Development of Technology in EducationSector During COVID -19 Pandemic

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Abstract: Education is the process of gaining knowledge, skill and self-development. It helps us to boost up our confidence and our career also. In pandemic time our education is not only bounded in classroom so it is very essential why every government should invest for implementing new technology and evolute day by day. Like Big data, AI Basedtechnology, these kinds of advance technology are use in this field. There are lot of benefits to use this kind of technologies like boring studies become more interesting. With the introduction of technology in education sector it reduces educational costs therefore lots of student can choose various course easily which will help them and thus advancement of technology produce opportunity for students. In this paper we have observed various effect of new technology in educational sector.

Keywords: Technology; Education; Hierarchy; Gamification; Accomplish

I.   INTRODUCTION

"Technology" hardly there is anyone in this world who does not know its meaning, so it seems totally useless to explainits meaning. In spite of all this if we have to explain it in simple one sentence, technology means the use of the scientificknowledge in everyday life, to make it more easy, more efficient and smoother. Human mind from the beginning of the civilization was curios. This curiosity brought them towards the one and only truth of the universe- "science".

Throughoutthe course of time human mind has understood it more and more and utilized it to give birth to technology. Any knowledge is worthless if it has no practical use but in case of technology the matter is quite different in a hypothetical meaning today the earth can't even complete a single rotation without technology meaning a day is incomplete without technology. Technology is here and there around us from our desk to our pocket, it's available in all size and shape like a tiny microstorage device to the big and humongous industrial gadget. These technologies are not so much older.

Studies of mobilewireless technology have been started recently. Luchini et al. (2003) examined the usability of handheld devices in theircase study of using Pocket PiCoMap. Even the research articles are handy and is available to different author, this only became possible because of technology. May be this is enough to make you all understand the diversity and extent of technology. Our life has pretty much changed now by this technology. Although the application of technology has startedsince very long ago. In 1990s, much research focused on the use of laptop computers in K-12 education. Peacock and Breese (1990) discussed one of the first implementations of portable technologies using word processors for class writing.The researcher thoroughly discussed that technology which we use is a bridge that is continuously expanding and connecting all the things that once we thought impossible and miraculous.

As we know that scientific knowledge is better known as technology. There is another terminology related with knowledge that is "Education". Now this term is also well known for us but hardly any of us know the proper meaning of it. Many of us think that education means to read gather knowledge but it's not that only, education is not just readingbooks, scoring marks etc, education means the transmission of knowledge equally among everyone. Education is not theknowledge you acquired from fat books it means the experience the knowledge you have acquired from your surroundingsit may be books, incidents, someone's other's experience etc.

But this also does not mean book learning is not necessary.So, for establishment in this society, it's in fact the most vital form of education. But along with theoretical approach wecan develop our education sector by AI based model and visualization effect which makes learning more realistic and easier for the learners.

II.   RELATION BETWEEN EDUCATION AND TECHNOLOGY

This "Education" and "Technology" has a weird relation between them without education its barely impossible to understand technology and today without technology it is barely impossible to be educated (acquire knowledge). Today'seducation is incomplete without the help of techs. Just sit in a classroom and look around we can simply spot two or threetechs that are essential for our studies. Technologies main work is to make a task simple and that's exactly why it is usedin education that's much now a days. As we discussed earlier that education means the distribution of knowledge and tech plays a great role in the distribution of knowledge, like in many of our courses there are some books that are essentialbut sometimes aren't available near us or maybe way much expensive but today we can easily acquire those books in form of PDF from many sites easily. Through many video calling or meeting apps we can easily connects with teacherseven if they are far away from us. Technology has provided us such opportunities that once were mere imagination for us. 10 years earlier a student can't even imagine of having a degree from a well-known foreign university, but today notonly we can acquire degrees from universities across the globe in low cost but also we can acquire it from our home.

There are many applications present in the market like UPGRAD, UNACADEMY etc. by which you can be able to learnmultiple courses at a time. Tech has brought a big and revolutionary change in the field of education, which is our education system has a complex structure. Only a student associated with science can learn medical or engineering or medical knowledge but today this discrimination has overcome by the help of many apps which gives us freedom of learning anything without judging our background. Thus education system has advanced a lot as compared with previousdays, where initially education was monotonic and hypothetical but now a days technology made education uniform, to all.
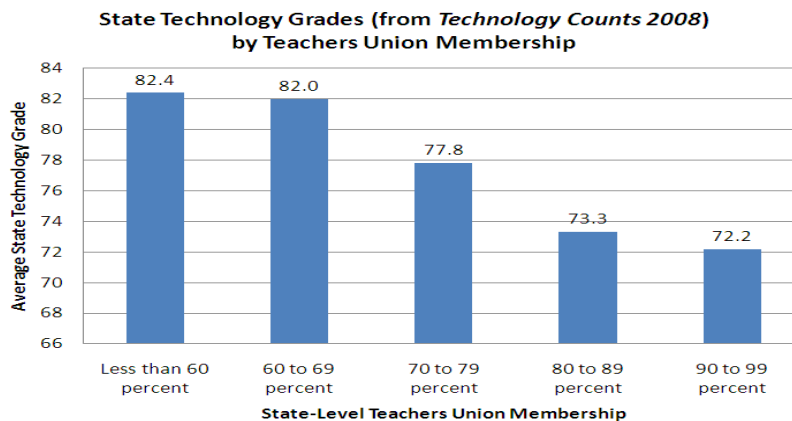

Fig 1. State level teacher vs Average state Technology

Knowledge was there from the beginning of the very first civilization so was the ritual of passing the knowledge. that isfrom where the concept of education came. In ancient time education was not that uniform only pupils belonging to a higher society can acquire knowledge which was a disturbing fact about education. Studies in ancient times were mainlyreligious studies, home science, warcraft etc. also, in that time education meant sharing of knowledge not many books or manuscripts were there. But the form changed with time, people discovered written form of language they started to read and write. So basically, everything was there so what did tech changed? After the invention of tech human learnt toapply the knowledge, they started practical application of knowledge which was the leap that changed the course of history. Thus, the existence of human is running to become supreme and after they merged technology with knowledge human achieved the success they were looking for. Tech has pushed the limit of education to a extent that we never thought and the best news it it's not finished tech and education is expanding day by day with the help of each other andwould continue to pull of the curtains from the unknown topics until human absorb each and every particle of knowledgepresent in this boundless universe.

III.   A HIERARCHY OF TECHNOLOGY ADAPTATION

New things always bring new challenges. Here we are talking about technology adaptation. It is not so easy to cope up with the new COVID situation and handle it to continue the education with the help of technology. But for our own profitwe have to admit and adapt it rapidly. Adaptation happens step by step in teaching and learning process. Changes happenvery sudden and the process of changing is continuous still now. A five-step hierarchical model of modification of technology in the classroom is seen by Rogers (1997). The five steps are-

•   Technologies were invented far before the COVID. Many workshops and convention were held to familiarize studentsand teachers with the technology at first. Lifelong learning and training for the workplace cannot be confined to the traditional classroom. Engage in learning always not possible to come to a specific place and learn like those who have to work and study together most of them require distance learning. To cope with the diversity, complexity, and changing demands for education

services, it mustextend beyond the face to-face institutional modality to include distance education, enrichment mass media, and non- formal settings.

New (Information and communication) technologies have brought new potential into the education area, but, at the sametime, they have placed more burden on teachers. They now have to learn how to deal with computers in their classrooms,how to try to win with students in accessing the massive body of information—particularly through the Internet, and howto use the hardware and software to enhance the teaching/learning process. Obviously, teachers cannot be prepared for these unfolding challenges they have to face. One-shot training, no matter how effective and successful, will not sufficefor them. A new paradigm must emerge that replaces training with lifelong professional preparedness and development of teachers are needed.

Importance of technologies in education: There is countless reason why technologies are important in education

- First of all, due to its flexibility, E-learning eliminates fences of space and time so anyone can easily learn something new concept at any free time.
- Technology like audio-visual presentation helps to increase the subjective knowledge.
- It is very easier for both students and teacher to communicate and maintain all the records of students and theirprogress digitized using big data technology.
- Nowadays in the remote area education has been raised because of new technology but earlier it is not possible dueto lack of communication technology.
- It provides student with accelerated learning, innovative methods that help them to deepen their understanding inany matter.
- Improve collaborative Teaching & Using ICT in learning process - Student & Teachers Skills and ICT Literacy byLiu, G. Z. (2008).
- Teaching is one of the most difficult and essential professions in the world. Teachers are serving a critical concept in a easy method that's why the learning is making it more efficient and effective. They hold student's hands throughout the educational journey and they will continue it in future also and these latest educational technologies are helpour teachers also by Bakia, M.

The technology trends in education are most likely not something new but rather essential. In pandemic time these technologies are in crest phase. Here are some most modern educational technology trends that are mostly use those are**Gamification:** Today the use of technology is not only restricted to computer labs but has direct access to smart classrooms. Smart classrooms are also an attractive feature to students as there introduce gamified learning. Using this technology students are learning new things in a fun and interesting way. Acquire technology help students to keep theirinterest in subjects.

Big Data: Nowadays online learning is booming so now we need bigger data base than ever before and big data is that technology where we contain huge amount of data. In educational industry big data contain student and teacher details and analyze those details and track their academic performance. This technology also help teacher providing the student progress. Here some of the applications of this technology are Internet of things, information security, gathering rich insights about business, Data warehouse optimizations.

E-learning: E-learning is a platform where education or training delivered electronically. There are various E- learning platforms, E-books, and learning apps available to help students to study over the internet with justa click. By using this technology teacher teach their students live stream or group meetings and it is also recorded form so anybody can access. Education is more accessible than before for students by E-learning.

AI-Enabled Education: This technology pretends human intelligence by using its algorithm or process. Using this phenomena AI has been used in different field to automate heavy task. By Mazurek, G. (2011a) (2011b), there are lots of task done by this technology in educational sector like

Benefits of AI for students

- Personalization, Tutoring, Quick response, Universal 24/7 access to learning.

Benefits of AI for Educator

- Answering questions, Task automation

VR-Based and AR-Based Learning: This field is the most advancement part of technology. The experimental learninginitializes the development of Virtual reality (VR) and Augmented Reality (AR) in education. It helps to learn difficult concepts. For example, when one attending a medical training course VR create a chance for student to understand real-world surgeries in a low-risk environment and here an AR based technology example- is Smartphone AR app Photo mathallows students to scan a math problem from a physical worksheet, then virtually walks them through calculation steps using animation.

Video Assisted Learning: The pictorial representation of lessons by videos helps students to understand better and increase memory retention power.

Other technologies-

- Blockchain technology
- Cloud computing
- Speech to text
- Social media (Facebook, YouTube, Instagram) and so on.

Approximately for 2 year all schools colleges are shut down because of this COVID-19 pandemic as a result it effects education dramatically. During this pandemic time technology helps us a lot. It plays a very important role in educational sector. This is the very first time in India when education conducts in virtual mood. Every student submits their assignments via pdf or word file not in pen and paper and every teacher teach their content via online platform not on black board.

IV.   CONCLUSION

Nothing is constant in this universe everything is relative force, space, time, speed everything just like good and bad nothing is totally bad or good. Even the darkest night brings the brightest dawn behind it. What is the main objective behind saying so? 2 years ago, a global pandemic hit the world, the scene was like a sci-fi movie. mankind had never faced such a calamity before in its entire history. But still everyone fought and recovered from it we evolved with the conditions and find out the way to survive and live our as always normal routine and in this technology helped us. This was the time when we all learned to embrace the technology we have like never before. Modern Tech was available for more than 2 decades but nearly half of the human population had no idea how to utilize them to lead a smooth life but in this time of the pandemic many of us learned to utilize techs. Post pandemic era shows as the result of that learning now nearly 8 among 10 people around us know how to order food or groceries, how to organize meetings on online, how to read books and many more. The biggest evolution the pandemic brought was in the field of education specially in India.

In other developed countries the education system was already digitalize but in India in the pre pandemic era we were still struggling with pen and papers but pandemic changed it all pandemic gave us the opportunity to merge tech and education and it will be safe to say it worked really well. During the pandemic when school and colleges were closed, the education system was standing in dead-end classes were called off everything was shunted down. And that's the time when tech helped us. We started organizing online classes and, in some cases, it was better than offline classes where the teachers had a full control over the internet so topics were easy to teach by showing necessary pictures YouTube videos ppts and so on.

It will not be lie if I say not only many students but also a large group of teachers were technically abled but during this pandemic era more over everyone knew how to make ppts, drafts, how to showcase things in front of a large group of people in the internet etc. after all before this some of us knew internet only as social media. Not only this many universities along with some digital platforms tried to provide skill courses so that anyone can easily be qualified to bag a minimum job so that he or she can't have to face problem. Frankly speaking this were not new inventions these were present between us but our negligence kept those things unnoticed by us. Tech has a immense role in modernizing the education sector in India and it's not finished yet.

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