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A study on collaborative learning methodology using AI

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Abstract:

Through collaborative learning, students can pool their skills, knowledge, and experiences to better understand and support one another. Two of the most fundamental components of collaborative learning are the assignment of students to groups and the social contact with peers that facilitates information gain. In a new educational approach called "blended learning," which combines conventional and contemporary learning paradigms, students' contacts with and education from their digital devices do not entirely replace their interactions and education from their traditional teachers. However, there are several obstacles that prevent educators from fully comprehending and putting blended learning concepts into practice. There have been a number of difficulties in implementing mixed learning strategies due to the differences in how well they

Keywords: artificial intelligence, collaboration learning, problem solving.

Introduction:

Collaborative learning that leverages AI emphasizes core values such as empathy, inclusivity, and justice. The use of AI and machine learning techniques facilitates this approach to education. This method acknowledges that the conventional classroom model, which prioritizes individual success and competition, can be stifling and may not adequately equip students for the complexities of contemporary society (Alenazy, Mugahed Al-Rahmi, and Khan, 2019). In contrast, collaborative learning focuses on problem-solving, teamwork, and enhancing communication skills, while also promoting peer-to-peer learning. Artificial intelligence (AI) can offer personalized feedback, pinpoint knowledge deficiencies and areas needing improvement, and connect students with suitable learning partners based on their interests and strengths.

Snippets of sections:

Collaborative learning techniques, For a study group to be successful, collaborative learning is a skill that must be taught. To make sure that kids have the abilities needed to collaborate well, teachers must do more than just put them in teams. Sharma and Wang (2019) assert that for students to work together, they must be taught and practice specific skills like roleplaying and brainstorming, as well as communication skills like active listening, questioning, and restating solutions.

The established learner model acts as a foundation for creating a tailored learning strategy for a specific group of learners. This developed strategy directs the group during their collaborative learning activities. The interactions and actions of the learners within the group provide data for assessing the effectiveness of the collaborative process. Furthermore, the outcomes of this evaluation are utilized to enhance the learner model (Refat et al., 2020). The design encompasses six distinct groups.

How AI is currently Affecting in Education

The incorporation of Artificial Intelligence in education has emerged as a significant issue due to its rapid transformation of learning experiences. What implications does this have for children? Is there a change for children resulting from the integration of AI into their educational journey? The use of Artificial Intelligence in education has the capability to fundamentally transform the learning landscape for all children. Numerous schools nationwide are already implementing AI, and it is important for you to understand how it can enhance your child's learning experience.

Although technology has always been a significant part of education, its usage is now more widespread than ever before because of the growing availability of smart devices and web-based curricula. Artificial intelligence is being applied in education in a variety of ways to support students' learning. These are some AI-powered technologies that are already having an impact on education and will continue to do so.

What exactly Education is currently carrying out with AI "Microsoft and McKinsey's recent report of over 2,000 students and 2,000 teachers from Canada, Singapore, the UK, and America shows that artificial intelligence (AI) is already providing teachers and schools with innovative ways to understand how their students are progressing, as well as allowing for a fast, personalised, targeted duration of content." Artificial Intelligence's Applications in Education

Chatbots:

Students may soon use AI-powered instructional tools like chatbots. These are being incorporated into classrooms more frequently, as students use iPads or computers to communicate with chatbots that are made to help them grasp particular subjects like reading comprehension or math. It's feasible that chatbot tutors may be used for purposes other than teaching pupils new material; they might even be used for analysis when necessary. For its technical roots, chatbots are the way of the future. It shortens the time that teachers are given the same work. When parents meet, chatbots might take the place of email correspondence between parents and instructors in classrooms.

Virtual Reality (VR):

Virtual reality is one new educational innovation that is being used for everything from history instruction to arithmetic tutoring. People can explore and engage with a three-dimensional computer-generated environment called virtual reality. By incorporating experiential learning into their lessons in novel ways, virtual reality educators are genuinely

influencing what it means to be a student. Virtual reality is an excellent tool for fostering a sense of community among pupils. They can safely communicate while still being separated by distance when they are in different classrooms but are using the same virtual reality program. Students can investigate topics that they might not otherwise be able to view or learn about in real life thanks to virtual reality. Teachers are no different. There are more interesting ways for teachers to instruct their students to make them learn in their studies. Virtual Reality is more immersive than spending more time in front of a system generated environment. For both teachers and students, deeper knowledge and increased engagement are just two advantages.

Learning Management System (LMS):

At that time, one of the most important things is recognizing the results of the educational field. One of these results is the use of the training management system. A learning management system provides a centralized, intuitive system for managing all of your school's online activities. This application are also used to complete students assignments in course work, communicate with students and parents, track learners progress, also generate a report on learners progress.

Many topics can be learned using these LMS and AI software. Learners can get help using intelligent digital tutors powered by AI, helping them solve problems and providing the right answers to solve their problems. Artificial intelligence can also be used to create learning management systems that can understand how students think and help them learn better. Nowadays, we are seeing LMS systems that allow teachers to create content and parents to track their child's progress in the system and evaluate it using AI engines. This reduced the class management time, better understood the child's progress, and reduced teachers' workloads. LMS is a very valuable tool for teachers and students.

Robotics:

Artificial intelligence-enabled robotics in education has been on the rise in recent years. Both teachers and students are now using them to aid in education, which may increase student engagement and safety. With the current development of AI, robotization in education is inevitable. Bots can be a great learning resource for students and teachers, helping them learn subjects in depth without getting bored. For teachers, this means the robots can provide a way for them to spend more one-on-one time with students who need extra help, and they can also try out new ways of teaching, which is important when reaching different types of learners. It's an opportunity for students to learn something new without the pressure of being the only person in class or having their mistakes criticized by their peers. Robots can give them the space to not feel embarrassed if they don't understand something right away. Robotics is vital for students because it can teach them that engineering is more than just solving problems on paper or doodling on a mat. They can see the results of their efforts and the end result.

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1. **Basic educational tasks, such as grading, can be automated by AI**.

Even though AI isn't quite ready to completely replace human grading, it's getting close. Academics presently can change the way that almost all multiple-choice and fill-in-the-blank tests are graded, and automatic student essay grading may not be that far behind.

2. **Students could get additional support from AI tutors.** Although these programs will teach students the basics, they are currently not the best at helping students develop higher order and creative thinking skills, which are still something that real-world instructors must help students with. However, that shouldn't rule out the possibility that AI instructors will eventually be able to attempt these things.

3. **AI-driven programs can give students and educators helpful feedback.**

AI can not only help teachers and students create bespoke courses based on their needs, but it can also provide feedback to individuals on their success throughout the course. These kinds of AI systems can help students evaluate their support and find areas where teachers can improve their instruction.

4. **It could change the role of teachers.**

Teachers will always have a role to play in education, but that role and what it means may change with new technologies related to intelligent computing systems. As we've already seen, AI is expected to take over tasks such as grading, help improve student learning, and even replace real-world tutoring.

Latest Applications of Artificial Intelligence recent trends real world.

There are various fields where AI has an impacted on it

1. AI in Marketing: The use of artificial intelligence (AI) in marketing has increased due to its practical significance in both present and future industries. Due to the vast and wide-ranging scope of research papers on AI in marketing, the meta-synthesis of current studies is essential for identifying future research topics.

2. AI in Banking: One technology that is becoming more and more significant for the banking industry is artificial intelligence (AI). It can assist banks in enhancing customer service, fraud detection, and money and investment management when utilized as a tool to support internal processes and client-facing applications. With the ability to completely change the market and decide which businesses succeed, the emergence of AI technology has increased the significance of digital transformation.

In particular, the banking sector absorbs the desired advantages of AI technologies. Customers wish to gain experience in the digital bank: applications where they can learn more information on the services provided, interact with virtual or assistants and better manage their finances. Companies need to improve the user experience to satisfy these customers, and implementing and developing AI solutions is the way to achieve this.

While AI is powerful on its own, combining it with automation opens up even greater potential. AI-powered automation combines the intelligence of AI with the repeatability of automation.

For example, AI can analyze the data to the Robot Process Automation (RPA), analyze the data more appropriately, and perform the action based on what AI is optimal.

3. AI in Finance: Artificial intelligence (AI) is still a rapidly evolving field. In the decades to come, these new technologies—which enable computers and machines to simulate human learning, comprehension, and problem-solving—will be incorporated more and more into our everyday lives. The financial sector is certainly not an exclusion. The financial services sector there are expected to be impacted by these technologies, particularly the noteworthy more recent advancements in generative artificial intelligence. Today, I will discuss some of these recent, potentially important changes and their potential impact on financial stability.

Analysis and case study

Collaborative learning encompasses various instructional strategies aimed at enhancing both cognitive and social growth among students. While we have previously discussed several effective techniques, there are additional methods worth mentioning. The Jigsaw Method involves dividing the class into smaller groups, where each student becomes an "expert" on a specific topic and subsequently instructs their peers. Furthermore, the think-pair-share technique promotes collaboration and critical thinking by encouraging students to engage in discussions with one another.

Conclusion

In summary, the integration of AI-driven, value-focused collaborative learning has the potential to revolutionize education and establish the Centre for Innovative Education. Through the use of artificial intelligence, students can engage in collaborative efforts that enhance critical thinking, problem-solving abilities, and social interactions. The aforementioned principles, when combined with AI technologies, create a vibrant and inclusive educational atmosphere. The Centre for Innovative Education will enable students to take an active role in their learning, share ideas, and cultivate essential skills for the contemporary world.

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