations in student demographics, enabling them to anticipate future demand and allocate resources appropriately. Nevertheless, despite the many advantages that AI presents to higher education, it also introduces ethical dilemmas. The growing reliance on AI systems for essential assessment procedures, including admissions, grading, and assessing student progress, prompts significant concerns over fairness, transparency, and accountability (Zhai, Ding, Wang, 2021).

However, there are concerns to tackle about prejudice in AI algorithms about the possible infringement on student privacy, and the possibility of diminishing human interaction in education. As higher education institutions strive to incorporate AI into their operations, it is imperative to formulate ethical norms to guarantee equitable usage of new technologies, benefiting all students uniformly. Ethical values must be central to the development of AI in education, prioritizing the welfare of students and teachers while maintaining fairness, transparency, and accountability to individuals (Nguyen et al., 2023). By adopting a comprehensive approach to ethics, all stakeholders using this technology—universities, professors, and students—will be able to fully realize its potential for enhancing education while preserving the principles of justice and inclusivity.

This study aims to clarify the ethical issues stemming from the use of Artificial Intelligence (AI) in higher education, concentrating on the moral dilemmas associated with AI-enhanced learning, teaching, research, and administrative functions. Artificial Intelligence (AI) is swiftly being integrated into higher education, altering the methods of student learning, instructor instruction, and the organization of educational institutions. AI-driven customized learning systems and predictive analysis for research, demonstrates the transformational potential of artificial intelligence in education. This is indisputable. However, the emergence of such revolutionary technology also raises significant ethical dilemmas. As higher education institutions increasingly use AI in critical academic decision-making processes—such as grading, student admissions, and support for enrolled students—essential inquiries about the ethical ramifications of these technologies must gradually emerge.

Critics disapprove of concerns such as algorithmic bias, data privacy, less human oversight, and the potential hindrance to students' critical thinking skills. They, however, assign differing levels of significance to these issues. Critics are resolutely intent on discrediting AI systems in education in many ways. The widespread use of AI technology in educational settings presents issues for both educators and instructors. They may see it as a violation of their professional autonomy if current manual activities, as grading or providing individualized feedback to students in need, are supplanted by these new automated technologies. (Kazawa, 2007) highlights that AI-powered solutions, may intensify the digital disparities between students with access to adequate infrastructural resources and those without. This prompts a critical inquiry: Should we investigate the ethical integration of AI into higher education, ensuring it minimizes damage and distributes benefits equitably? This research delineates the ethical dilemmas arising from the implementation of AI technology in contemporary higher education, elucidates the ethical issues that require urgent resolution or mitigation, and proposes guidelines for the introduction of AI technologies that will yield positive outcomes when aligned with the ethical standards established by societal educational systems. It aims to guide AI towards collaborative rather than detrimental improvement of fundamental higher educational value.

Literature Review
AI in Higher Education
As English teaching methodologies increasingly include artificial intelligence, these processes evolve naturally in response to the conditions. Although AI in task analysis and adaptive tutoring began to emerge during the current

experimental age, prior efforts to use AI algorithms for educational purposes existed far earlier. Following the first cohort of these systems, which were mostly rule-based in structure and design, Artificial Intelligence entered a new phase in its nascent age marked by fundamental simplicity and beauty. The PLATO system (Programmed Logic for Automatic Teaching Operations), developed over two decades, garnered significant attention. During the 1960s, PLATO was one of the first implementations of computers in education, providing drill-and-practice exercises for pupils (Watters 2020). Despite the contemporary obscurity and disappearance of their electronic predecessors, PLATO and analogous systems established a crucial and indispensable foundation for the subsequent emergence of AI in Education. Informed by studies in artificial intelligence (AI), cognitive science, and natural language processing, educational technology in the late 20th century progressively included AI elements. Intelligent Tutoring Systems (ITS) were designed to use this for future advancement—students' levels of comprehension could be assessed and instructional content modified appropriately. John Anderson and his colleagues developed the Cognitive Tutor to go beyond rote learning and use what they refer to as more personalized, adaptive techniques (Koedinger & Aleven, 2016).

Artificial Intelligence technology was used from the inception of Intelligent Tutoring Systems to improve learning outcomes and provide personalized, prompt support to individual learners. In the 1990s and early 2000s, the proliferation of internet connectivity and digital learning platforms led to an increase in AI applications for educational purposes. Learning Management Systems (LMSs) like Blackboard and Moodle have used AI to improve course delivery efficiency, manage educational resources, and evaluate student progress more effectively. Although less sophisticated than modern AI systems, these early technologies clearly demonstrated the potential of artificial intelligence to transform teaching and administrative operations in higher education.
Artificial intelligence has seen significant advancements lately in the domain of education. Students are pursuing educational solutions that use AI to replicate the classroom atmosphere in an online format, addressing the urgent need for a more tailored and efficient learning experience. Tang et al. later incorporated Artificial Learning Systems into their English lessons via real-time data analysis. A significant advancement in AI is personalized learning. This field requires an in-depth understanding and analysis of human behaviors to guide machine learning algorithms that customize educational content according to individual styles, speeds, and preferences. This method enables real-time tracking of students' progress and speed, allowing an unparalleled level of individualized support and attention in large classes. These approaches significantly differ from the traditional classroom, when all students go through content at the speed of the fastest learners, often neglecting the differences among pupils with varied levels of intelligence or understanding. AI technologies, such IBM Watson Tutor and solutions from companies like Dream Box Learning, use data analytics to adapt to individual students' learning preferences, providing tailored instruction that improves educational outcomes (Luckin et al., 2016).This ongoing trend in AI-driven education includes adaptive learning systems. Unlike traditional lectures that provide uniform knowledge to all students, these systems customize content for each learner and offer immediate feedback and assessments to enhance their educational experiences. Organizations such as Knewton Smart Sparrow have created platforms that use artificial intelligence to customize a dynamic learning experience according on student inputs and behaviors. This technique provides more efficient learning routes while delivering educational materials tailored to the unique situations of students from various places. Research investigating general academic performance first identified a substantial improvement under this technique and was unable to provide an alternate rationale for the swift improvements seen. Petty (1997) contends that the adaptive traits of these systems are particularly beneficial in higher education, where individuals' backgrounds and academic needs might vary considerably.

Higher education institutions are also changing their way of doing research via AI, just like its impact on learning. The way academic research uses AI algorithms has changed the methodology of data analysis entirely: it aims to improve consistency and cut down on logical errors while reviewing data line by line. Even though they are not yet widespread in English natural language processing, human studies have begun to combine AI techniques with long-term research in fields such as biology and economics (Brynjolfsson & McAfee, 2020). By using NLP techniques, machines become able to read and write. AI techniques for working with literature, such as Semantic Scholar, enable academics to find significant academic contributions rapidly. For researchers, it represents a huge savings of time (Zawacki-Richter et al., 2019).

Artificial intelligence is also changing how management at colleges works. More and more colleges now use artificial intelligence technologies to handle tasks such as student admissions, enrollment management, and future student retention that is, predicting who will leave campus before they are actually at college. Machines like these evaluate student data in order to predict students' academic performance, also finding out who may be in danger of dropping out of school (Huang et al., 2021). AI applications improve the efficiency of campus management as well as students' experiences by delivering timely assistance tailored to their individual needs.

At its present stage, AI in education also faces a number of difficulties. There are many arguments in favour of using AI techniques to enhance individualized learning and adaptive systems; on both ethical and practical grounds it is argued that this should be done. Yet, because these systems heavily rely on data, questions of student privacy and machine bias arise (Selwyn, 2020). For instance, should machine learning systems present a false reflection of their training datasets then they may inadvertently reinforce existing educational disparities: such as limiting access to people from underrepresented or economically disadvantaged backgrounds. Meanwhile, the use of AI in research raises questions as to what place human judgment may have in academic inquiry. Relying on algorithms should make the research process more efficient, but at the same time mean that people think less originally and critically (Nguyen, Sheridan Gardner 2023).

In sum, artificial intelligence is now used in higher education more than ever before. Personalized learning systems and adaptive teaching methods are progressing swiftly, as a growing variety of research and institutional procedures have been or are set to be enhanced by AI systems. Despite the significant advantages, the widespread use of these technologies presents both new and longstanding ethical dilemmas. Educators, legislators, and technologists must collaborate to guarantee that AI really improves education for all children, rather than just exacerbating existing disparities.

Ethical Frameworks for AI
Ethical Theories Related to Technology
Numerous specialists discussing AI-related schooling now highlight ethical issues. Embedding it comprehensively inside the several conceptions of ethics would provide a robust framework for matters concerning applied AI. Two prominent philosophical frameworks in this domain—utilitarianism and deontology—each provide distinct methodologies for the presentation of AI within an educational context.

Utilitarianism is an ethical philosophy that prioritises the maximisation of total enjoyment, or "utility." Within the realm of AI in education, utilitarianism advocates for the use of AI technologies if they predominantly enhance the well-being of the majority. For instance, according to utilitarian principles, AI-driven personalised learning systems that customise education to individual student requirements may be deemed morally defensible due to their potential to enhance learning results for a greater number of students (Bostrom & Yudkowsky, 2021). John F. Kennedy elucidated the issue of "pilot mistake" by stating that an individual learns from failure when it confronts him directly, making it impossible to overlook (Waring, 1970).

Enlightenment With knowledge and artificial intelligence is a stage for raising of learning power, reducing gaps in receiving topnotch education. This is the theory's proposed path

forward. Yet utilitarianism can pose problems. As it pursues the greatest happiness of greatest numbers, utilitarianism risks neglecting what it owes to minorities in society whose needs will be ignored when onesizes fit all over policy prevails. For example, students with physical or emotional difficulties in learning and from ethnic minorities might also not get the full benefit out of AI too leading to unintended consequences in teaching outcomes (Floridi et al., 2018).

In contrast to Utilitarianism, Deontology (following Immanuel Kant) emphasizes the importance of duty and moral principles. As long as they follow certain rules or meet obligations then by deontology's lights ,an action is morally right – irrespective of its consequences. Hence when applied deontologically to AI in education, intelligent technology should serve everyone's dignity and that everyone has the same rights. In other words, Artificial Intelligence must be developed and implemented on the basis of ethical principles such as fairness, justice and making sure private information concerning students is not given out. For another rejection of deontological ethos, human rights violations are unacceptable even when the outcome means better education results. However it is these same biased data sets which fail in protecting individual student privacy at one time and report good scores across entire school systems the next (Borenstein et al. 2017).

According to the Kantian paradigm, regardless of the success of an action, if it fails to adhere to an ethical norm in itself, it constitutes a significant abuse. AI should operate benevolently over a broad spectrum, benefiting both students and staff. Whenever the principles of openness and privacy conflict in any circumstance, moral dilemmas arise. Subsequently , moral education must confront the issue of how to navigate the coexistence of diverse moral ideals deemed sacrosanct by distinct populations within a country. Currently, moral education is inadequately prepared from a pedagogical perspective to address these concerns. However, in the context of AI in education, we recognise that one of the critical considerations is Ethics. We must consistently uphold ethical standards and refrain from any improper interference with students using it.

One well-known set of guidelines is the EU Commission's Ethics Guidelines for Trustworthy AI (2019). These guidelines list conditions that cover many industries, including education where it has become increasingly relevant to AI research and application. The following ideas are included in the criteria for their successful implementation:

1) Human Agency and Oversight: AI systems must be designed to augment human decision-making, not undermine it. In education this means that AI should aid teachers, and students in their learning process rather than replace them. Education tools should empower both learners and educators while ensuring the final say remains with human beings and excluding any chance of decision-making being turned over to machines (European Commission, 2019).

2) Transparency: AI systems must be transparent in their operations, especially in education where key decisions concerning student learning and progress should be comprehensible to all stakeholders. When, for instance, an AI system is employed to assess student work, educators and students need not only proper reports but an explanation on how the decisions were made as well (Floridi et al., 2018).

AI applications are becoming prominent in higher education, with several schools fully integrating AI systems. In this practical setting, AI is no longer only a 'black box'; educational institutions are transitioning to online platforms. Liberty of use should be accompanied by accountability . Therefore, the university must prioritise this.However, if an AI-based system persistently generates erroneous outcomes or contravenes privacy and security regulations, the educational institution should establish a protocol to address these issues. This entails establishing explicit regulations for data utilisation in AI projects and guaranteeing that AI systems undergo routine evaluations and inspections, with a focus on compliance with fairness and accuracy standards.(European Commission, 2019).

Since the previous year, UNESCO's Recommendation on the Ethics of Artificial Intelligence (2021) delineated a comprehensive set of criteria that differentiates between appropriate and inappropriate use of AI in

education. It emphasises the significance of AI in providing universal and equitable education via the advent of AI technology. Students from diverse backgrounds should acquire AI capabilities, ensuring widespread access to these essential technologies. This ethos embodies the concept of AI functioning to reduce, rather than exacerbate, current educational inequalities in several societies. It underscores the need of ensuring that AI upholds human rights. There will be further demands for stringent safeguarding of student data and requests to prevent AI systems from infringing upon the privacy or autonomy of learners. (UNESCO, 2021)

The 2019 Global Ethics of Autonomous and Intelligent Trustworthy Systems (Electrics and Electronics Engineers) is another noteworthy framework. It is one of the few global ethical framework architectures that applies to AI systems in every sector of the industry, from education to financing. Consequently, it is a unique case for comprehensive coverage. The Institute of Electrical and Electronics Engineers (IEE) is a professional organisation that drives technological advancement and innovation. Their primary areas of interest include computer science, electrical engineering, electronic engineering, and related fields. According to one framework, this procedure explicitly states this:

The IEEE recommends that student data must be meticulously protected and that data governance procedures should be made visible and accessible to guarantee the security of students' personal information. Students and their families must be informed about the use of their data and given the option to opt out if they wish (Borenstein et al., 2017).

Individuals who adhere to these ethical norms often acknowledge that artificial intelligence and education need an ethical framework commensurate with broader human behaviours. Maintaining the status quo would impose harsh penalties on students navigating constantly changing conditions, often characterised by a teacher-student power imbalance that disadvantages certain individuals. Software devoid of human contact cannot be morally taught in a formal higher education environment. This architecture in AI systems may possibly provide unprecedented possibilities. (IEEE, 2019). While beneficial for establishing ethical standards for AI in education, such models become obsolete when confronted with language constraints. However, when ethical principles are included into machine-learning algorithms, not every educational institution has the necessary resources or knowledge to effectively integrate these standards into their systems. Higher education institutions may be inadequately prepared for the process. Furthermore, the rapid advancement of AI surpasses the capacity of educators and policy-makers to regulate its use. Nonetheless, straightforward responses are acceptable; the obstacles encountered by technologists, educators, and policymakers in advancing AI ethically and positively will undoubtedly be significant.

Challenges of AI Adoption in Education

As a result of adoption of Artificial Intelligence in Education, AI brings significant opportunities to improve teaching, learning and administration. However, the introduction of AI into educational settings, not only offers many challenges itself, but these also require timely solutions for growing emphasis on ethicality, fairness and efficiency. These challenges include everything from technical and ethical incidents to social and educational ones. This section will outline key challenges that arise when AI techniques are adopted in education, according to recent research and progress in this area.

One of the most pressing obstacles to introducing AI in education lies in the sensitive area of data privacy and security. Since AI systems rely on large amounts of data in order to function properly, this is particularly true for personalized learning and adaptive learning systems (Holmes et al., 2022). The collection of student data, including personal information, academic performance and behaviors, invariably raises questions about privacy. Many AI-powered platforms collect sensitive data from students, and mishandling or leaks may jeopardize the students' privacy.

In many countries, data protection regulations for AI in education are diverse? For instance, Europe has the General Data Protection Regulation

(GDPR) while America operates under the Family Educational Rights and Privacy Act (FERPA). However, it is often difficult to follow these rules when educational institutions collaborate with vendors providing third-party AI who either store the information on cloud services or use them outside purposes related to training (Zawacki-Richter et al., 2019). The challenge lies in achieving a balance between artificial intelligence-driven personalized learning and the need to safeguard students' privacy from being violated or used improperly by third parties to commit cybercrimes.

The AI systems do not have biases unless they are trained that way. One of the main challenges in designing AI lies with this question: If it has different backgrounds represented, why should a new model still perpetuate stratifications already present in society? In training datasets for AI, models of course will reproduce the prejudices of both society and education itself. Naturally these include gender, prejudice towards different races and socio-economic bias. As a result of this, for example, today's grading systems leave students underserved: women end up suffering from some rather unfair grades issued by one very average student instructor (Nguyen, et al 2023). For example, an AI system used for grading and tests may put certain groups at a disadvantage because the data which it is trained on has bias embedded in them. If the data used to train an AI system reflects discriminatory treatment against minority students, that system may grade minority students more severely or incorrectly suggest fewer paths to academic success. To meet this challenge will take much efforts, but it is also important that AI be transparent and held accountable when it deals with issues of bias-- diversity datasets; despite the fact that the people designing(for writing) these algorithms actively work on having fairness checks built in ensures that happens (Frates, et al. 2018).

A potentially more urgent issue hindering the integration of AI in education is their lack of transparency, since AI systems are neither clear nor accountable. Numerous AI systems, particularly those using deep learning techniques, function as black boxes, concealing their decision-making processes from human understanding. The absence of openness prompts enquiries on the accountability for university admissions and the evaluation and grading of pupils by educators—issues that are becoming more critical (Selwyn, 2020). If educators and administrators lack comprehension of AI systems, they will struggle to trust this technology. For instance, if an AI system indicates that a student is at danger of school dropout or forecasts a certain grade, both educators and students want elucidations detailing the rationale behind such predictions. In the absence of such clarifications, there is a genuine danger that individuals may develop a mistrust between instructors and artificial intelligence, between which, undoubtedly, a significant divide persists. This will signify the conclusion of whatever benefits AI may have provided in education for the student, and maybe the instructor as well. To address this issue, the incorporation of elements such as diagrams or alternative formats that may be concurrently developed with model production is very beneficial (Holmes et al., 2022).

Proficiency in AI technology has emerged as the first challenge. Hence, teaching curricula must be devised, and educators must be taught in the use of new technologies and be constantly retrained. We must establish a genuine educational environment centred upon this principle. A further issue is the resistance to change. Certain instructors may have scepticism or exhibit reluctance in embracing AI technology. However, the question begging for answer is: Is this reluctance only a worry for job security, apprehension over replacement by robots, or a broader scepticism of AI tools? In addition to providing suitable technical training to staff, it is essential to cultivate an atmosphere of openness and creativity within these institutions of higher learning, fostering the potential for growth and development in all areas.

This issue may be resolved effectively when we collaboratively contribute our insights and knowledge; all units striving together for their mutual benefit. The predominant focus of current educational research on AI encompasses all conceivable human observations, including the ability to attract additional students through skill matching (filters) and enhanced mutual support. Furthermore, educational associations of SEMs

systematically reduce their members in tiers, at least in allocation; future models will be both developed and experienced. Furthermore, the whole platform is only an insatiable installation ubiquitous in nature. This AI-driven educational tools will mostly depend on Internet connectivity, contemporary household devices, and digital literacy. Nonetheless, this is not often the situation in several regions worldwide. In less developed nations or impoverished continents, both students and schools are unable to access the advantages of AI (Woolf, 2020). Moreover, even in countries with advanced digital infrastructure, there are disparities in access to AI tools. Students from deprived familial backgrounds may lack devices and high-speed internet, which their more privileged classmates take for granted. They consequently enjoy different learning opportunities. To bridge this digital divide requires joint efforts between government, educational institutions and technology providers to make AI education available to every student, regardless of social background. (Nguyen et al., 2023)

Integrating AI technologies into schools may be expensive. To acquire or build AI systems, set up suitable infrastructure and running them without stopping are all things which need substantial financial backing. As a result, many educational institutions, especially public schools and universities in developing countries, will not have the resources needed to buy AI technology (Selwyn 2020, p. That financial barrier restricts the general adoption of AI, dividing institutions into those able to afford cutting-edge technology and those that cannot do so. Moreover, implementing AI systems in educational environments involves complex technical requirements. Schools and universities may not possess the technical expertise to processes of AI tool management, however is forced into relying on third-party vendors which raises concerns about data ownership, vendor lock-in, and long-term sustainability (Floridi et al., 2018).

Despite the enormous potential of AI to revolutionize education, its introduction is not user-friendly. Issues like data privacy, bias, lack of transparency, ethical dilemmas because most teachers just ignore these matters, different skills and disabilities of students, and financial constraints all constitute huge obstacles to implementing AI in education effectively and equitably. Solutions must now be sought together by government, educators, technologists and students of all kinds in order that AI should serve learning While safeguarding the core values of education: equity, fairness, and respect for human dignity.

The Human Element: Emotional Intelligence and the Role of AI in Developing Critical Thinking

As AI technologies have advanced, so too they have begun to reshape education including by helping establish personalized learning experiences and automating admin. While these developments are great in themselves there's a degree to which AI systems lack the human touch essential in education such as what's necessary for promoting Emotional intelligence (IQ) and developing critical faculties of thought among students. Emotional intelligence is the ability to recognize, interpret, manage and respond to feelings both in oneself and others (Goleman, 1995). This is very important for students in order to help them learn not just an education but also interactive and emotional skills that are vital for personal as well as professional success.

AI networking technology has high data management efficiency and delivery ofcontent,but dealing with more consoling requirements such as empathy, moralization or encouraging others is far beyond it. With AI systems' assistance, kids will ultimately need these abilities as they live out social connections in what sometimes seems like an extended family environment at work completing projects using a team approach or even grade points on assignments these. However much improvement is still needed Teachers are indispensable in helping children develop their emotional intelligence by giving them feedback, advice and encouragement which AI systems currently cannot (Woolf, 2020). Hence, whilst AI can be used to support some elements of education, it must not lead us into believing that emotional intelligence requires no further development.

Critical thinking ability - the power to evaluate arguments with an open mind rather than simply confirmation bias, to research carefully before

making decisions -is yet another sphere requiring a human presence. AI can help students get at knowledge by calling up actually existing information and solve routine problems on your behalf, but as far as the deep cognitive skill of critical thinking goes it is still not up to scratch. AI is very good at following pre-programmed rules and algorithms. Nonetheless, it lacks that vital human presence: the inventiveness, elasticity, and moral reasoning skills necessary to encourage students in thinking backto basics or evaluating complex situations in an innovative way (Nguyen, Gardner, & Sheridan, 2023).

However, AI can in some respects be said to promote the forms of critical thinking that it is supposed to destroy. Such as, an AI-driven tutoring system, gives the student some challenges go think solve and create ideas from scratch. These systems can adjust to the individual learner's style of learning, giving feedback custom-tailored to help students develop skills in analysis(Holmes et al.,2022). What's more, AI can help simulate complex cultural phenomena that require students to apply critical thinking. For students, this may be something they find difficult or even impossible without an AI tool to lead them through such situations: and who better than one that understands ethics–after all isn't it the purpose for which most people come into contact with these programs? Nevertheless, AI nowadays depends too much on structured data and preformed algorithms to be of great value in practicing critical thinking. And AI systems lack the ability to provide nuanced feedback during a Pandemic, making it tricky for instance for teachers who are trying hard as they can because they have no others around (Selwyn, 2020).

Conclusion
The integration of Artificial Intelligence (AI) into higher education signifies a transformative shift in the administration of educational institutions and the conduct of research. Nonetheless, AI may effectively accommodate individual learning requirements and enhance the efficiency of administrative processes. Concurrently, similar to previous technologies, its potential advancement has engendered profound ethical concerns. To guarantee that AI serves the interests of all students in education, rather than being relegated to cheap digital labour, it is imperative to address issues such as data privacy, algorithmic bias, insufficient transparency, and risks to human autonomy. Theoretical frameworks, including fairness, justice, autonomy, and Sociotechnical Systems Theory, provide essential direction for the ethical deployment of AI systems. This research underscores the importance of emotional intelligence and critical thinking, highlighting the necessity of balancing the advantages of AI with the preservation of essential human-centered values in education. Future research must consistently assess these ethical concerns and provide tangible answers to assist educators and policymakers in the successful and responsible integration of AI in educational institutions globally.

Practical Implications of the Study for Practice, Policy and Future Researches
The examination of ethical AI in higher education significantly influences practice, policy, and future research. Educational institutions must establish frameworks that facilitate the ethical integration of AI technology into instructional and administrative functions. Educators must be educated to use AI technologies proficiently while maintaining authority over essential decision-making. This indicates that AI enhances rather than substitutes human contact in the educational process. Furthermore, organisations have to allocate resources towards enhancing the transparency of AI systems. This will assist educators and learners in comprehending the decision-makingprocess.

The establishment of AI governance frameworks is crucial from a policy standpoint. Policymakers must establish explicit regulations about data privacy to prevent the misuse of student information. They must guarantee that justice in AI systems transcends mere rhetoric; impartial algorithms should be used wherever feasible, ensuring equitable access to AI technology among diverse social groups. Policies requiring frequent audits of AI systems will promote accountability and guarantee equitable sharing of AI advantages.

This study suggests that future research should concentrate on the long-term impacts of AI on student learning and well-being. Researchers might investigate the impact of AI on students' critical thinking, empathy, and autonomy. Additional research is required to explore potential techniques for minimising prejudice in AI systems and to determine how AI may be designed to foster inclusion and equity in education. By focussing on these domains, future researchers can ensure that AI evolves into a technology that serves both students and educators while upholding ethical standards.

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