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Role of modern technology in improving mass education

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Abstract
Purpose: The objective of this paper is to present the result of a descriptive research investigating how Technology is essential for any developing economy especially in the field of education and more over mass education of the country and also has a positive result of it. The main aim of this research is to analyze the difficulties and opportunities that the modern technology faces and how it changes the course of action of both the advantaged and the disadvantaged groups in every part of the society.
Methodology: This topic is examined through the analysis of various descriptive researches. The framework used combines mainly two concepts: Modern Technology and Education. The research is based on an in-depth investigation of the subject matter.
Findings: The paper shows that Technology helps in providing a platform to all the privileged and underprivileged groups of the society to learn new and distinctive ways of studying at their own ease. It also provides students, teachers and parents an opportunity to become more interactive and also help them to increase their domain of knowledge in every aspect. It also provides a platform for students to show up their qualities outside the boundaries of their school, college homes etc.
Research limitations: The paper focuses on only one sector i.e. education and how modern technological instruments are assisting every section of the society to grow. It also helps the government of the country to deliver their policies to the public for their betterment.

Keywords: education, technology, student, teacher, government

1. Introduction
Technology can be defined as the agglomeration of knowledge of tactics, processes, skills and methods used for the means of production of equipments and services in order to achieve the objectives of scientific investigation. In other words it is the philosophy of techniques, processes that can be encapsulated in machines, devices, computers and industries which are further operated by individuals thereby their task easier.
Education is the mechanism of expediting learning, skills, knowledge, attitude, behavior, values, beliefs etc. which helps in shaping an individual's future. It also determines the thinking ability and the personality of an individual.
Technology has been changing over the recent decades. The receptiveness to the technology is increasing day by day as the demand of the customers is also increasing. Today, technology has entered in almost every sector and is flourishing each day. New trends, devices etc. are becoming a part of everyday life of the people. If we particularly talk about the education sector, a tremendous growth can be observed in the pattern of teaching thereby depicting, use of modern technology. Use of computer systems, internet connectivity, social media and use of other electronic media has made teaching more impressive. Technology has benefitted both the students and teachers by giving them a new platform to work upon, different from the traditional concepts. Integration of technology in education has shown positive effects on the behavior, attitude, perception, personality, knowledge etc. of both the teachers and the students. (Rhonda Christensen 2014) [2].
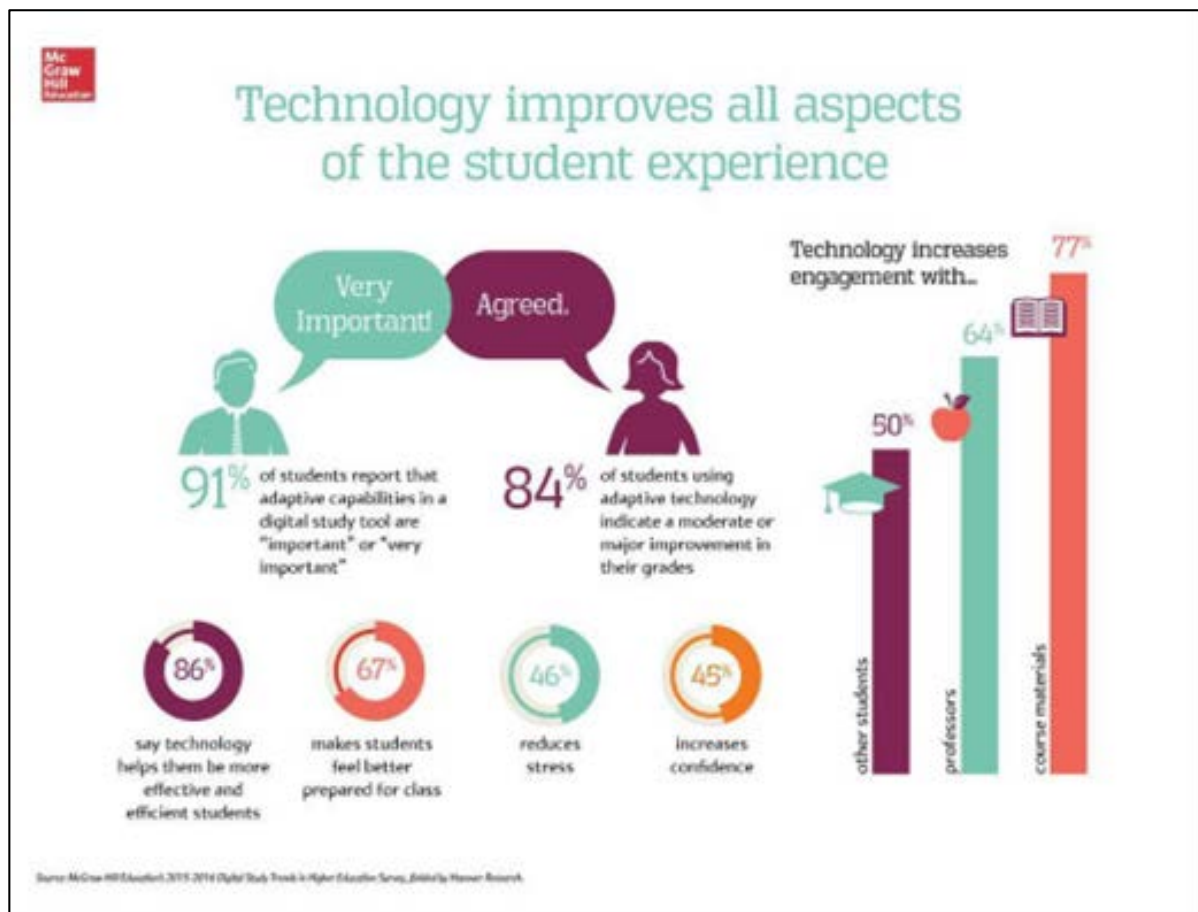
2. Technology and Education
Learning with technology has become essential in today's learning institutions. The respective governments, education systems, teachers, administration, researchers and parents consider technology to be a critical part of a child's education (Eady and Lockyer 2013) [1].
It is also said that the integration of the technology in the education system has always been

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growing and productive by means of computers working as a standalone device along with the world wide web serving as a terrace for users to interact and communicate upon (White 2008) [3]. In developing economies where resources of learning are constrained, teachers and students never thought of having a completely equipped library, the technology alone, have introduced them to a new world of learning. It helped them with the feeling of being empowered, and also provided a platform to compete in a global knowledge-based economy where their knowledge, plan, perception can be valued in the world. It also provides with greater allegiance and disposition to share and embrace innovative solutions especially from the youth of the country along with other sections of the society which includes different communities, parents, teachers, government and students (Global Information Technology Report 2001-2002)

The below mentioned figure depicts that 91% of the students strongly agrees with the point that digital study is important and 84% says that, use of technology helps them in improving their grades. The model also states that 86% of the students assure that technology helps them to become more efficient and effective in their studies and give them a

positive result of it. 67% students said that, with the help of technology they are able to gain more knowledge and can easily prepare themselves for the everyday lectures in schools and colleges. They can very easily prepare notes for classes and this makes them feel better and relaxed and does not create a pressure on them regarding their studies. 45% of the students agree that technology helps in reducing stress. By means of this technology, students can gather information regarding any topic, any subject irrespective of time and place. They are able to perform each and every task at their own ease which reduces stress and fatigue and make them more joyful and full of life. 45% students also stated that use of technology in education help in increasing the confidence level of amongst them as technology makes them independent. They are free to study the subjects of their choice and increase their domain of knowledge in the respective subject. The model also states that, technology helps in increasing engagement of students with one another up to 50%, with professionals up to 64% and with different types of course material on one single topic by up to 77% which means that technology is extremely beneficial in the field of education in every aspect.

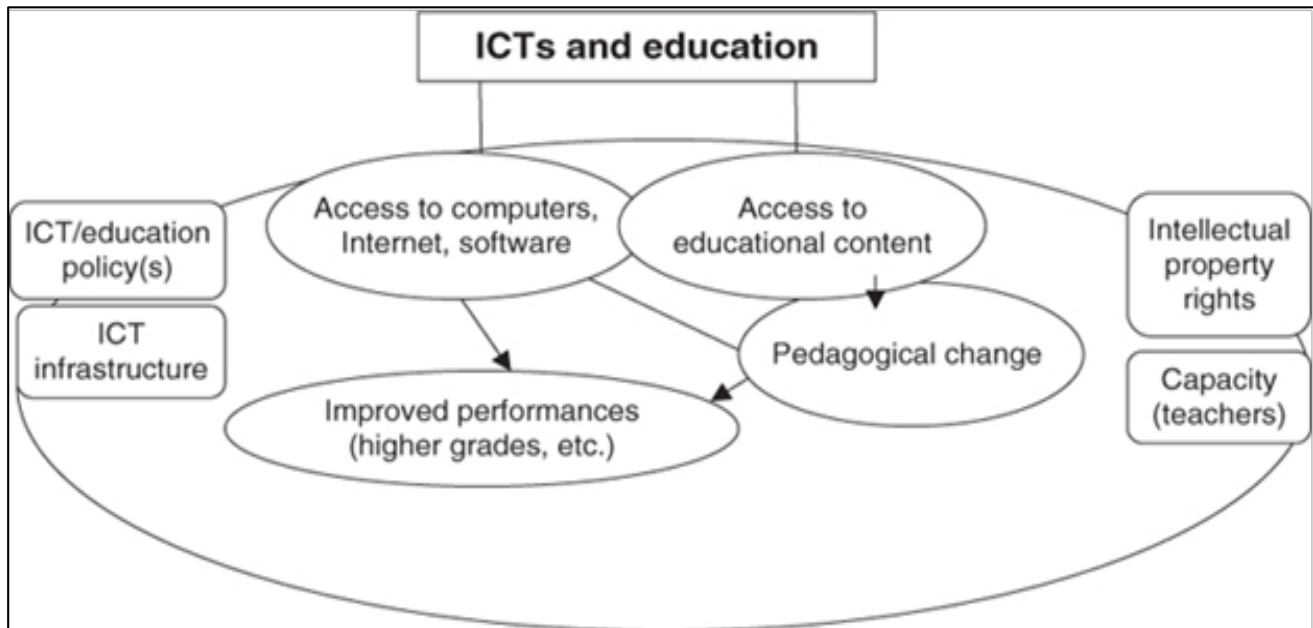*Source:* Mc Graw Hill Education

3. Potency of ICT in Education

Information and Communication Technology in its extended form can be termed as a synonym of Information Technology (Wikipedia). It can be defined as a diverse set of technological tools and resources used to communicate, and to create, disseminate, store and manage information. These technologies include computers, internet, broadcasting technologies (radio and television) and telephony (Ranjan Mohanty 2011). Information and

Communication Technology can bestow to universal access to education, equality in education, provide for quality learning and teaching, growth and development of efficient education management system, governance and administration. The main objective of UNESCO for ICT in the education sector is to establish a link between three of its main sectors including Communication & Information, Education and Science (Wikipedia).

ICT is a powerful tool by means of which one can easily reach to the scattered rural population of the country, groups or communities, disabled, women and girl child and all others who for any reason are deprived of education. It can reach "anytime and anywhere" thereby reducing time and cost. By means of this, multiple learners and educators can simultaneously interact with each other. The second benefit is that it helps in "preparing individuals for work" and creates a better classroom environment. The third benefit is that, it provides for "remote learning resources" where the teachers and learners will no longer have to completely reckon upon books. With the access to internet, they can study from any material in almost every subject.

Source: Wikipedia

The above model of Information and Communication Technology and Education is surrounded by several factors with the help of which the status of education system in the country can be improved. The very first thing that this model focuses upon is participating in the policy formulation. With the of ICT, the students, teachers, researchers etc. can directly communicate with the policy makers and can present their opinions in front of them as per their need and on the other hand the policy makers can obtain feedback on the existing policies in the education sector in order to make further improvements as per the increasing demand of new technological instruments. The second most important aspect is that, with access to computers, internet etc in today's world, ICT has paved way to several modern ways of teaching and learning along with other benefits also. By means of ICT, professionals, experts etc can present their knowledge in part of the world and on the other hand learners can learn every minute detail of numerous topics of their interest in just seconds thereby making learning interesting. It also helps students in improving their grades and also plays a significant role in bringing about a social change. ICT is beneficial for every person involved in the field of academics.

4. Benefits of ICT for Teachers, Students and Parents
4.1 For Teachers
ICT plays a significant role for all the professionals, experts etc. as it opens doors for resource sharing, advice and expertise. It is highly flexible as it can be used anytime and anywhere without any constraint. It provides access to more new technological trends in learning and skills development from all around the world. It paves ways for all the flourishing techniques of teaching and learning and also helps in enhancing the domain of knowledge of their respective subjects. It also provides a platform for all the professionals to show case their studies and knowledge around the world by means of ICT. It helps in finding easier way to deliver lectures thereby making compilation and preparation of lectures easy. It also helps in enhancing the professional image.

4.2 For Students
ICT is beneficial for students as it helps in providing more focused and easy learning. It helps in making the students more efficient and effective thereby yielding way for development of advanced learning styles. It is highly flexible as it can be used by students of all age groups irrespective of time and place. It aids in improving communication, learning skills and fluency in speaking which on the other hand improves the grade of the student resulting in high morale and self-confidence. It provides opportunities for students to learn and interact within and outside school or college in a more frequent manner. ICT is considered more beneficial as compared to traditional classrooms and it also reduces lot of mental pressure of students thereby making them less stressful and more joyful.

4.3 For Parents
Along with teachers and students, ICT is also valuable for parents. By means of ICT parents can make easy communication with the teachers regarding their child's performance in class along with his overall personality. It also makes easy for parents to increase their knowledge about their child's capabilities. ICT offers more engagement of parents with the school which in return increases their involvement in education for their own benefit along with the child.

5. Ultramodern Ict Based Teaching Methods

The conventional "chalk and talk" method of education that continued for numerous years is now getting faded in the light of modern and exhaustive technology (Sonia Jackson 2012). The concept of teaching has changed from the autocratic to the democratic approach. There are several new teaching methods that are playing significant role in changing the trend of education in the world. Some of them are listed below:

1. **Spaced Learning:** It is a method in which the content of the lecture is repeated thrice at certain time intervals, a break of approximately 10 minutes in which the student is allowed to perform some physical activity or any other thing that the child wants. It encourages students to quickly jump over activities as the human brain can concentrate for a maximum time of 10 seconds only so a break is required instead of traditional lecturing of 3-4 hours. Students find it easier to work with because every now and then they are learning something or the other in different ways (Sonia Jackson 2012).

2. **Digital library:** It is a special library with a focused collection of digital objects that can include text, visual material, audio material, video material, stored as electronic media formats (as opposed to print, microform, or other media), along with means for organizing, storing, and retrieving the files and media contained in the library collection (Wikipedia). The benefits of digital library includes access 24x7 to the information, does not require any physical boundaries, multiple access, easy to access, no problem of storage and works as global platform for information.

3. **Smart Classrooms:** It is a class well furnished with multimedia components designed to enhance learning and instruction. It include various components like well networked computer systems, projectors, switches, amplifiers etc. It helps in delivering lectures simultaneously to both local and remote students. Audio and video visuals are highly appealing and hence build the interest of the students. It is less time consuming and provides for active learning (Sanjeev Kumar).

4. **Flipped Classrooms:** In a flipped classroom, students go through online lectures, participate in online discussions and carry out research with the guidance of the instructor. In this the information is communicated to children in a variety of forms and here the focus is on learner centered model and helps the students to study at their own pace (Wikipedia).

5. **Blogging:** A blog is a deliberation or information site broadcasted on World Wide Web presenting several posts in accordance to the latest one as the first. It has several benefits that can help in improving mass education and they are as follows:-
   - It helps in giving an opportunity to present the views of an individual in front of the public.
   - It helps in becoming a better writer
   - It helps in building network with people of your respective field.
   - It helps in gaining more knowledge by the views of the public.
   - It helps in learning the present demand of new skills.

6. **Web quests-** It is an inquiry-oriented lesson format in which most or all the information that learners work with comes from the web (Wikipedia). Its main objective is to increase analytical thinking, introduce new knowledge and competency of students. It differs from other internet learning methodologies in 3 aspects:
   - It is class room based.
   - It focuses on analytical thinking and creativity.
   - It focuses upon use of information which is available rather than on collecting information.

6. Government Initiatives

India is a developing economy and hence it pays a lot of attention on its education system. It has been working since years to improve the education status of the country by means of policies and now by means of technology.

India is perhaps the only country with a satellite completely dedicated to education, the EDUSAT for audio, video, data transmission and interactivity. India has 17 Education Multimedia Research centers and coordination which are helping in building considerable knowledge resources over a period of 20 years. According to MHRD (2001), a renewed and focused attention is being given to universalisation of computer literacy and integration of ICT in schools and other institutions in the tertiary sector. In 1998 a National Task Force on Information Technology and Software Development was constituted which formulated a policy on "National Informatics" for the development of human resource. It included various other schemes such as Shiksha Computer Scheme, Vidyarthi Computer Scheme, concept of smart classes etc. CLASS (Centrally Sponsored Scheme of Computer Literacy and Studies in Schools) was introduced to accelerate the growth of IT in government schools in order to achieve the goal of universalisation of computer knowledge. Several other initiatives like training of teachers in various schools and requests for funds from various institutions were made to achieve the goals (Sanjeev Kumar). Some of the new initiatives taken by MHRD are enlisted below:

- **SWAYAM** (Study Web of Active Learning for Young Aspiring Minds): Program- According to this program, the professors of the centrally funded institutions like IIT's, NIT's, central universities etc. will offer online courses to the people of the country free of cost.
- **National E-Library:** A digital library is available for researchers, students, professional etc. and this can be used by means of laptops, smart phones, desktops. In this International cooperation is also accepted.
- **NROER** (National Repository of Open Educational Resources): It offers digital resources (audio, video, images etc.) along with online activities in different languages. Approximately 13,773 users have contributed to the content of the portal.

7. Conclusion

Information and Communication Technology have always played a significant role for every developing economy. It provides a platform to show case the talent of individuals in every field be it education, rural development etc. Modernization has led to huge amount of changes in every sector. The living style of people is changing day by day and people are becoming more dependent on machines and technology. Use of mobile phones, computers, and internet has also brought technology much more closely to people as they are also a part of it.

If we particularly talk about the education sector, Information and Communication Technology has brought a

tremendous change in the education system of the country with the use of modern technology, new ways of teaching, learning etc. It has completely transformed the traditional pattern of teaching and learning and has made education more innovative and interesting for both students and teachers.

Use of digital library, smart classrooms, flipped classrooms, spaced learning, blogging, web quests etc. has all contributed a lot in bringing about mass education in the country. It has not only benefited the urban society rather has brought a huge change in the rural areas also. The students and teachers of schools in rural areas have learned a lot with the help of ICT.

On the other hand, ICT has been highly beneficial for the government of the country as with the help of it, they can easily communicate with the common public and has taken various initiatives for the improvement of the education system in the country so that all the sections of the society can be benefited.

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