Integration Of Artificial Intelligence (AI) To Revolutionize The Learning Opportunities: A Review

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Abstract

Artificial intelligence (AI) is a field of study that focuses on developing software systems or technologies that can complete tasks quickly and contribute to human intelligence. These tasks include reasoning, problem solving, learning, perception, comprehending natural language, and making decisions. Systems with artificial intelligence (AI) are designed to imitate or replicate human cognitive functions and adapt to new data and information. The application of artificial intelligence (AI) in education has the power to fundamentally alter how individuals learn. More supplemental use of artificial intelligence (AI) tools in the classroom includes data analytics, machine learning, and natural language processing. This study provides an overview of the Integration of Artificial Intelligence (AI) to Revolutionize the Learning Opportunities, considering the Objective: To analyze the integration of Artificial Intelligence (AI) revolutionizing the Learning Opportunities and Research Questions: What is the Artificial Intelligence (AI)? On what extent the Artificial Intelligence revolutionize the learning opportunities? This research study was conducted using the positivist ideology and an exploratory, qualitative research approach. The study's problem was investigated using the data from the secondary source. To explore the integration of Artificial Intelligence (AI) to transform learning opportunities, relevant research studies were gathered from earlier journals and articles published on the specific topic or some related[1] topics through browsing and review. Secondary data refers to information or data that has already been gathered and is already available to address research questions and meet study objectives. Reviewing the article's attributes has led to the development of thematic analysis that reveals that the artificial intelligence is useful for creating the learning opportunities whereas it has also drawbacks with holding human as indolent. Applying less efforts including use of cognitive skills that may reflect on their mental health.

Key words: Artificial Intelligence (AI), Integration, Learning Opportunities, Revolution.

Introduction:

Artificial intelligence has been around for many years. A computer scientist created software that allowed humans to overcome their cognitive limitations and could remember the way they went through a maze. Initially, artificial intelligence (AI) skills increased

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slowly, but as computer speed and cloud computing increased and massive data sets became more accessible, the area of AI advanced quickly. These days, anyone can utilize ChatGPT and a plethora of other tools that allow for text-based user chats. AI is being used in businesses for a wide range of tasks, including as creating autonomous vehicles, interpreting radiography, and determining airfares.

The development of professional and interpersonal skills is aided by artificial intelligence and is necessary for the growth of a business. The potential of AI in education to give learners fast, helpful feedback is one of its many noteworthy advantages (Ginting, & Barella, 2022). Automated grading systems with AI algorithms as their power source can quickly and accurately analyze assignments, giving students insight into their real-world strengths and shortcomings. Students may assess themselves more easily and make the necessary adjustments with the help of this instant feedback, which improves learning results. AI can also facilitate cooperative learning situations (Pataranutaporn, et al.,2021).

Intelligent tutoring programs and virtual learning assistants can facilitate collaboration, take the lead in discussions, and give guidance to pupils. These AI-powered tools have the potential to produce dynamic learning environments that resemble real-world situations by promoting active participation, critical thinking, and problem-solving skills (Chen et al., 2020). Furthermore, there are still more problems with AI integration in education that must be fixed. Privacy and ethical concerns arise while managing student data because artificial intelligence (AI) relies on obtaining and analyzing personal data in order to provide customized experiences. Legislators and educators alike need to take student data privacy and the moral use of AI into account. Furthermore, if students rely too much on AI technologies, there's a possibility that they may become passive learners. Maintaining meaningful relationships and advancing deeper knowledge need balancing the use of AI with human oversight and instruction (Vrontis et al., 2022).

Statement of the Problem: The field of artificial intelligence is a fast-emerging branch of technology that aims to enhance and stimulate human intelligence via the use of diverse technical tools. With the use of technology, learning experiences can now be tailored and made flexible, providing students with resources and feedback that are unique to their needs and learning styles. AI-powered learning environments increase student interest and motivation by analyzing massive volumes of data to identify trends and offer personalized guidance. Online learning has emerged as one of the most significant educational channels for continuing education and skill development. Learning systems employ this strategy to boost students' productivity and efficiency in accordance with their needs. It helps students become more adept at solving problems by improving their mental health. A plethora of research has also advocated the demerits of Artificial Intelligence revealing human as indolent which is a matter of concern. Hence, this research study intended to review the integration of Artificial Intelligence (AI) to Revolutionize the Learning Opportunities.

Objective:

To analyze the integration of Artificial Intelligence (AI) revolutionizing the Learning Opportunities

Research Questions:

What is the Artificial Intelligence (AI)?

On what extent the Artificial Intelligence revolutionize the learning opportunities?

Literature Review: The concept of artificial intelligence can be defined as the outcome of human intelligence manifested through different software applications that are made to easily imitate human behavior and mental processes. Artificial intelligence and human

cognition are closely related because artificial intelligence uses certain human cognitive processes to comprehend problems and then come up with solutions (Fàbregues et al.,2021).

Additionally, artificial intelligence handles every task in the same way as a human mind would in any challenging circumstance. The primary attribute of artificial intelligence is its capacity to operate in any way to accomplish the specific task assigned to it in order to get the intended outcome. The mindset of artificial intelligence allows it to accomplish a variety of objectives, such as "learning, reasoning, and perception." Artificial intelligence has been applied in a variety of sectors, including "finance and healthcare." An artificial intelligence with high performance can handle multiple jobs at once. Robust artificial intelligence is capable of carrying out any complicated task with human-like behavior (Leoste, et al., 2021).

The development of an individual's professional and cognitive skills is covered in situated learning education because, since artificial intelligence depends on skill development, professional skill development is essential for instilling in students the idea that they can perform in sophisticated way when they crease collaborative skills. This theory states that multidimensional neural growth networks and various studies of neural elements are included in artificial intelligence. When it comes to resolving various issues, the artificial intelligence system functions like the human system's brain (Lin, & Yang, 2022). This is how artificial intelligence has been applied in this study to enhance learning opportunities. This has been explained as a correlation between artificial intelligence and raising the bar for educational learning chances (Williamson & Eynon, 2020).

Pros and Cons of AI: Artificial intelligence has the potential to be beneficial in education, but there are risks and disadvantages as well. This examination of the advantages and disadvantages of artificial intelligence in education raises questions about prejudice, false information, and the future of teaching jobs while also outlining potential advantages ranging from personalized learning to teaching support. The dynamic area where innovation and apprehension collide is the junction of AI and education. It's imperative to go carefully in this terrain (Jinal & Ashween, 2023).

The potential advantages and drawbacks of artificial intelligence in education must be balanced with careful planning, consideration, and ongoing evaluation. Artificial intelligence (AI) has the potential to quickly and easily empower educators, accelerate learning, and personalize learning environments. Still, further research is required due to the risks of bias, misinformation, and student isolation. Teachers must research the potential of artificial intelligence in order to represent themselves and their students in an effective manner (Chen et al., 2020). Applications of artificial intelligence can be both exciting and concerning. Consider these advantages and disadvantages of using AI in the classroom.

Cons of Artificial Intelligence

Artificial intelligence's level of knowledge is determined by the data it has been taught on when students use ChatGPT, they may ask unfair questions of the computer and receive prejudiced responses that reinforce social discriminations and leanings if the program was trained on unfair means. According to Rajkomar and Kohane (2019), scholars may earn low scores based on their gender or race if a reluctant AI system is utilized for grading. AI has the capacity to produce inaccurate information in addition to unfair means. Artificial intelligence's level of knowledge is determined by the data that has been tuned. When students use ChatGPT, they may ask partial questions of the computer and receive unfair responses that reinforce social injustice if the program was trained on reluctant data.

AI may transmit incorrect information or use data that is erroneous or outdated. The information produced by AI shouldn't be taken at face value by educators or learners (Perrotta & Selwyn, 2020). With ChatGPT, learners can support their write up, do their

assignments, and answer querries. Teachers can now utilize AI writing detection algorithms to determine whether or not their students are cheating, which is satirical. Occasionally, though, those systems might incorrectly identify a student's original work as derivative content (Makarius et al., 2020).

If students interact with a computer program more than they do with an instructor, they may begin to feel isolated and alienated. Their motivation and participation might wane, which would increase the likelihood of dropouts (Holmes, Bialik, & Fadel, 2019). Artificial intelligence presents significant potential as a useful tool in education. Some educators worry that AI may take their position (Dong, 2023).

Pros of Artificial Intelligence

Teachers that have experimented with AI have discovered that it can simplify a variety of tasks for them, including coming up with ideas for student projects, quizzes, and lesson plans. With artificial intelligence supporting them, educators have more time to dedicate to their kids. When their teacher is not there, students who feel "stuck" on an assignment can get prompt, beneficial support from artificial intelligence apps. For example, to be reminded of the processes involved in solving the relevant problem, a student could ask how to solve it. Better yet, students can ask ChatGPT for guidance and materials on practical methods to enhance their writing abilities, and the platform will get back to them straight away (Leoste et al., 2021).

Children can receive tailored education with the aid of AI technology. For example, ChatGPT can translate text into another language fast and easily, which helps non-native speakers of that language with their tasks. Furthermore, ChatGPT can modify content to make it suitable for a variety of grade levels and tailor projects to students' interests and ability levels (Anyim, 2021). It was discovered that an AI tutor helps students understand how symbolism is represented. The AI teacher answered all the questions the student asked, and the student asked a lot of questions. The AI tutor's response was not only accurate but also appropriate and well-mannered. Students could utilize AI to talk about any and all problems they can't seem to solve (Forbes, 2018).

Artificial intelligence (AI) has the potential to personalize training to each learner by assessing their performance. Lev Vygotsky recognized the necessity for scaffolding, which is provided to students when they encounter minor difficulties. The area of support is designated by the Zone of Proximal Development. the best ways to support those students to improve their educational experience (Chen, Chen, & Lin, 2020).

Methodology: This research study was conducted using the positivist ideology and an exploratory, qualitative research approach. The study's problem was investigated using the data from the secondary source. To explore the integration of Artificial Intelligence (AI) to transform learning opportunities, relevant research studies were gathered from earlier journals and articles published on the specific topic or some related topic through browsing and review. Secondary data refers to information or data that has already been gathered and is already available to address research questions and meet study objectives. The cost-effectiveness of this strategy and procedure was the deciding factor. Furthermore, it facilitates the researcher's understanding of the work's concept. The researcher has read through every article, journal, website, and research paper on this issue or one that is closely linked to it in order to gather facts and information. For the purpose of doing this research study, the information gathered from earlier journals, research papers, and articles was found to be highly instructive. The development of thematic analysis involved examining the characteristics of the article that were part of the investigation to determine the significance of artificial intelligence in higher education.

Table 1: Thematic Analysis

Theme	Category	Code	Transcript
Artificial Intelligence (AI) and Learning Opportunities	Students` Behaviour towards Artificial Intelligence (AI), Active and Passive involvement	Resources, Social Media Involving AI, Usage, Advantages, Disadvantages, Revolutionizing learning outcomes.	It is observed Under the theme Artificial Intelligence (AI), that the students` active involvement has prominently increased at the same time passive or reversed effect is also measured with low mental involvement that results in decreased conceptual involvement to develop own ideas and in-depth understanding

Findings: Thematic study shows that artificial intelligence (AI) has a valuable role in improving educational quality. Students' behavior toward learning outcomes is improved. Additionally, it aids in the development of numerous soft applications that improve learning chances and the standard of instruction. With the aid of artificial intelligence (AI), students may now respond to questions that come up both inside and outside of the classroom. With the quickest and most straightforward answers to all of the questions, it improves student learning. The researcher in this study highlighted the importance of artificial intelligence and learning opportunities. Artificial intelligence (AI) enhances learning opportunities while also having unintended consequences. It is demonstrated by the study's theme analysis, which contends that in addition to its benefits, AI has a negative influence on human mental capacity. It facilitates content development without mental strain, which counteracts human aptitude. It is noted that the Artificial Intelligence (AI) theme has resulted in a notable increase in students' active involvement and learning opportunities. However, a passive or reversed effect has also been observed, with low mental involvement leading to decreased conceptual involvement to develop original ideas and in-depth understanding. mental engagement aids in the formation of original ideas. The results of Gocen and Aydemir (2020), which advocated that while most participants seemed to have positive views of AI, there are some drawbacks as well that academics and educators have specifically brought to light with relation to the future of education, are consistent with the findings of this research study. While researchers see artificial intelligence (AI) as a tool to raise standards and benefit all parties involved in the education sector, usually focus more on the permissible arguments for AI in education and possible future problems. The research study's findings are corroborated by those of Gocen and Aydemir (2020), who insisted that while most participants seemed to have positive views of AI, there are certain drawbacks as well that academicians and educators have specifically brought to light in relation to the future of education. While different researchers belonging different fields of life see artificial intelligence (AI) as a tool to raise standards and benefit involved in the education sector, attorneys and jurists usually focus more on the legal arguments for AI a source of inspiration in education and probably an inordinate problem solver (Gocen, & Aydemir., 2020).

The mental engagement that results in the production of novel ideas that include human practical efforts and engage humans in subtle trials that seem to be helpful for mental and physical health enhances critical thinking and abstract learning. Furthermore, since artificial intelligence can manage several problem-solving jobs at once, its sophisticated problem-solving capabilities cannot be disregarded. In light of the research findings, this study declared that artificial intelligence (AI) has a place in improving the caliber of education. The way students behave in relation to learning objectives has improved. It also facilitates the creation of various methods that raise teaching standards and learning opportunities.

Artificial intelligence (AI) has made it possible for students to respond to inquiries from both within and outside of the classroom with the quickest and clearest replies possible, which enhances student learning. The study emphasized the value of learning opportunities

and artificial intelligence. The study's thematic analysis reveals that while artificial intelligence (AI) increases learning opportunities, it also has unintended consequences. Specifically, it suggests that in addition to its benefits, AI negatively affects human mental capacity. This research project can prove to be more supportive in the forthcoming for enhancing online teaching and learning. By expanding students' perspectives on the future, AI is used to improve the excellence of instruction. This research could contribute to the future development of artificial intelligence by improving its many elements and increasing its value in improving teaching techniques and methodologies that boost students' learning probabilities.

Conclusion: The use of AI in education has the potential to suggestively improve students' educational experiences. AI has the capacity to advance student collaboration, offer instant feedback, and personalize learning. To optimize the advantages of AI in education and guarantee a comprehensive learning experience for students, however, cautious thought must be given to privacy, ethics, and striking a balance between AI and human instruction. In addition, the study's theme analysis reveals contradictory findings, arguing that artificial intelligence (AI) has a negative influence on human mental capacity in addition to its benefits. Furthermore, it is discovered that the advantages are given a higher weight than the disadvantages. Artificial intelligence has been shown to be helpful in generating learning chances, but it also has disadvantages in that it perceives humans as being lazy. using their cognitive abilities less, which could have an impact on their psychological well-being.

Recommendations: Artificial intelligence's capacity to expand learning opportunities should be measured when evaluating its future potential because it has the ability to make learning more approachable, simple to understand, and interesting. Since artificial intelligence affects problem-solving techniques as well, students should take this seriously and engage in constructive activities that might help them improve their conceptual comprehension of the material. It needs to be utilized to comprehend the subject matter and quickly cultivate a desire to study. Students from many fields should use instead of harming their conceptual understanding as a tool for problem-solving.

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