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CAN ARTIFICIAL INTELLIGENCE REPLACE TEACHERS? – AN ANALYSIS OF SHIFTING PARADIGMS IN EDUCATION

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Abstract

People will have differing opinions about artificial intelligence and teachers according to their individual experiences and viewpoints. Only their current industry performance and output will be used to make this conclusion. Teachers have been teaching for ages, and they continue to do a good job at it. And it remains an unquestioned fact that teachers have had a significant impact on the lives of students across ages. Meanwhile, artificial intelligence is a new technology that is quickly gaining traction across many industries. We shall only focus on the topic of education because it is the extent of our research. Teachers have demonstrated their value by advancing society's understanding and evolving with the times. They do this by using a variety of strategies, instruments, examples, properties, songs, stories, charts, diagrams, and much more to help learners understand what they are learning. Teachers utilize artificial intelligence as one of their teaching aids.

Artificial intelligence is used by teachers to assist them with their tasks and simplify their work so they may concentrate on other things. The real challenges came when teachers were suddenly expected to use technology and teach students using technologies that they had never heard of. Still, the biggest surprise is that teachers embraced the challenge, acquired how to use technology, and reached out to students on every screen of laptops and mobile devices during the Pandemic lockdown.

The role of artificial intelligence expanded in response to this difficulty because many faculties were still finding it difficult to keep up with technology. With its simple applications, AI helped to lighten the workload for both teachers and students. Since Covid, there has been a significant increase in the use of AI tools. This begs the question of whether AI will someday replace educators. The paper delves into the possibilities, questions them and provides a possible answer, looking at the situation from one of the angles of the kaleidoscope, understanding that there could be multiple possible answers to it.

Keywords: *Artificial, Intelligence, Technology, Impact, Applications*

INTRODUCTION

"Can artificial intelligence replace the teachers?" is one of the most discussed and well-known questions among the numerous stakeholders involved in the education sector. In this analysis, we will go into great detail about artificial intelligence, its effects to date, how it can replace teachers in the classroom, and what initially inspired people to ask this question.

Artificial intelligence (AI) is being integrated into many facets of education due to its rapid improvements, which has raised concerns about how this could affect traditional teaching responsibilities. While AI can offer valuable support and enhance certain aspects of education, the complete replacement of teachers by AI is a complex and multifaceted issue.

Proponents of AI in education argue that it has the potential to personalize learning experiences, provide immediate feedback, and offer tailored resources to meet individual student needs. Large volumes of data can be analysed by AI-powered systems to find learning trends and modify content accordingly. AI can also help with remote learning, opening up access to education for more people.

However, critics express concerns about the irreplaceable human elements of teaching, such as empathy, mentorship, and the ability to understand and respond to the emotional and social needs of students. Teaching involves more than just imparting knowledge; it encompasses the development of critical thinking, creativity, and interpersonal skills, which many argue AI lacks the capacity to fully address.

Significant concerns over the direction of education and the possible influence of AI on it are brought up in this discussion. It is critical to take into account the pedagogical, ethical, and societal ramifications of incorporating AI into educational settings as technology advances. This investigation calls for a sophisticated comprehension of the advantages and disadvantages of both artificial intelligence and human instructors in order to find a middle ground where technology may be used to its fullest potential while maintaining the vital human elements of the educational process.

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ABOUT ARTIFICIAL INTELLIGENCE !

Artificial intelligence is a science-based computer system that can perform functions such as data calculations, pattern recognition, and language processing; it automates complex processes, reduces the time required for time-consuming tasks; and it automates self-driving. Auto-generative tools such as ChatGPT, paraphrasing, Google's bard, Google Search, and Google Maps are excellent examples of AI-powered applications.

The creation of computer systems that are capable of carrying out tasks that normally call for human intelligence is known as artificial intelligence. In addition, learning, reasoning, problem-solving, comprehension of natural language, and perception may be included in these tasks. AI aims to build machines that can simulate cognitive processes, including data analysis, decision-making, and situational adaptation.

There are two primary types of AI: General or Strong AI and Narrow or Weak AI. Narrow AI is intended to carry out a single function, like language translation or facial recognition. It is competent at the assigned task and functions well inside its restricted realm, but it cannot extend its intelligence to other domains. On the other hand, general artificial intelligence (AI) seeks to be intelligent enough to mimic a human being in a variety of contexts by understanding, learning, and applying knowledge to a wide range of tasks.

Applications of AI can be found in a wide range of industries, including banking, healthcare, autonomous cars, and even education. The field of artificial intelligence is always changing as a result of technological advancements, offering both new opportunities and difficulties. In the continuous conversation surrounding artificial intelligence, ethical considerations, the influence AI will have on the labour market, and the necessity of responsible research and implementation are all crucial points of contention.

How is AI replacing various professionals?

We can see positive change and progress in all disciplines quite quickly, and we have begun to incorporate technology, applications, and tools into all aspects of daily activities to ensure seamless operation in both professional and personal life. Everyone has begun to adopt the concept of smart work by not wasting time on time-consuming jobs that may be simply completed with programs such as. Alexa and Siri are examples of AI-powered assistants that help us perform our many tasks and are relied on by millions of people. Aside from this, there are a variety of applications that are used by professionals, researchers, educators, students, and others based on their needs. Such technologies assist individuals in writing paragraphs, correcting spelling, identifying grammatical problems, and replacing them with the correct ones. The number of users of AI-powered tools has been gradually increasing; initially, it was used as an assistant for professionals to check and correct errors, but as time passes, such tools are now used to complete tasks from scratch, and we have become its assistant to simply assist it in getting things done.

Jobs such as tax preparation, budget and financial analysis, technical writing, and web development are totally replaceable by artificial intelligence, and according to the research, technology has replaced more than 30% of experts and workers.

AI is gradually impacting various professions and industries by automating certain tasks, streamlining processes, and augmenting human capabilities. While it's important to note that AI isn't necessarily replacing entire professions, it is transforming the nature of work within many fields.

Automation systems and robots powered by AI are being utilized more often in manufacturing to do activities like quality control, assembling, and welding. Increased accuracy and efficiency from these technologies translate into increased production rates. Artificial intelligence (AI)-powered chatbots and virtual assistants are used in customer support conversations. They can respond to standard inquiries, offer details, and even help with problem-solving. This frees up human customer care agents to concentrate on more intricate problems that call for compassion and in-depth knowledge.

AI is playing a significant role in healthcare as well, assisting with diagnostics, and personalized treatment plans. Diagnostic algorithms can analyse medical images, such as X-rays and MRIs, and provide insights to healthcare professionals. AI is also used for predictive analytics to identify potential health risks. Even In the financial sector, AI algorithms are used for tasks like fraud detection, algorithmic trading, and credit scoring. Large volumes of financial data may be swiftly analysed by AI systems, which can then use patterns and trends to forecast outcomes or make choices.

AI is also employed in legal research, contract review, and document analysis. Natural Language Processing (NLP) allows AI systems to understand and generate human-like text, making it useful for tasks that involve extensive reading and analysis of legal documents. The development of autonomous vehicles relies heavily on AI technologies, including machine learning and computer vision. AI is used for navigation, obstacle detection, and decision-making in self-driving cars, trucks, and drones.

It's crucial to emphasize that while AI is automating certain tasks within these professions, it often works in collaboration with human professionals. Many tasks require a combination of AI's computational power and human expertise, especially in areas that involve complex decision-making, emotional intelligence, and ethical considerations.

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In what ways can AI replace teachers?

Teachers' jobs are not Restricted to teaching; they are also responsible for a variety of other duties. It covers a wide range of skill sets that are required for lecturing, mentoring, classroom management, and student management, etc. Artificial intelligence was created with the purpose of assisting teachers in daily jobs such as calculating, generating answers using ChatGPT, Grade scope tool to grade students, AI Algorithm helps analyse and offer recommendations for the students based on their needs, Teachers employed smart content creation, collaborative learning, task automation, real-time input, and data obtained using AI tools to construct tailored instructional schedules for their students. However, it has been noticed that teachers have begun to rely on AI tools for the majority of their work, as a result of which many teachers have stopped conducting research, discussing with pupils, and solving problems. This predicament will push pupils to seek solutions from AI-powered tools and applications, thereby replacing professors.

While AI has the potential to complement and enhance the role of teachers, there are certain aspects of teaching that are challenging for AI to fully replace. However, AI can be applied in various ways to support and augment the teaching process:

- Personalized Learning: AI may adjust instructional content based on an individual student's learning preferences, styles, and performance data. Customized exercises, feedback, and resources can be provided by personalized learning platforms in real-time to cater to the individual needs of every learner.
- Automated Feedback and Grading: AI is capable of automating exam, quiz, and assignment grading. Algorithms for machine learning are able to assess responses and give pupils immediate feedback. This frees up teachers to concentrate on more intricate facets of teaching, such leading conversations and attending to the needs of specific students.
- Content Delivery: AI-powered educational tools can deliver instructional content in engaging and interactive formats. Virtual tutors and chatbots can answer students' questions, explain concepts, and provide additional support outside the classroom.
- Language Learning: AI-driven language learning applications can offer personalized language instruction, including pronunciation feedback, vocabulary building, and conversation practice. These applications can adapt to individual progress and tailor exercises to reinforce specific language skills.
- Automated Lesson Planning: AI algorithms can assist teachers in developing lesson plans by analyzing curriculum requirements, student performance data, and educational trends. This can save teachers time and help ensure that lessons are aligned with student needs and learning objectives.
- Specialized Tutoring: AI tutors can provide additional support to students in specific subjects, offering targeted explanations and exercises. This is particularly valuable in scenarios where individualized attention is necessary, such as in special education or in addressing learning gaps.
- Assessment and Analytics: AI can analyze large datasets to identify patterns and trends related to student performance. This information can help teachers make data-driven decisions, such as adjusting teaching strategies, identifying areas of improvement, and implementing interventions for struggling students.

How Can AI not replace the teachers?

There are still numerous areas where technology will never be able to replace teachers, even while AI tools and applications are beneficial resources for both educators and pupils.

Along with teaching, instructors play a variety of functions, such as therapists and counsellors, guides and friends, mentors, and philosophers. During the learning phase, students encounter a variety of issues, including family, social, personal, and financial. Students require someone who listens and guides them without asking questions, offers mental health care, and understands their emotions. AI will never be able to deliver the same level of personalized instruction and guidance that a teacher can. When the teacher enters the classroom, he leaves all of his worries outside the classroom, forgets all of his personal problems, and devotes himself completely to the students with grace, maintaining a great vision for the students, spreading lifelong learning, and treating the students with respect. AI will never be able to impact students' lives in such an enormous way.

While AI has the potential to offer valuable support and enhancement in education, there are several aspects of teaching that are inherently human and challenging for AI to replace. Here are some reasons why AI cannot fully replace teachers:

- Emotional Intelligence: Teachers play a crucial role in understanding and responding to the emotional needs of students. They provide encouragement, motivation, and support, creating a positive and nurturing learning environment. AI lacks the emotional intelligence to form meaningful connections with students and respond empathetically to their emotional states.
- Adaptability and Creativity: Teaching often requires adaptability and creativity to address the diverse learning styles and needs of students. Teachers can adjust their approaches based on real-time feedback, assess the class dynamics, and introduce innovative teaching methods. AI, while capable of some level of adaptation, may struggle with the unpredictable and dynamic nature of a classroom.
- Moral and Ethical Guidance: Teachers serve as moral and ethical guides, imparting values, principles, and critical thinking skills. They engage students in discussions about ethics, social responsibility, and

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citizenship. AI lacks the ability to provide nuanced ethical guidance and foster the development of moral reasoning in students.

- Building Relationships: Teachers establish meaningful relationships with their students, creating a sense of trust and support. These connections have a substantial positive impact on students' personal development and the entire learning process. AI lacks the capacity to build authentic, interpersonal connections that are fundamental to the teaching process.
- Motivation and Inspiration: Teachers inspire and motivate students to explore their potential, set goals, and overcome challenges. They recognize and celebrate individual achievements, fostering a positive attitude toward learning. AI may struggle to provide the same level of personalized motivation and inspiration.
- Social Skills Development: Teaching involves not only academic instruction but also the development of social skills, teamwork, and effective communication. Teachers facilitate group activities, discussions, and collaborative projects, fostering a sense of community and interpersonal skills that AI cannot replicate.
- Dynamic Classroom Management: Teachers manage the dynamics of a classroom, adapting their teaching style to maintain engagement, address behavioral issues, and create a conducive learning environment. Responding to the diverse needs and behaviors of students requires human intuition and experience.
- Holistic Understanding of Students: Teachers often have a holistic understanding of their students, considering academic, social, and emotional factors in their approach to education. They may adjust their teaching strategies to meet the unique needs of each student thanks to this all-encompassing perspective.

The Importance of teachers

We have all known the worth and relevance of a teacher in our lives since the time of Shree Ram and Shree Krishna. Great instructors have established standards for future generations by demonstrating the value of teachers. No technology or application can perform at the same level as a teacher; AI-powered applications are simply tools to aid teachers in making the teaching process easier for them and learning easier for their pupils. Students and teachers should not rely solely on such applications for learning. Teachers have contemplative responsibilities in their pupils' lives. Teachers motivate students based on their observations and needs; students' willingness to learn stems only from their professors. AI cannot conduct behavioural assessments of students. It lacks the light-heartedness that encourages the students to learn. It cannot shape the character of kids in the same way that teachers can.

CONCLUSION

When comparing teachers to artificial intelligence, we must remember that teachers come from all walks of life, and everyone has someone to go to for guidance. Alexa and Siri will only speak about what is asked of them, whereas teachers will not wait for a specific session to deliver the concept. GPS must show us the direction, but that direction is set by us independently whether right or wrong, whereas teachers observe us, select the best careers for us, and prepare us to obtain them. Even the term "artificial intelligence" implies that it is artificial, but teachers have demonstrated throughout history that they are Original Intelligence.

While AI can assist with these aspects of teaching, it's essential to recognize the unique qualities that human teachers bring to education. Human educators excel in fostering emotional intelligence, building relationships, and providing a holistic understanding of students' needs. Empathy, creativity, and adaptability are crucial elements of teaching that are challenging for AI to replicate. While AI can automate certain aspects of education and offer valuable support, it is unlikely to fully replace teachers. The human qualities of empathy, adaptability, creativity, and the ability to build meaningful relationships are integral to the educational experience and contribute to the holistic development of students.

The best application of AI in education is probably going to be collaborative, with AI tools helping instructors do their jobs so they can concentrate on the parts of teaching that call for human intuition and interpersonal skills. Ethical considerations should direct the incorporation of AI, ensuring that it improves education without jeopardizing students' holistic development.

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