A FEW UNIVERSAL TIDBITS OF EDUCATION TECHNOLOGY

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Abstract
The adverse effect of the Covid-19 felt worldwide. The colleges and schools were locked down to contain the spread of the virus. Consequently, teaching and academic activities in the institutions were fully disrupted. The necessity for virtual means of communication and teachings were deeply realized. This adversity gave rise to an opportunity to use digital technology optimally and set the clogged wheels of education into motion. Before the onset of the pandemic, uses of digital technology in the field of lore and learning were strictly limited to few techno-friendly individuals who were having avid interest in Information and Computer Technology (ICT). Thanks to the pandemic that enabled even technically illiterates to become well versed in online learning and teaching. At least smartphones with internet connectivity were available with the most users and they made the most of them. Since then smartphone has entered into the day to day activities of learning and teaching. Now it has become as indispensable as for the living beings food and sometimes even more than that. Despite countless merits, several demerits are also associated with the application of ICT in the field of education. The present article focuses on their merits and also on the demerits that require special attention of the stakeholders.

Keywords: Covid-19, Pandemic, Digital devices and tools, Internet, Merits, Demerits, Education, Information and Computer Technology (ICT), Online Learning & Teaching.

Introduction

The world is changing rapidly by virtue of swift technological innovation and invention. Digital technology has become a part and parcel of day to day life and education is no exception to it. It has transformed and brought about a revolutionary change in the field of education as well. It has opened endless possibilities for both learners and teachers by making the education extraordinarily accessible, cost-effective, engaging, exciting and interactive. Uses of blackboards and textbooks are gradually replaced by various digital and technical devices. Digital technology not only makes the learning interesting and fun-filled but it also helps students to extract the information and knowledge in an easier way. It fetched dramatic changes in their critical thinking and problem-solving skills. It provides a greater flexibility in learning the things with the economical uses of time. It is a matchless platform for sharing information without facing the restriction of physical location i.e. one can access and avail education from any part of the world. It further sinks differences of the availability of quality education between the rural and the urban area, the ordinary and the elite institution, the poor and the rich, etc. For learners, now a host of online platforms are at their disposal; thereby they are in a position to work in close cooperation with each other, to communicate well, to share knowledge and ideas. Free from the worry of absence from important classes or lectures, they can now listen and visualize the missed one, once or several times through the recorded audios and videos. It establishes good communication, rapport and collaboration between the teachers and the students. Thanks to technology driven education, a generation of students was saved from getting totally spoiled during the pandemic.

Education Technology: Different Devices

Education technology makes use of several digital tools and devices to meet its goal. With the passing of days, many worldwide inventions and innovation took place to make them even more user friendly. They are such a large in number that it is practically infeasible and difficult to put all of them together but listed below are the commonly used devices and tools:-

AI-Generated Applications: These days, such applications are very hot and the most relevant program being used in education technology. It has countless applications but its most common uses are in lesson planning, parent-teacher communication, language learning, grading and assessment, Learning Management Systems (LMS), cyber security, plagiarism detection, academic research and

scheduling**.**

Cloud-based Learning Management System (LMS): It is a kind of e-learning that took place virtually. To avail such a program one needs, other than an internet connection, neither to be physically present nor to install the software. Learners can have easy access to remote content and teachers can assess their progress in real-time situations. With login details learners can access and teachers can edit or update content from different devices. It gives a feeling of interactive learning by allowing the facilities of adding quizzes and various other exercises. There is no need to back-up data on the devices as characterized by its name (cloud-based), it keeps on storing it online. So even if the devices get crashed, the data remains safe.

Desktop/Laptop/Tablet/Smartphone: These are the basic and common devices that are used to carry out digitally driven and online based learning.

Gamification/ Video Games: Teaching and learning with the help of video games makes the learning even more interesting and the students learn their lesson relatively quickly. The study reveals that it is also instrumental in bolstering the memory of the students. The coordination between their hand and eye also gets improved.

Podcasting and Live Streaming: The term is a portmanteau of iPod and broadcast. It is a kind of digital audio file uploaded on the internet which can be downloaded by its subscribers on their desired digital devices. Such files can be uploaded in series or episodic manners, as soon as they are uploaded; the information is automatically intimated to their subscribers. It is a pre-recorded phenomenon and there is no live interaction between the podcaster and the subscriber. Thus it is different from the event of Live Streaming in which a real-time interaction takes place between the speakers and the audiences.

Smart Boards/Interactive Whiteboards: These are a kind of electric screen or white boards on which information is depicted with the help of a projector. It enables the teachers to display and explain the particular topics with the help of slides, images, audios and videos to the whole audience simultaneously. .

Websites/Apps/Blogs/YouTube/ Social Media: These are the most user friendly and commonly used online platforms as most of the study materials available on such media are free of cost. Such media are easily accessible for general learners and hardly require a great deal of technical knowhow and perfection.

Education Technology: Merits

Educational technology provides a great number of options and alternatives to the learners. The teachers and the students can pick and choose their relevant options, what best suits them, thereby reaping the maximum benefit. Because of the round the clock availability, it provides them with personalized learning opportunities and experiences.

If used carefully, it is also helpful in improving physical well being and mental aptitude – the basic ingredients of a successful life. It also keeps students and teachers updated with the latest trends in digital technology, current affairs, general knowledge and other studies. It creates a congenial aura and atmosphere which finally enhance their efficiency and communication skills.

It dramatically minimizes the misuse of papers which have been primarily responsible for deforestation. It plays a magical role in saving the trees from which papers are made. The teachers can engage their students online and the latter can also clear their doubts. Now assignments and projects can be given online by using programs like PPT, Google Sheets, Google Classroom, Google Docs, MS Word etc. After finishing the assigned tasks, the students can revert back the same online only.

It enables the students to learn according to their own wishes and convenience. There is no restriction of time and attendance; they remain free from the worry of missing the classes and the lectures. They can make up by watching the recorded videos. It enhances problem solving skills of the students, thus they can find solutions to difficult, brain teasing and complex issues. It facilitates the use of pictures, figures, diagrams, audio, animation, slides, videos etc which makes the comprehension of the topics easier.

It provides an ample opportunity for exploring new knowledge and skills. Students learn much better with the help of technological tools. They develop their cognitive and creative skills. The teachers can have more and more resources they can share with their students. It has the capability of making the learning more and more engaging, interesting and fun filled. The students can get easily attracted and motivated towards it and thereby they can put their heart and soul in the learning, registering all

around development in their proficiency, personality and academic attainment.
Saving both time and money is one of the most prominent features of ICT based education. The huge amount of data and study materials can be transferred, exchanged and shared in the twinkling of an eye. Unlike hard copies, soft copies can be shared with as many people as we can without incurring any extra cost. Before the induction of ICT, the students and the teachers were struggling for gaining access to study materials, they were making to and fro of different libraries and book shops. But now they are in the possession of such a great corpus of study materials that they always run short of time to go through them.
The students and the teachers can virtually get together through several online platforms and one person can share the information with him to others. The same information can be shared in more than one group and it can spread even more rapidly than a wildfire.
Unlike traditional learning, this one is free from the barrier of geographical location. It can be accessed from any part of the world. There is no need to roam around in the quest of studying materials. No worry for the students – in wherever or whatever state they are, they can carry on their study. Thus with the induction of digital technology in education, overall growth in the students is pretty conspicuous.

Education Technology: Demerits

When it comes to comparing the advantages and the disadvantages of using ICT in education, the former certainly weighs heavier than the latter. Despite these huge disparities, we cannot afford to ignore the shortcomings involved with it. Such limitations are as follows: -
The uses of some educational materials are limited to specific systems, programs and software. So they may not work well with other systems.
Its smooth operation heavily relied on the availability of the hardware, software or different programs which keep on updating, making the previous one defunct and outdated. In all these processes of replacement, the cost incurred is very high which makes its application unaffordable for the students belonging to the middle class and below poverty line.
All digital tools and devices are basically made of electrical and electronic components which can suffer sudden, uninvited and asymptomatic failures, thus making them occasionally less reliable with respect to traditional mode of learning and teaching.
Despite it being claimed that it is user friendly still a faction of students and teachers find them difficult to cope up with. Some of them are still more comfortable with traditional ways of teaching and learning. They are still more conversant with reading textbooks instead of e-books. They are more inclined towards writing with ink than clicking a mouse and cutting, copying and pasting the texts.
It makes the learners get friendlier towards the electronic machine and keeps them away from the practical world. Thus it reduces the interaction of the learners with their teachers, colleagues or family members.
Because of ICT, a plethora of information and study materials are readily available online. The students and the teachers do not bother to trouble and cudgel their brains. They straightway go on to search for the solutions to the problems they come across. Their brains remain mostly unutilized. As a result, their mental aptitude, creative and cognitive abilities suffer underdevelopment. Finally they turn out to be ineffectual and inefficient learners and teachers.
It generally trains the mind of the users to resort to the short cuts. They don't care about using notebooks and writing notes on them. For the want of enough practice, their handwriting becomes poor, they lose pace, sometimes they find it difficult to write even a page or two when they require appearing in the examination and writing in some other unavoidable circumstances.
It has become a major source of distractions for even prospective and promising students. Other than study materials, several other sources of fun, frolic and entertainment are available to them uncalled for. They easily drift away from the right course of learning and get tempted towards unwanted and wrong information. They waste their valuable time. They don't do study, revision, homework and assignments on time and simply fall behind in studies. Thus, while using it, the chances of the students getting misguided and spoilt are dreadfully high.
It paves enough ways and means for plagiarizing and cyber bullying. With one click of mouse a corpus of others' information can be stolen and can be claimed as their own. The online world is inundated with instances of copyright infringements. One's sensitive information and hard-earned money can be

dispossessed instantly by mushroom like spammers and hackers.

Nature of online learning is sedentary one. One has to remain sitting for hours in a single position, fixing their eyes on the screen. Consequently, they suffer from problems of vision, back and neck pain, obesity and several other critical health issues which are of silent death in nature. While using it, the learners get immersed in its ever stretching world, caring little about their health and well being even though they regularly come to know about its side effects through different sources and several recent examples in their vicinity.

It makes use of a great deal of hardware which is electrical and electronic in nature. Most of them get outdated, defunct and faulty in the due course of time. Most of the materials used in producing such devices are non-cyclic in nature which further adds to its woes. As a result the world seems to be sitting on the volcanic mouth of e-waste.

Conclusion

No doubt digital technology has brought about a revolution but the cost involved in availing its full facilities are yet to be in the reach of all. It is upgrading and advancing at such a quick pace, it makes it somewhat unaffordable to the people living the life of margins and underprivileged. Updated products and devices always remain a costly affair, as soon as they become affordable for common people, they become outdated. It being a major cause of distraction, it has also been a curse for several students. Instead of using it for building a career, grooming knowledge, developing personality and inculcating moral earnestness, they make use of them for evil purposes; thereby they drift from the right track. Such instances always remain a matter of great concern for parents and teachers, thus for the nation and the world as a whole. These maladies can be minimized by bringing awareness among the students with the concerted efforts of private and public partnership.

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