Educational Administration: Theory and Practice
2024, 30(5), 12742-12745
ISSN: 2148-2403
https://kuey.net/

Research Article

Navigating The Artificial Intelligence(Ai) Revolution: The Paradigm Shift In Higher Education

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Citation: Anjali P. K, Sreerekha S (2024) Navigating The Artificial Intelligence(Ai) Revolution: The Paradigm Shift In Higher Education, Educational Administration: Theory and Practice, 30(5), 12742-12745
Doi: 10.53555/kuey.v30i5.5301

ARTICLE INFO

ABSTRACT

Higher education's progress is impacted by the need to build human capital and the development of artificial intelligence (AI). Institutions have traditionally served as information hubs, but the COVID-19 epidemic has hastened this transition, ushering the education sector toward the digital age. Online learning systems have grown into indispensable tools for ensuring continuity. However, the rise of AI as a revolutionary force is altering higher education. AI's ability to analyse data, recognise patterns, and learn adaptively enables unparalleled educational personalisation. Models like ChatGPT may engage students in sophisticated conversations, give personalised feedback, and automate chores like grading. AI's potential opens up new avenues of learning and innovation. However, the incorporation of AI into higher education encounters hurdles.
However, integrating AI into higher education presents issues such as equality, privacy, and the loss of human connection. Furthermore, there are still uncertainties regarding educators' roles in an AI-enabled future, as well as the larger social ramifications of AI-driven labour transformations. This article investigates the nexus of higher education, and the growth of artificial intelligence, focusing on the potential and threats of this technological revolution, as well as the ramifications for educators, learners, and communities.

Keywords: Artificial Intelligence (AI), Technological Revolution, Higher Education, Intelligence Augmentation (IA)

Introduction

The landscape of higher education is experiencing a dramatic transition, fuelled by the convergence of two great forces: the need to build human capital and the rise of artificial intelligence (AI). Historically, higher education institutions have operated as information hubs, preparing students to be competent professionals, critical thinkers, and societal contributors. However, the constant march of technological innovation, particularly in the field of artificial intelligence, is reshaping established educational paradigms.

The COVID-19 epidemic served as an accelerant, catapulting the education industry into the digital age almost overnight. Online learning systems such as Chegg and Byju's and many other platforms which were previously on the edges, have suddenly become crucial instruments for educational continuity. However, it is not simply content digitalization that is transforming higher education; it is also the rise of AI as a transformational force, with the potential to completely change how we teach, learn, and engage with information.
In this article, we explore the connection between higher education and AI. We examine the way AI is changing education, curriculum design, and student involvement. We evaluate the potential and challenges inherent in this technological transformation, as well as its consequences for educators, learners, and society as a whole. As we approach a new era in education, we must manage these changes with foresight, empathy, and a dedication to developing the full potential of human capital in the age of AI (Russell, 2019).
AI has a lot of potential. Technology is making a significant difference in the globe, from disease monitoring to app development. However, the wonderful benefits are accompanied by some odd offerings. There are even AI pillows that can adjust the posture of your head to decrease snoring. But does artificial intelligence have a role in all aspects of life? Is it more bothersome than beneficial?

Education with Artificial Intelligence

AI possesses a wide range of capabilities, each adding to its multidimensional character. (Regona, et al., 2022)define multiple components, categories, and subfields of AI, reflecting the changing environment. Educators frequently meet opposing viewpoints on AI functioning, which underpins the marketing of educational technology solutions that use AI. The (Fusco, 2024) defining AI terminology as "AI is a branch of computer science. AI systems use hardware, algorithms, and data to create "intelligence" to do things like make decisions, discover patterns, and perform some sort of action. AI is a general term and there are more specific terms used in the field of AI. AI systems can be built in different ways, two of the primary ways are: (1) through the use of rules provided by a human (rule-based systems); or (2) with machine learning algorithms. Many newer AI systems use machine learning".

According to one perspective, AI imbues computer systems with human-like thinking skills, allowing them to do jobs that were previously reserved for human intellect. The classic representation of AI in "2001: A Space Odyssey," depicting the "Heuristically-programmed ALgorithmic" computer, or "HAL," exemplifies this notion (IEEE-USA, 2017)
HAL's human-like behaviours, including as thinking and decision-making, demonstrate AI's potential to complement human skills while presenting new threats (IEEE-USA, 2017).
Another definition of AI is the algorithmic pursuit of predetermined goals, with an emphasis on the ability to behave autonomously based on detected patterns or theoretical structures (Friedman, 2021). This approach emphasises AI's function in finding patterns and providing suggestions based on particular goals, hence impacting educational processes including student learning and decision-making regarding instruction (Friedman, 2021)

Intelligence Augmentation (IA) is a human-centered strategy in which AI works alongside people to boost cognitive function and decision-making. It supports teaching and learning activities through pattern detection and automation. However, AI has limits and hazards, including possible bias and incorrect findings. Regular inspection of AI models, algorithms, and data quality is required to guarantee safe use in education. While AI integration provides natural interactions and personalised learning experiences, human judgment and control are essential for navigating the intricacies of AI-enabled educational settings. Thus, human monitoring and intervention are required for appropriate AI usage in education.

How Artificial Intelligence Comes to Education

Educators are increasingly looking for technology-enhanced techniques to improve teaching and learning, thinking they will be safe, successful, and scalable. Educators are exploring AI-powered applications such as voice assistants, grammar correction tools, and trip planning as they become available to the general public. They see the potential to leverage AI-powered skills such as speech recognition to better serve students with impairments, multilingual learners, and others who might benefit from more adaptability and personalisation in digital learning tools. However, educators are aware of additional threats, such as data privacy and security problems, as well as worries about AI-generated connections or automations that may magnify undesired prejudices (Gardner, 2021).
The Department of Education in India and various countries collaborate closely with educational constituents such as teachers, faculty, support workers, researchers, policymakers, advocates, funders, technology developers, community members, organisations, students, and their families/caregivers. According to a 2021 field scan, makers of all types of technology systems anticipate to integrating AI capabilities into their systems.

Three reasons to approach AI in education now include:
1. Artificial intelligence may make it possible to achieve educational aims in more efficient, cost-effective methods. Addressing different incomplete learning among students as a result of the epidemic is a policy issue, and AI may increase the adaptability of learning materials to students' abilities and needs. Improving teaching jobs is a goal, and AI may give teachers with additional support and allow for greater customisation of curricular resources to match local needs.
2. Urgency stems from a recognition of system-level concerns and concern about potential future problems. For example, pupils may face more surveillance, and some teachers are concerned that they may be replaced. The public is concerned with examples of prejudice caused by algorithmic bias.
3. Urgency derives from the magnitude of the potential undesired or unanticipated repercussions. When AI automates instructional choices on a large scale, educators may uncover unintended repercussions, such as expanding performance inequalities or de-prioritizing candidates who offer diversity and skill to a school's teaching team.
It is critical to address AI in education right now in order to capitalise on important potential, avoid and manage emerging hazards, and resolve unintended effects. The Stanford Institute for Human-Centered AI's 2023 AI Index Report shows a significant growth in AI investment and ethical research, addressing concerns of justice and transparency.

The Way of Changing the Education Industry

Artificial intelligence (AI) is changing the way we learn and engage with education. It has made learning easier and more personalised, with instructional resources available to everyone via smart devices and computers. Students can learn without attending physical courses if they have an internet connection. AI effectively automates administrative work, allowing schools to concentrate more on student-centered learning. This transformation in education is affecting how we learn and engage with students, making it an important topic of discussion.

AI is transforming the education business by automating administrative work, developing intelligent material, and improving personalised learning. AI can automate grading processes, freeing academics to focus on their students while assessing them. The school admissions board also uses this technology to streamline paperwork sorting and processing.

Smart content is another domain where AI may make a substantial contribution to education. Robots can develop digital material in the same way that other AU essay writing services do, including virtual content such as video conferencing and lectures. AI systems are also altering textbooks by developing tailored versions for individual courses, resulting in digitised textbooks and innovative learning interfaces for students of different academic levels and ages.

Another use of artificial intelligence in education is personalised learning. Traditional systems appeal to the middle class but fail to adequately serve pupils. AI may assist teachers to improve their performance by providing personalised recommendations to each student, as well as personalising in-class projects and final examinations. AI-powered applications allow academics to respond in a more focused and customised manner, giving students a wider range of interaction options with professors (Akgun, 2022).

Global learning is a further field where AI may help erase barriers. Technology brings about significant changes by allowing students to learn any subject from anywhere in the world at any time. AI-powered education provides students with core IT skills, allowing them to study from wherever they are.

AI also enhances IT operations and opens up new efficiencies. For example, local planners may employ AI to reduce traffic congestion and increase pedestrian safety. Schools may also employ AI to model complicated data so that operations departments can generate data-driven projections, allowing for better future planning. According to a survey by eSchool News, the use of AI in education and learning will expand by 47.5% in 2021 (Melvano, 2023). This will result in adaptive learning strategies with tailored tools to enhance learning experiences. AI may help advise students on their career options depending on their objectives, supporting them beyond

Finally, AI is transforming the education business by streamlining administrative procedures, developing intelligent material, and improving personalised learning. While the early expenses of deployment and training may be significant, they will soon be immaterial as technology becomes more affordable.

How AI Is Responsible for Transforming the Education Industry

Artificial intelligence (AI) has had a substantial influence on several industries, particularly the education industry. According to a worldwide sector Insights analysis, AI in the education sector is expected to hit $80 billion by 2030, with worldwide AI use possibly reaching $3,683.5 million in 2023.

AI technology has transformed the way teachers educate by using real-world examples to help pupils learn more effectively and rapidly. AI implementations in education include automated assessment and assessing tasks, AI-based intelligent assistants, effective content, personalised education, AI-powered tools for constructive feedback, student performance tracking, course creation, AI-based tutors, increased involvement, and improved teaching and learning.

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AI-powered teaching tools can assist monitor student performance and identify areas for development. Coursera, a well-known online course provider, employs AI technology to warn professors when students make erroneous answers to questions. AI-based instructors help pupils learn subjects like arithmetic and basic English.

Greater involvement boosts student engagement by allowing them to address the challenges they have when learning a subject or topic on AI-powered platforms. Teachers may also employ AI-powered technology to help teach ideas by utilising real-world examples to show how things function.

Finally, AI has the ability to completely revolutionise the educational scene, benefiting students, instructors, parents, and educational institutions everywhere.

Conclusion

AI in education has the potential to transform the Indian educational system by enabling personalised learning experiences, adaptive evaluations, and 24-hour access to educational materials. AI is rapidly being utilised in education to develop lesson plans, calculate student grades, and help students with projects, homework, and research papers. However, there are advantages and disadvantages to using AI in education, and educators must take a proactive approach.

To sum up, the education sector faces both possibilities and problems as AI's position in education evolves. Educators may use AI to enhance student outcomes and promote fairness in the classroom by taking a proactive approach, while still retaining the unique role that instructors play in supporting student growth, development, and learning. Thus, adding AI-powered EdTech tools into instructors' instructional practices is critical. AI in Education promises or threatens to encroach on teachers' duties and remove the constraints that prevent digital education from meeting its high goals of differentiation and social-emotional involvement. It is critical to assess the impact of AI on educational systems such as pedagogy, curricula, teacher automation, international development, educational choice ownership, and behavioural manipulation. By evaluating these prospective possibilities, critical thought on different developmental paths for AI in education, as it approaches mainstream deployment, is encouraged and contributing. However, its adoption must be properly planned and managed to ensure that it complements rather than replaces human teaching and bridges existing digital barriers.

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