

Present Perspective and Future Assumption of Digital Teaching - Learning

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Abstract: *In the modern era we lived in a digital environment surrounded by technologies. So, our education system is not bound with chalk-board and paper-pencil task. During the pandemic period our teaching learning process is conducted by smart technologies in a cyber world. But education and technology are always updating itself. So, we must have to connect with the new technologies because new technology will grab the society. It is obvious to say that one day present technology is backdated and new technologies will be adopted in every aspect. Different social media is not popular a few years ago but now a day these media is the most popular social media. In future these media replace a new one. In future we will use Robot Assisted Teaching-Learning Process, interactive three dimensional software, E-rate programme, augmented reality technology etc. In future new technology will challenge the teaching learning process. But it will be adopted by digital native and digital immigrants. It is expecting technology always give a new change in present as well as future. We assume about the future but not ensure the future. In this point of view the paper aimed to find out the present perspective of digital teaching learning process and what will be the assumptions in future we have adopt the new digital teaching learning process. To attempt this exploratory research methodology are used. This paper based on secondary source of information gathered from various book, research paper and authentic website etc.*

Keywords: Cyber-World, Robot Assisted Teaching Learning, Interactive Three Dimensional Software, E-rate programme, Augmented Reality Technology

1. Introduction

Progressive world motivated and support a continuous change in all field in education. Education is the basic principle of creating knowledge resources and better life style. For better life style and creating knowledge technology takes an important role. From the very beginning of society teaching learning process is a main theme in education. Similar as technology education rename itself which is related with teaching learning process. Education 1.0: ancient to middle age education was conducted person to person same as gurukul system. Education 2.0: Education was conducted the traditional higher educational institution and provided printed media. Education 3.0: Providing digital technology specially in distance education. Education 4.0: Total technology mediated education for all field of education. Now we are in Education 4.0 where student have the full freedom to access their course, knowledge and skill. Now we are used modern technology but from the pandemic situation the teaching learning process is going through rapidly various digital platform. But in future Education 4.0 is will change 5.0, where we will continue our teaching learning process through e-learning, e-teaching, e-pedagogy, e-assessment, e-administration, e-curriculum, virtual parents teacher communication, e-community school etc.

2. Review of Related Literature

In this part the researcher identify the related topic publication then identify pattern of view points and offer interpretation. At last draw executive summary. The summary is mention below.

Jha, Nivedita., Shenoy, Veena. (2016) in their research paper titled "Digitization of Indian education Process: A

Hope or Hype," stated that over a period of time many changes have occurred in different sectors of economy including the education system. Education sector unlike any other sector has seen many stages in its evolution. From Guru-Shishya system of conducting the class in open garden under the trees to closed class room lectures, presentation form of teaching with the aid of LCD touch-screen projector to online notes and now instant What's app messages is the buzzword among the students. What's app has gained the status of being authentic formal means of communication among the students and the academicians. The paper analyzed the introduction on electronic modes of imparting education and to analyze whether in the given state of Indian education it inspires hope or is just another hype created in the sector.

Kamble, Avishkar. D. (2013) in the paper titled "Digital classroom: The Future of the Current Generation," examined in length the significance of digitization in education and stated that a modern classroom is basically an Information & Communication Technology based classroom. This aims at converting traditional classrooms into interactive sessions by combining best hardware with syllabus-compliant, multimedia content. In many colleges, computers are used by teachers and students for better communication and learning. The paper discusses how a digital classroom is basically an ICT-based classroom which helps to convert traditional classrooms into interactive sessions.

Wadhwa, (2015), "Here's how we can reinvent the classroom for the digital age Today", says that the blackboard has become a whiteboard; chalk has become a magic marker; slates that students used have been replaced by notebooks; and classes have sometimes gotten smaller. Little else has changed. True, some schools are providing their students with laptops, and teachers are increasingly

using technology and encouraging collaboration. But the methods are essentially the same with the teacher dictating learning.

3. Objectives

- 1) To find out the present perspective of digital teaching learning process.
- 2) To find out the future assumptions about the new digital teaching learning process.

Research Question

- 1) What is the present perspective of digital teaching learning process?
- 2) What will be the assumptions in future that we have adopted the new digital teaching learning process?

Methodology

Qualitative approach is used in the present paper. This study has been conducted by the following steps like-

- Data collection from the primary and secondary sources.
- Detailed study of reliable and valid sources.
- Making generalization from the sources.

Sources Used: The books, journal, websites and articles.

4. Present Perspective of Digital Teaching Learning Process

In present scenario, teachers are actively engaged in the usage of technology to display information, charts and to monitor and engage students. In order to be a part in this competitive world, students must have access to technology. Digital classrooms are equipped with smart boards. This interactive whiteboards allow different media to be displayed by projector which enhances teaching and learning experience. It enables learners an opportunity to share and participate in the instructional process. It also gives access to online information.

1) Digital Education in classroom

Now a day's students are no longer mandated to learning lessons from text books. The digital education involves a lot of engaging medium which are makes learning are more interesting.

Classroom PC: The basic requirement of digital classroom is availability of personal computer , laptop or tablet where in a large amount of the educational information and data can be stored and retrieves when its required. In this way students to be more effective with their learning and allowing to them have their own personal computer.

Projectors: Projectors are the basic requirement for digital classroom. It helps in displaying on presentation teachers and students to imparting broad based learning . Most of the institution using interactive projectors by adapting to digital Education. Projectors are attach with laptop and it reflector of information from laptop and seen to large screen on the white board.

Smart board: A smart board is connected to a computer and works with a projector. The projector displays what is

open on the computer and rather than using a mouse or a keyboard. It is touch screen which manipulate anything using finger.Special pens to make writing in the different colours quick and easy.

Internet connectivity: Internet connectivity is requirement for successful implementation of digital education. Good internet connectivity should be ensure so, that information can be shared with other without any delay. It browsing of study material, world bank and other reports can be easily assessed.

2) Online Learning Application In Digitization Of Education :

Digital teaching Learning methods are modern methods which are based on technology and rarely used in institutions to impart education. These are new methods which are based on ICT and online mode. This is bellow:

Blended learning: This term originated in USA. Blended learning combines online learning with face to face learning. It is also defined as the combination of multiple approaches to pedagogy, for example, self- paced, collaborative or inquiry based study. The foal of blended learning is to provide the most efficient and effective instruction experience by combining delivery modalities.

MOOCs: MOOCs stands for Massive Open Online Course. It is a web-based platform which provides unlimited number of students worldwide with a chance of distance education with the best institutes in the world. It provides opportunities to its learners such as video lectures, downloading notes, contributing their own and sharing their point of view by communicating with peers, professors and Teaching Assistants.(J. Reich, José A & Ruipérez-Valiente,2019)[1]

Google Classroom: Classroom is a free suite of productivity tools that includes emails, documents and storage. Classroom is designed collaboratively with teachers to help them save time, keep classes organized, and improve communication with students. It is save teachers time like manage multiple classes, add students easily, teach together and enrich assignments .

E-Pathshala: The e- Pathshala a joint initiative of MHRD & NCERT has been developed for showcasing and disseminating all educational e- resources including textbooks, audio, video, periodicals and a variety of other print and non print materials for students, teachers, researchers and educators. It provides access to digital textbooks for all classes, graded learning materials and enables participation in exhibitions, contests, festivals, workshops, etc. It can access eBook through multiple technology platform like mobile app, tablets laptop, desktops.

BYJU'S: It is the learning app which uses combination of gamification techniques to keep students engaged. At this technology offers teachers a combination of tools, mediums, and interactive formats to deliver concepts in the most personalized format. The app offers comprehensive learning programs in Math and Science for students between classes

4th-12th. It also has test prep courses for competitive exam like NEET, JEE, and IAS.

Video based learning: Video based learning makes education entertaining and engaging. Now the classes are student friendly, student-operated and info-packed. Children are excited and operative with interest to manage to showcase via their intelligence, exploring the weak techno skills of teachers and assist them in public with pride and honour and recognized.(Dan Davis, C. Hauff, G. Houben,2018)[2]

There are many more online digital educational platform like Zoom,Google meet,Webex cisco, Jitsi, Live Webiner, E-Quize, Khan acedemyYoutube, unacademy, SWAYAM, Virtual lab, e-Kalpa, e-Acharya etc. which we are used most popularly.

5. Future assumption about the new digital teaching learning process

We can assume at what some of the teaching learning might be in the future but the truth is we just don't know. So, we assume the future teaching learning process based on rapidly change of present technology. Future assumption about the new digital teaching learning process is discussed below.

Robot Assisted Teaching Learning: The students future will demand the teaching process that is appropriate for their situation or context, nothing more, nothing less. In future artificial intelligence will be the big issue for digital teaching learning process. So, it is expected robot will very soon popular with more advance feature and we reached a artificial classroom where robot as a teaching learning tool. For educational purpose now we almost used Robot Assisted Language Learning (RALL).Robot are used to provide various service by integrating modular feature in software such as- recognition of voice, sound, object, gesture, space and position; face detection, synthesis speech etc

Robot assisted teacher in various way such as- delivered the content and information, provide feedback, interactive educational assessment, correction of mistake, assign the learners homework etc. Robot helps students to their learning process such as-increase level of attention, repeat the content with restlessly, collaborative learning, to develop embodied cognition, story-telling with correct gesture, develop cognitive architectures, play games, improve social interaction and communication skill. In future for learners robot is a co-learners and for teacher it is a assistant which do digital work better than his/her. (Kaushik, Desreumaux & Jean-Baptiste Mouret, 2019)[3]

Augmented Reality Technology: Now we live in virtual reality technology but quickly we habituated with augmented reality technology .Augmented reality is the combination of real and virtual sense, generated by the technology that augmented the sense with additional information. To enhance performance and perception of world student and teachers will use this in teaching learning process. The future education with AR like this-to develop 2D books into 3D and teaching learning process occupied by incorporating interactivities. So, curriculum will be

animated , accommodated student as per need , create AR pop-up books, inquiry based field word and better skill training.(M. Akçay,2017)[4]

Interactive Three Dimensional Software: Interactive 3D software is a technology which design and documentation and replace manual drafting with an automatic process It provides an extra dimension to absolutely visualize and sharp design. This type of technology will helps students to work with object and more engaging learning experience and helps teacher to supply content, curriculum and do digital lesson plan.

E-rate Programme: Many educational institution provide universal support service programme to tele-communication and internet access, commonly known as e-rate programme .Now it is used in U.S.A in school and libraries. But in future in teaching learning process it becomes favoured universally.

Gamification: Gamification is the use of game design elements in non-game context. It is student centred activity and involved e-pedagogy. It is used K-12 classroom. "Gamification may be the most important social and commercial development of the next fifty years....and drive new waves of innovation in our technology." – Ross Rader. So, it will be the well educational approach and technique in teaching learning process Digital teaching learning is suitable easy and effective integration of gamification. Definitely it will change the educational world and help the student to develop a self trainer work force for the future.(Aparicio, Oliveira, Bação,& Painho,2019)[5]

Virtual Field Trips /Visualization technology: Traditional field trips will replaced virtual field trips. With the virtual field trips student can connect with location, concept, and people without constraints. It provides high resolution of panoramic view of location all over the world. (Nwankwo, 2020)[6]

Digital Twins: It is a physical system of complete digital model that can be used to operate ,stimulate and analyze an underlying system. It will surely become the technology of choice for digitalizing the physical world. It will be analysed by a smart advisor that can identify knowledge gap and make up this . In this way teaching can go two ways: self and digital twins will reflect learning and failure. "Digital Twins are now a known teaching method, so that students are very open to that way of working."-Soren Hviid Junker. The digital twins create model learning experience and evaluate student performance among other pedagogic extension. Hartmann & Auweraer, 2020) [7]

Dialogic Learning: It is a social embraced collaborative pattern through digital media will have learners responding to peers, mentors, families and expert.

Hyper-connectivity: In the field of teaching learning process will be used 6As (Anything, Anyone, Any place, Any time, Any path, Any service) and 6Cs (Collect, Connect, Cache, Compute, Cognize and Create) ; i.e. called hyper-connectivity.

6. Interpretation and Findings

From the above information the paper's findings are:

- 1) Present digital technology helps students to self motivated, accountable, more smarter, sharing information, employability, and more advance about the world. Teachers are also helpful by the technology i.e. to create content and curriculum, easily contact with student, improve in teaching method, to gain advance knowledge, etc.
- 2) Assumed future digitalized teaching learning process will helps robotics teaching, to accept and create 3D content, curriculum and project, to access e-learning through 6As and 6Cs, every student teacher recognized digital twins, game based teaching learning, capable to combine real and virtual sense, to conduct virtual field trips and explore new idea.

7. Conclusion

It can be conclude that future is the reflection of present and present is help to build future. So, digitalization in teaching learning process is common trends at present as well as future. At present we create a digital classroom with the help of personal computer, smart board ,internet connectivity, various learning application i.e. Google classroom, E-pathsala, cuemath , Khan academy, guru Q. in, kahoot, Seesaw, Toppr, NDL etc. and various online platform. In future probably we will create an advance digital teaching learning process with the help of robotics, gamification.3d technology, e-rate programme, digital twins, cloud based learning and hyper-activity network. In present we are advance but in future we will reach a post modern global society. But our main aims is accelerate the progress of student learning is not bounded any challenges and any time boundation.

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