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ARTIFICIAL INTELLIGENCE: A WAY TOWARDS EFFECTIVE ACTIVITY BASED CLASSROOM

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ABSTRACT

In this 21st century era we started using technology in every aspect of our education system and this is the most important paradigm shift taken place in our teaching-learning process. Today our education system is facing a lot of problems such as out-dated teaching strategy, poor faculty, low research standard, unmotivated students etc. (Singh, 2011) and in order to solve these problems, we need to give importance on artificial intelligence in activity based classroom. Now a days teachers are using activity based teaching-learning approach in their daily classroom session where if we could incorporate the benefits of artificial intelligence then the outcome will be a more effective one. So throughout the paper the researchers emphasised on artificial intelligence and how it can change the overall activity based teaching-learning classroom of India.

INTRODUCTION:

Today we are living in a 21st era where we started using technology in every aspect of our life. Now we cannot imagine a situation without the use of technology. In the field of education, technology plays a great role and this is the most important paradigm shift taken place in our teaching-learning process. In this age, we started realising the importance of artificial intelligence and at the same time we give importance on the activity based approach where teacher plays a great role. Today our education system is facing a lot of problems such as out-dated teaching strategy, poor faculty, unmotivated students etc. and in order to solve these problems, we need to give importance on artificial intelligence and activity based teaching-learning approach. Now a days teachers use activity based approach in their daily classroom lessons and in such a situation if we could integrates the benefits of artificial intelligence then the outcome will be a more effective one. So

throughout the paper the researchers emphasised on artificial intelligence and how it can change the overall educational scenario of India. In this paper, first the researchers will discuss about the meaning of artificial intelligence and then activity based approach. At the same time we will also discuss about the benefits of artificial intelligence and the challenges of artificial intelligence in the context of education.

This paper is prepared by taking the help of secondary source of data. Here the researchers use content analysis and meta-analysis for the purpose of this study.

Siau (2018) defined artificial intelligence (AI) as an information technology based on computer system or machine that has the ability to complete tasks which usually requires human intelligence and logical deduction. Artificial intelligence is the science of making machines which do the things that would require intelligence if done by humans (Minsky 1968; as cited in Velik, 2012).

Recently NITI Aayog (2018) categorise the artificial intelligence in the following 3 categories:

General AI vs. Narrow AI:

General AI is a that kind of AI which can be used to complete a wide range of tasks in a wide range of environments. Narrow AI is a that kind of AI which can be used for one task or a set of tasks.

Strong AI vs. Weak AI:

Strong AI is a that kind of AI which behaves intelligently, thinks like a human with a conscious and subjective mind. Weak AI is a that kind of AI which behaves intelligently without any kind of consciousness about what it is doing.

Super Intelligence:

Super Intelligence refers to both strong and general AI at the point at which it surpasses human intelligence.

After developing an understanding about artificial intelligence, it will be good for us if we discuss the concept of activity based approach. Ravi and Xavier (2007) referred activity based approach is a that kind of approach where students physically and mentally explore the subject matter by the simulation of the work environment, manipulation of the tools and materials associated with the world of work or performance of a real work task. Activity based approach is a that kind of approach where different types activities relevant to the specific subjects are integrated with the regular instructional materials, methods, learning which involves students in the teaching-learning process. This approach believes that through the help of tasks student can learn something. And when we are talking about an activity based classroom, it

basically means that the teacher is applying this approach in the classroom and gives emphasis on that kind of learning which comes through activities.

Benefits of Artificial Intelligence:

Now it will be better for us if we discuss about the benefits of artificial intelligence in the context of education and how it helps in improving the condition of activity based classroom. Verma (2018) talked a lot about the benefits of artificial intelligence in his article so in this paper the researchers tries to summarise the points as well as included some other points related to the benefits of artificial intelligence which are given below:

Artificial intelligence helps in improving the grading system:

As we know that teachers are overburdened with different kind of works such as teaching, assessment, research, in-service training programme, examiner, curriculum planner etc. so they are very busy in their daily life. So in order to give some extra time to the teacher we could incorporate artificial intelligence in our education system. Grading process takes a lot of time so if we could organise exam for objective questions through online mode then artificial intelligence will help us in conducting the exam and thereby in assessment and at last can declare the result easily and quickly without the intervention of the teacher. It gives the teacher the precious time for preparation which is required for activity based classroom.

Artificial intelligence can help the students in fulfilling their needs:

Now in every walk of our life we get influenced by the technology. Now a lot of people are having smart phone with them. According to a ASSOCHAM-PwC study, the number of smart phone users in India is expected to 859 million by 2022 from 468 million users in 2017 (Business Standard, 2019). As the number of phones get increases so automatically students accessibility to information get increases according to their needs. In such a situation we could create an artificial intelligence platform where students can get the chance to clarify the concepts according to their own needs. And if they get stuck in some problem then it will help the students to overcome of it by identifying the students weakness area through the help of a data set. So it prepares the students to be mentally ready for activity-based classroom.

Artificial intelligence can help to find out places where courses need to be improved:

Teachers are not always aware of the gaps in their teaching and materials which leave students confused about certain concepts. In such a situation artificial intelligence offers a solution to the teachers. Suppose the teacher allotted some work to the students in a AI (Artificial Intelligence) platform and students needs to complete that assignment in that platform. When the students submit their answers then that platform will automatically detect the errors in the work and inform the teacher about it and thereby the teacher takes

appropriate action for that. At the same time the platform will give students a message that offers hints to the correct answer.

Artificial intelligence provides immediate feedback:

Artificial intelligence has the capacity to provide immediate feedback to the students so that they can identify their mistake easily. This system can continuously monitor the student progress and help the teacher to take necessary step to solve that problem. As we know that immediate feedback is a characteristic of activity based approach too and both of them can complement the overall teaching-learning process.

Artificial intelligence can provide additional support to the students:

At present we know that Artificial Intelligence machine cannot teach like a human tutor, but it has a huge possibility to support the learning of students. Through the help of AI system, students can learn from anywhere at any time. There are some AI tutors through which we can teach the students. The only problem is that at present we can teach the students only the fundamental concepts and for higher order learning we need human tutors. Through AI has some limitations but through it, the teacher can supplement the interest of students which are acquired by the help of activity based approach.

Artificial intelligence alters how we find and interact with information:

Now in this modern world, different platform such as Google, Amazon, Siri etc. give recommendations to us what we could like to see on the basis of our previous searches. This kind of information radically changes how we interact with others in our professional and personal lives. This kind of recommendations helps us in selecting a particular information or thing without taking much time and effort. AI can also change the overall teaching-learning process from where students will learn, who will teach them and how they will learn certain skills.

Artificial intelligence can increase the effectiveness of teaching-learning process:

As we know that in India the teacher-pupil ratio is high so the teacher cannot give full attention to the each and every student. So in such situation if we could install AI machine which is capable of identifying the non-verbal language of the students then it can give feedback in real time about the problems of students. And this information helps the teacher to adopt suitable strategy for increasing the effectiveness of the overall teaching-learning process in the activity-based classroom.

Artificial intelligence can make trial-and-error learning less intimidating:

Most of the students get scared from question in the class where they being put in front of their peers or authority figures. Idea of failing or not knowing the answer paralyze the students in front of their peers or teachers. But when it

comes to artificial intelligence, it is less intimidating. Because here the students sit in front of a computer system or smart phone which provides a judgement free environment to them and get freedom to express their view points. The experience which students gather in that platform can help the students in real life classroom also.

Prevent the dropout rate:

Through AI, we can identify the students who could drop their study and accordingly we can take appropriate measure. As AI will have a lot of data on the conditions which compels the students to drop out and it will compare with the present conditions which students displays and thereby predict the results. It helps the teacher to adopt suitable measure to prevent this kind of situation so that problem should not arise in real life activity based classroom.

Artificial intelligence can create better learning environment:

As we already discussed a lot about the benefits of artificial intelligence so we can say that it will automatically improves the learning environment of the educational institution as well as home. Through this the student can receive information as well as feedback easily and cheaply. In the feedback process transparency will be there and at the same time we can rely on the information which was provided by this AI software or machines. This entire thing cumulatively improves the overall learning environment of the student in the activity based classroom.

Challenges of Artificial Intelligence:

From the above discussions we can really say that if we can judiciously use artificial intelligence then automatically it will improve the overall teaching-learning process of activity based classroom. As we know that nothing is perfect in the world, so AI also face some challenges. Some such challenges are discussed by the NITI Aayog (2018) which are summarised below:

Lack of collaboration between the stakeholders:

In our country there is lack of collaboration between different stakeholders such as education department, health department, science and technology department etc. and as a result of which the new advancement which are taken place in their respective fields are not included in the curriculum.

Data:

Data is the most important thing in AI and this determines how effectively an AI will perform in the development of overall teaching-learning process. Large and accurate data sets can give us more precise results about different tasks. Lack of data is the main concern of our country. Though we are working on digitalisation of data from various departments such as police department, education department etc. but still the progress is not a satisfactory one.

Data privacy

Right now our country is working on making the data more secure so that data breach cannot be take place in any form in near future. Recently we heard that Facebook has sell their data to a company called Cambridge Analytica and risk the security of millions of peoples. In order to prevent this kind of situation, our government working on data localisation process so that our privacy could be protected effectively.

Low intensity of research:

In the area of AI, the numbers of research studies are not satisfactory one. As a result of which India is not in position to compete with other countries that already developed best AI software or machines.

Unattractive intellectual property regime:

In India, we are not encouraged other organisations as well as people to conduct research in the area of AI. Basically we are not properly incentivise the organisations which develops AI as well as we not adopt them in our businesses.

High cost:

For doing research in the area of AI, we need good ecosystem and infrastructure which are costly in nature. Government need to invest more funds so that satisfactory amount of research could be conducted in this area.

Low awareness about AI:

In our country, the awareness related to AI is not good and consequently it hampers the overall growth of AI in our country.

Inadequate availability of AI personnel:

In our country we don't have sufficient amount of people who are competent, expert and skilled enough to do research in the area of AI.

CONCLUSION:

If we really want to make our teaching-learning process a more effective one then it is very much needed that we should make our curriculum more student friendly. In order to do this we need both artificial intelligence and activity based approach. Then only we can get real output which will be desirable for all the people. In order to combine this two we need 2 group of people who are aware with the content of the subject and artificial intelligence. Suppose we want to create an artificial intelligence platform in the context of social science.

For that one group of people need to have the mastery over the social science subject plus pedagogy and little knowledge about artificial intelligence.

Another group of people need to have the mastery over the artificial intelligence area and little knowledge of social science subject. Through their collaborative effort we can effectively select and implement which activity will be effective for what topic and through which medium. At last we may conclude by saying that if we really want to keep our activity based classroom up-to-date with the changing time then we really need artificial intelligence.

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