

Importance of Learning 21st Century skills in Teaching- Learning Process

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Abstract

Technology has proved very helpful in education. For the past two years during COVID 19 Pandemic, education at all levels right from the primary to higher level, were dependent on online mode of teaching. Now it has made the students and teachers technology friendly. Now that the offline classes have started, the online mode should also be included into the curriculum as the future education seems to include e-learning as a major part of it. Concept of cloud computing, artificial intelligence also should be introduced to teachers and students at all levels as it is the need of the hour. Present paper focuses on the 21st century learning skills / techniques in teaching learning process.

Keywords: Education, Technology, Blended Learning, Artificial Intelligence

Introduction

Today's world is changing very fast. Teachers and students face a great challenge to keep their education in pace with these changes. Information and Communication Technology has been growing quickly these days, therefore the process of teaching-learning system has to be changed and ICT has to be coordinated into instructive exercises. It is important for teachers to know how to harness the power of latest technological trends and innovations to update their students and to fulfill their educational needs. Introduction of computers in Indian schools dates back to 1990's. A study conducted by Shruti Kirti Rastogi (2019) "Role of computers in changing learning environment in schools" showed that the use of computers had positive motivational effect" and it enhanced the students' interest in learning. Students liked those teachers more who used technology in their teaching lessons. Students were interested in gaining technology and information using computers. This shows that every school needed an environment of blended learning.

Objectives of the Study:

1. To acquaint students and teachers of the 21st century skills
2. To describe how technology is useful in teaching -learning process

E learning

It means electronic learning. It is a web enabled learning. It is dynamic, operates in real time and is collaborative and comprehensive. This, involves internet, smart class-rooms, video conferencing, cloud computing and email. With these students-faculty interactions could become an essential part of everyday life accessible and affordable for anyone at all times.

Artificial Intelligence (AI)

Artificial intelligence is a branch of computer and information science. It focuses on developing software and hardware that solves problems and accomplish tasks. It also includes studying and developing machines like robots, automatic pilots for airplanes and space shuttles and also smart military weapons.

In his AI research, Nilsson (2010) defines AI as "that activity devoted to making machines intelligent, and intelligence is that quality that enables an entity to function appropriately and with foresight in its environment."

The core structure of next generation education could be combination of game based, adaptive and personalised learning using cloud, online and virtual reality platforms with holographic and artificial intelligence enabled training techniques. The pattern of next generation education can be explained as follows:

Classroom Learning

We live today in a blended world which is a mixture of real and artificial activities We have to prepare children to face this blended environment. Schools must be prepared to provide blended learning experiences to train the students with multiple and blended skills. Teachers must shift from instructors to facilitators and designers of learning experiences because classroom is no longer the central place of learning. Education now goes beyond classroom learning with virtual reality and social networking sites. Teachers also must be well trained in various artificial intelligence tools. Google's 'Education on Air' and 'The Global Education Conference' provide a range of workshops and training for teachers on various topics.

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Artificial Intelligence Curriculum

Rigid and fixed curriculum I replaced with flexible and blended curriculum with emphasis on personalised learning. Now curriculum should provide scope for students to learn at their own space and speed as against the concept of one size fits all. For example, 'Cram 101' uses Artificial Intelligence to disseminate and breakdown textbook content into digestible, smart study guide that includes chapter summaries, true false and multiple-choice practice tests etc. Carnegie Learnings "Mika" software uses cognitive science and Artificial Intelligence technologies to provide personalised tutoring and real time feedback for post-secondary education students. (Susan,Victoria,2019). So, it can be said that artificial Intelligence will play a significant role in next generation education. Its implementation and use requires expert training and professional competency. Another important technology which is used is cloud computing. According to Govasi, Nandkishor (2012) cloud computing is defined as an emerging computer paradigm where data and services reside in massively scalable data centres in the cloud and can be accessed from any connected devices over the internet.

Cloud Computing

One of the latest technological development is cloud computing. It is latest technology in the field of Library science used for various purposes for gaining economy in library functions. It is based on utility and consumption of computing resources. Cloud computing is a way of providing various services on virtual machines allocated on top of a large physical machine pool which resides in the cloud. The basis of cloud computing is to create a set of virtual servers on the available vast resource pool and give it to the clients. Any web enabled device can be used to access the resources through the virtual servers.

Types of Cloud Computing

Based on the deployment model (Rouse , Margaret.2014) the cloud computing can be divided into various types as given below:

1. **Private Cloud:** It is operated for a single organisation and provides data for a limited number of users. Here providers and users are offered greater control of the cloud infrastructure, improving security and recovery from damage because user access and the networks used are restricted and designed. The reasons for development of private clouds are optimal utilization of existing in-house resources, security concerns including data privacy and trust.
2. **Public Cloud:** It is the services that are rendered over a network that is open for public use on commercial basis. Here the services are free. In this type, the customers are unaware of the location of the cloud but the infrastructures are shared between organisations.
3. **Community Cloud:** It shares infrastructure between several organizations from a specific community with common concerns. It helps to limit the capital expenditure costs for its establishment as the costs for its establishment are shared among the organisations.
4. **Hybrid Cloud:** It is a combination of two or more clouds. It has the ability to connect , manage services with cloud resources.
5. **Distributed Cloud:** It is that cloud in which cloud computing can be provided by a distributed set of machines that are running at different locations.
6. **The inter Cloud:** In this cloud computing can be provided by a distributed set of machines that are running at different locations, while still connected to a single network or hub service.
7. **The Multi Cloud:** It is the use of multiple cloud computing services in a single vendor, increase flexibility through choice, mitigate against disasters etc.

Cloud computing is an excellent technology but the disadvantage is that there is less control over personal information and also there is data security issue. Because of information explosion, there is a tremendous shift in various technologies of computing, storing, sharing and networking. Teachers and students should be aware of these cloud computing technologies.

Conclusion

In the present world because of the information resources students and teachers need not remain at the same place for the teaching and learning to occur. So along with the formal education, online classes also help in teaching-learning process. As we have seen that during COVID19 Pandemic, for a period of about two years formal classroom teaching was replaced by online teaching at all levels of education. This has given us an opportunity to include online teaching along with the formal classroom teaching in the school and college curriculum. This means there is paradigm shift towards blended education. For this teachers and students should empower themselves with the 21st century learning skills as discussed above.

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