

# Technologies for Smart Learning

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## ABSTRACT

Technology is all around us, and we rely on it. The teacher's and student's roles have shifted considerably in this digital age. Learners make use of modern technology to obtain information in a more convenient, effective, and seamless manner. Technology is employed to allow students to apply what they've learned in the classroom to real-world situations and to engage in active involvement, discovery, and research. Smart learning is a novel way to learning that is being adopted by instructors and students in the classroom and in everyday life. It is a new vision in which the internet, computers, smart phones, multimedia, and other technologies are used in the educational process. Every student has access to a learning platform thanks to smart learning technologies. Learning is more related to the actual world via Smart learning technology, and the student is more active than the instructor. Smart learning technology includes m-learning, digital pedagogy, social media, MOOCs, Open Educational Resources, Edutainment, blended learning, and the flipped classroom. This paper describes the smart learning strategy, the technology utilised in it, and its benefits and drawbacks.

*Keywords: Smart learning technology, M-learning, Digital Pedagogy, Edutainment, Blended Learning*

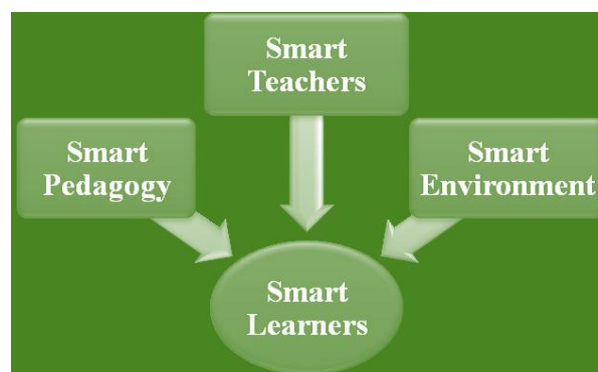
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## INTRODUCTION

Technology is everywhere and we depend on technology. Television, by which our mothers saw their favourite daily soaps, movies, news channels, sports etc. is the result of technology. We can talk to our friends, relatives, dear ones on mobile is again the result of technology. We can travel hundreds of miles in some minutes by airplane because of the innovations of technology. Technology affects every sphere of life like, Medical, Engineering, Banking, Marketing, Scientific researches, Scanning, Printing, Education and many more. Technology is just a tool which makes our life easy. Learners may use new technologies to study more effectively. Learners make use of modern technology to obtain information in a more convenient, effective, and seamless manner. The teacher's and student's roles have shifted considerably in this digital age. The teacher's job can be expanded beyond the classroom with the use of technology. Technology is employed to allow students to apply what they've learned in the classroom to real-world situations and to engage in active involvement, discovery, and research. "The richness of technology allows us to give a richer and more engaging (entertaining) learning environment.....our focus is the increased understanding and capabilities that technology allows us to achieve" (Duffy & Cunningham, 1996).

## SMART LEARNING

Smart learning is a novel way to learning that is being adopted by instructors and students in the classroom and in everyday life. It is a new vision in which the internet, computers, cellphones, multimedia, and other technologies are used in the educational process. It is a really useful and smart approach of teaching-learning in current modern day.



Technology assisted learning is another term for smart learning (TEL). TEL (this learning) is a flexible learning method. Learning management systems (LMS), big data, cloud computing, learning analytics, and ubiquitous technologies, among others, encourage smart learning in the educational process. Smart learning is a learner-centered, effective, and intelligent learning technique. A smart environment is required for smart learning, and it supports the teaching-learning system. Smart learning promotes creativity, intelligence, creative, and analytical thinking, as well as the classification of different students.

The major goal of implementing smart learning in the sphere of education is to improve and increase teaching and learning quality. A smart learning environment not only allows learners to access digital resources and interact with learning systems from any location and at any time, but it also actively provides them with the necessary learning guidance, hints, supportive tools, or learning suggestions at the right time, in the right place, and in the right format. Essentially, a smart learning system is a technology-enhanced learning system that can advise learners to study in the actual world while still having access to digital resources.

It is vital for the school's environment to be smart in order for the smart learning process to take place. Smart teachers, smart pedagogy, and a smart environment prepare the learner to handle the world's difficulties. It is not necessary to learn everything; rather, it is crucial to consider how we learn, what we learn, why we learn, where we learn, and when we learn. Smart Learning gives the student the ability to learn at any time and from any location. Every student isn't interested in every subject; they're seeking for important points, graphical presentations, and tools to help them create concepts. YouTube, Slide Share, Smart Learning for All, Pinterest, BYJU's, and other websites give students with learning resources, and in this smart environment, students use these sites to learn. Many free websites, tutorials, and e-tutors give study materials in layman's English, which is simple to comprehend and makes learning more enjoyable.

### **EVOLUTION OF LEARNING TECHNOLOGY**

The evolution of technology from the blackboard to the smart board, as well as innovative methodologies, has covered a great deal of ground. The blackboard, white board, chalk and talk, and lecture methods are still used, but they must be combined with technology such as Smart boards, OHP, video conferencing, virtual classrooms, the internet, and e-tutorials. The new paradigm shift encourages educators to take a learner-centered approach to teaching. Smart learning requires the use of social technologies, mobile devices, and wireless communication. Learners' needs have evolved as a result of technological advancements, and this development of technology meets their needs. Research has shown that using technology in the sphere of education improves educational quality. Today's world is dominated by tech-savvy students who rely on the internet and smart phones for their daily tasks.

Every student has access to a learning platform thanks to smart learning technologies. The advancement of new technology is extremely beneficial to modern digital world since it gives a larger and better vision with just one click; learners have access to global experts and instructors. Through the internet, video conferencing, and digital conversations, professionals from all around the world may engage. Learners can choose from the finest of the best.

#### **Difference between Traditional Learning & Smart Learning**

There are significant differences between traditional and smart learning. Traditional learning is simply dependent on chalk and speak, however smart learning is more entertaining and exciting. Traditional learning required students to sit in a classroom, while smart learning is more flexible. In smart learning, there is no set schedule or supplementary lessons. Smart teaching learning makes the material more engaging and understandable. It emphasises activity-based learning, in which students learn by doing what they are taught. When information is designed in 3D or animated, students pay attention. Students with low IQs can quickly grasp the material, which is ultimately the aim of education. Traditional and smart learning share several similarities, such as the presenting of learning materials in front of students, as well as student debate and brainstorming on the issue. Smart learning, on the other hand, has several advantages, such as the ability for learners to access online materials at any time and the ability to improve communication skills by linking learners to a variety of specialists from other nations. Learning is more related to the actual world via Smart learning technology, and the student is more active than the instructor.

#### **TECHNOLOGIES FOR SMART LEARNING**

Technology includes hardware and software:

**Hardware:** Smart refers to smart gadgets, which are smaller, more portable, and enable learners to learn at any time and place. Smartphones, laptops, and palmtops are examples of hardware technology.

**Software:** Smart software may be defined as gadgets that are adaptable, supporting, and adaptive. It assists learners in learning according to their particular traits, i.e., it emphasises individual distinctions. Big data, learning analytics, cloud computing, and other software technologies are examples.

## MOBILE LEARNING

Mobile learning, often known as M-Learning, is the most effective technology available to everyone. Almost everyone has a smart phone in this digital era; we do a lot of things with them, and they make our lives easier, which is why they're called smart phones. Mobile learning is when you learn on your phone while connected to the internet. It is the most adaptable gadget, allowing learners to access education from anywhere and at any time. It is referred to as an educational system. There are a plethora of educational applications available for both students and teachers. Mobile learning has become a study topic. Learners may use their mobile devices to view videos and lectures to gain a better comprehension of subjects, making learning more engaging.

## SOCIAL MEDIA

Facebook, Twitter, LinkedIn, and Instagram are examples of social networking services that are immensely popular among young people all around the world. Social media is useful in the realm of education as well as for meeting friends, entertainment, and photo sharing. Anyone may start a group for debate and sharing viewpoints on any issue; it expands our thought process by allowing us to interact with individuals from all over the world and learn about their culture, education, technology, and a variety of other topics. Social media, when utilised properly, may be a valuable tool rather than a distraction. The following are some instances of social media:

**Wikipedia:** It is created by the community called Wikipedians community through collaborative effort. This was created in January, 2001. It is a free online encyclopaedia.

**Facebook:** It is a free social networking site and it was launched on February 4, 2004b by Mark Zuckerberg. The users of Facebook can create their account, make friends, create pages and are connected with the people. Through chats, messages and connection, users can get the latest information regarding anything. Many resource persons and educational groups are there on Facebook.

**LinkedIn:** It is another social networking site. People can create profile and connect with the people they trust. It is a professional website especially for business community. It is very useful for the employers, entrepreneurs, job seekers, educators.

**Google+:** It is a multilingual social networking site. It is launched in June 15, 2011. The users of Google+ can organise and categorise the connected people with the help of 'circles'. The users of Google+ can share links, photos and messages with the people connected users.

## COLLABORATIVE LEARNING

Collaborative learning is a teaching-learning approach of education. In this approach, two or more people or a group of people/learners work together to attain something, to solve any problem, to complete a project. "Collaborative Learning is based on the idea that learning is a naturally social act in which the participants talk among themselves. It is through talk that learning occurs" (Gerlach, 1994).

## EDUTAINMENT/GAMIFICATION

Education plus Entertainment i.e., education through entertainment, this makes learning more enjoyable. It is designed to entertain as well as to educate. For example, a game which requires the learner/player to answer science questions in an entertaining way may be considered as edutainment. Not only children but also young people like to learn in this way. It develops the communication skills and makes learning enjoyable. Some Edutainment channels are:

- \*National Geographic
- \*Discovery Channel
- \*Biography Channel
- \*Reel NASA
- \*PBS

Educational games or gamification is an emerging trend of education. It is an interesting way of learning. With the help of this technology, we can mould any topic, subject, concept in the form of game and this provides learners an opportunity to learn as they play. Some free educational games sites are:

- \*Funbrain
- \*Discovery.com's games
- \*Sheppard Software
- \*Educational games (and simulations) on NobelPrize.org
- \*[www.knowledgeadventure.com](http://www.knowledgeadventure.com)
- \*Funschool

### **DIGITAL PEDAGOGY**

Pedagogy is the discipline of study related to the field of education and teaching methods. The use of digital technologies in the process of teaching and learning to digitize the subject matter is called digital pedagogy. It captures the attention of learners and increases their curiosity towards the process. Digital practices in education system make the education more effective.

### **MOOC**

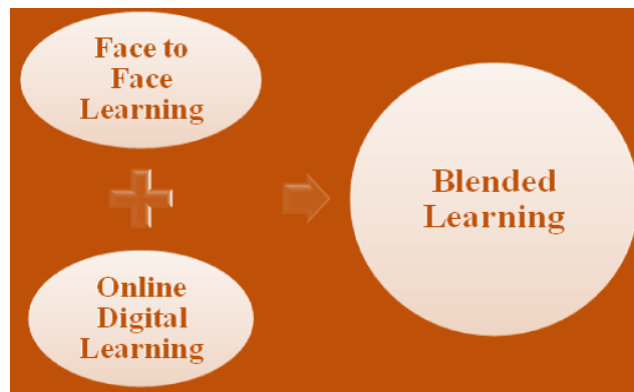
MOOC stands for Massive Open Online Course; it is an online course with open access. It is web based interactive learning for learners all over the world. The word MOOC was introduced by Dave Cormier in the year 2008. MOOC provides the world's best professors of different courses available there. Coursera, edx, udacity offers hundreds of MOOCs. Anyone who wants to take a MOOC can register themselves and choose the course of their interest. Variety of courses and subjects are available in MOOCs and learning material is available in easy and different language. Learner is able to see his/her progress during the course. The duration of courses is different and after completing the course learner get the valuable certificate of excellence. It helps to develop communication skills, provides global knowledge, great experience with eminent scholars.

### **OER**

Open Educational Resources (OERs) are any type of educational materials that are in the public domain or introduced with an open license. The nature of these open materials means that anyone can legally and freely copy, use, adapt and re-share them. The learning materials are true and valid. OERs range from textbooks to curricula, syllabi, lectures, notes, assignments, tests, projects, audio-video and animation.

### **BLENDED LEARNING**

In this Educational Pedagogy, traditional teaching and digital, online teaching blends i.e.; both the practices combines. Blended learning is also called mixed and hybrid learning. Blended learning involves online and face to face learning. Blended learning is flexible for both students and teachers. Teachers and students both can develop their technological skills. Before introducing the technology in the classroom, instructor or teacher must tell the students what that technology, how and why the technology is being mixed with the content and how we use the technology. Instructor had to encourage the learners for using the technology.



### **FLIPPED CLASSROOM**

It is a student centric method. It encourages active learning among students. In flipped classroom students acquired learning material before the class by online mode and they utilize the classroom time in discussion, application, and practice aspect of knowledge. The term flipped classroom is popularised by the two teachers, Aaron Sam's and Jon Bergman from woodland park high school, Colorado in the year 2007. They realised that the class time is actually for the activities not for the factual knowledge. This increases the active learning in the classroom.

### **PIZZA**

With the help of this technology teachers can create virtual classrooms for students from different schools and areas. Students can join this classroom for open discussion; they can ask questions to their fellow mates. Teachers also take part in the discussion and solve the queries of the students.

### **UDACITY**

It provides free online courses. Any learners can simply register himself/ herself and select the course which s/he wants to do. After completing the course, learner will get a certificate of excellence.

### **ADVANTAGES OF USING TECHNOLOGY IN LEARNING**

The future of education depends on the development of technology. Integration of technology in education brings positive change in teaching-learning process.

- \*Technology makes teaching interesting and easy for students and teachers.
- \*Technology is an unlimited source of resources.
- \*Promoting independent learning and storing materials for future use.
- \*With the help of technology distance learning become more accessible.
- \*It provides global connection.
- \*It provides world's best expert, which are anyways unavailable and unreachable.
- \*One can instant access to knowledge any time.
- \*It encourages active learning among students.

#### DISADVANTAGES OF TECHNOLOGY

It can be called as distraction for studies. When not properly instructed, it is possible that learner access to inappropriate content.

- \*Not everything on internet is true and valid.
- \*Slow internet connection is another disadvantage.
- \*Technology makes the learners lazy. Instead of manual calculation, they use calculator to save the time.

#### CONCLUSION

In this digital world, technology is the basic necessity for the today's society. We must learn about the new and emerging technologies in the field of education. Modern society has many challenges and we can overcome from these challenges with the help of technology. With the help of emerging trends in Education, learner is able to apply his knowledge in real life situations and this helps to facilitate the problem solving ability of learner. Smart Learning discourages the lecture method where teacher is playing the active part and decrease the cognitive load from learner. Smart learning emphasizes in sensible and concept building learning which is necessary in the real world.

**Smart Teacher + Smart Learner + Smart Technology + Smart Pedagogy = Smart Teaching and Learning.**

“The essence of smart education is to create intelligent environment by using smart technologies so that smart pedagogies can be facilitated as to provide personalised learning services and empower learners, and thus talents of wisdom who have better value orientation, higher thinking quality and stronger conduct ability could be fostered” (Zhu and He, 2012).

Technology has more good things than bad, we need to identify the good things of technology and integrate them with education, teaching-learning process. Technology is emerging day by day and we have to be it. No technology can replace a teacher but it supports greatly in the process of teaching-learning.

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