STUDY ON NEW TRENDS IN EDUCATION USING ARTIFICIAL INTELLIGENCE IN VIRTUAL LEARNING

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abstract
Computer has been used in Education for so many years now, Over the years we used CBI(Computer Based Instruction) and CAI(Computer Assisted Instruction) were the first computer based system to virtual learning[12]. but these types of systems are not individualized to the learner needs. They may be helpful to the learner to learn but are not capable of giving individualized attention to the learners which they can received from home tutor. This has given prompt to Artificial Intelligence in Virtual Learning. Education and artificial intelligence (AI) are two sides of the same medal: education helps learners learn and expand the accumulated knowledge of a society, and artificial intelligence (AI) provides techniques for understanding the mechanisms underlying thought and intelligent behavior[13]. Because of this, today's artificial intelligence-assisted e-learning scenarios are widely used by educational institutions to provide better teaching and learning experiences throughout their training activities. this paper will focus on three tier First, use Artificial Intelligence for teaching and student learning. Second, learning and teaching as part of human information processing system. And third, how to show that intelligent information system can be used in training and classroom situation. This paper addresses different trends of AI in Virtual learning and AI application is used in virtual learning. Researcher has used doctorinal Method to study on AI using in Virtual Learning.
Keywords: Artificial Intelligence Applications, Classroom situation ,Virtual learning, Individualized attention, intelligent information system, Human information Processing.

INTRODUCTION:
Overview of Virtual Learning
Culture for us in education is always like, The teacher used to delivered the session or subject material to learner in lecturehall.where teacher used to have complete control on student   and learning environment. where as, The virtual learning is the way to transmit the knowledge to the learners. Class based learner's is required to gain knowledge in same pattern NO matter how much they have previous knowledge about that subject. so to overcome that Artificial intelligence comes in picture for Virtual learning.AI is to Virtual learning for learner as well as teacher or instructor for clear their doubts and learn subject as their human processing system. it mainly focus on learner basic understanding of that particular subject and give opportunity to learner to explore topic the way they wanted to understand and solve problem and have own space to study on subject and allow instructor also to give feedback for each individual learner. And make easy to keep eye on each learner progression.

Overview Artificial Intelligence:
Artificial intelligence algorithms are used to design e-learning environment (copies). The use of artificial intelligence (AI) techniques is beneficial to learners in this sense [7].
Artificial intelligence linked E-learning to "mainstream" computer science studies, time-sharing, interactive interpreters, linked list data types, automatic storage management, and so on[8]
the key concepts of artificial intelligence are object-oriented programming and graphical user interfaces and integrated program development environments. Artificial intelligence (AI) is in the pattern with evolutional algorithms, fuzzy logic, and neural networks concepts [8, 9]

Three main reasons to introduce AI in Virtual learning:
1.Artificial Intelligence for teaching-student learning: Student-centered learning is not possible to class base learning or online learning also.online learning provide platform to teacher and student to stay connected to virtually but not given personalize attention to every learner, this overcome when AI come in picture for taking session Virtually for learner.
2. Learning and teaching as part of human information processing system: Every human is having different capacity and capability to gain knowledge during session. Some learner is having fast learner because prior knowledge about that subject or fast human processing system.that difficult for other learner in same classroom who don't have prior knowledge about that subject. So to overcome that AI introduce in learning system.
3. Intelligent information system can be used in training and classroom situation: With help of AI system learner keep himself open for analyze topic by his own way. It help learner to understand topic as per his convenience and his capability of understanding topic.

Different Type of Trends AI in Education:
Artificial intelligence (AI) leads to the development of a wide range of artificial intelligence tools as theory and practice. Sometimes, these tools, working under the guidance of a human being and sometimes without an external guide, can solve or help solve a growing number of problems. Artificial intelligence (AI) has produced many important results for students, teachers, the general education system, and societies over the past 50 years (Figure 1) [10–12]
1. Adptive Learning:
Smart content is the solution for virtual learning this one of intelligence applies using rule based system. it create smart content according to student individuality and this allow student to complete course using that content on their self space
Apps like Cram101, from Content Technologies, use AI to break down a textbook into a digestible study guide, with chapter summaries, practice tests, and flashcards.[10]
2. Intellegent Tutoring System:
This system helps to solve misconception of learner-teacher and gap of human knowledge with stored knowledge of computer. it give feedback to student about what they gain knowledge from software and try to improve them online by software assistant during session. it help to student as well as teacher to gain feedback of each student. it also help student to rephrase question if someone find difficulty with any question it breakdown small questions in level wise format and student then at end by solving all level they understand that difficult question also. Its combination of domain model and padeological model.
It help teacher also to get understand each student learning capability and it help teacher to assist them accordingly. This type of AI software help teacher to focus on student as mentor rather only teacher and help teacher to make record of each student and admin work like attendance grading for each student And assessment is also easy for the teacher using ITS.
3. Virtual Facilitator:
This is one of fastest use of AI in Online Learning in future. What if you will get virtual character instead of physical teacher to communicate with you anywhere anytime for gain your knowledge on any point. What if Chatbot type application helps you to solve your problem.
Virtual Facilitator is one of those types in AI which help learner to learn things with help of virtual character which provide by Application.

Application of AI in Virtual learning:

Personalized Learning[11]:
Ai is help for personalizing learning for each student. With the employment of the hyper personalization concept[11] which is make sure student should learn things in their way with respective learning capability.AI help to create learner profile and according to that they design material for them on individual basis.

Voice assistants are in.[11]:
voice assistants are one of AI component for helping teacher to educate learner. These include Amazon's Alexa, Apple Siri, Microsoft Cortana, etc.[11]These **voice assistants** allow the student to learn things without help of teachers.

Aiding educators in administrative tasks[11]:
Teacher are never occupy with only teaching they have other responsibility of college work which include assessment of essay , exam papers grading, dealing with the necessary paperwork, handling HR and personnel-related issues, arranging classroom materials, Manage field trips, Communicate with parents, keep record with sick or absentees, as well as providing a learning environment.

Breaking barriers[11]:
AI help student to access classes globally in the world with or without disability and interactive language also For instance, Presentation Translator is a free PowerPoint plug-in that develops subtitles in real-time of what the teacher is saying.[11]

Differentiated and individualized learning[11]:
Adjusting learning on the basis of the specific requirements of individual students has been the priority of educators for years, yet AI will enable a differentiation level, that is highly complicated for teachers who have to handle 30 students in every class.[11]

6.Smart Content[11]:
Smart content is another apporoch which familiar to evey student and Most of learner comfortable with this techniques. it makes learning more simple.
When we refer to smart content we actually imply varying types of virtual content that includes digitized guides of textbooks, video conferencing as well as video lectures.[11]
An example of one such platform is Netex Learning. The platform enables professors to develop, manage as well as update digital content in a single location.[11]

Impact of AI in virtual learning For Education Industry:
1. Automation of Admin work: While teaching to student every teacher need to monitor and keep track Student attendance and assessment for their Paper and making mark sheet for each student manually .that was tedious job for teacher to do that because it took lot of time. Thus, use of AI in virtual learning is save teacher time from that admistrative work by providing online attendance and creates paper like multiple choice questions etc. so assessment workload will decrease since automation of paper checking and all. This automation is help to teacher or instructor to spend more time for innovation and interact with learner that give best result for learning something new.
2.Flexibility: Since everything is automation so flexibility for student to attend session as well as teacher also is easy
3. Student-centered learning: AI in education helps Teacher to understand potentiality of every student to learn as per their human processing system.
4. Helpful Remarks: AI in virtual learning is help to teacher as well as student to see where they lack of learning. And to understand needs of learner according to that teacher also can make study plan for student

5.Accessible for all Student : AI in Virtual learning is follow "live anywhere learn anywhere's even student is living anywhere across the world still they can learn. It overcomes from the entire problem which affect of physical aspect.

6. Infrastructure Cost decreases: as student and teacher used application for conducting session so college building/campus dependency is decrease. Student can attend session online while seating at home or anywhere in the world they lived.

Future scope AI in Virtual Learning:
1. Understand human language to help to learner to solve their problem.
2. possibility for recognize learner facial expression
3. shows the Invisible Information

Conclusion:
According to research finding AI in education is best practice for Virtual learning Most of education system follow hybrid technology in their system so that student can get help from AI application to solve their problem and teacher also get feedback of all the student in certain manner and its easy for student to sit at home learn things whenever they want. and it helps student to gain knowledge by teacher assistant on basis of their respective human processing system.

Artificial intelligence is helping teacher to involve them more innovation in their respective subject so that they help student to go depth knowledge of particular expertise rather engaged in admin work.

AI overcome in virtual education which restrict to disabilities problem because AI systems that can describe photos for the visually impaired, generate closed captions for videos automatically, assist with text-to-speech reading and operate an on-screen mouse and keyboard.

AI in virtual learning is expected to make use of image recognition to recognize facial expression of learners to provide real time classroom learning experience this will help to identify each learners facial expression during virtual learning and provide feasible solution for respective Study.

AI promising new invention comes which help to teacher as well as learner to develop their knowledge.

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