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ICT in Education Sector and its Impacts

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Abstract

A rapid evolution process is being observed worldwide in the need for information facilities in the term of quantity, quality and access to information. The process of information and communication and transmission of information has become so fast that it has spread all over the world. This revolution has affected human lives and has brought a radical change in the field of education and therefore, education process has become more effective, meaningful and productive. Advances in digital technology have created many avenues of learning. It is keeping students and teachers updated and enhancing their capacity .Through this technology active learning, discussion, sharing of ideas, immediate feedback and easy access to digital content is taking place very rapidly. In this competitive world, future of education sector lies in knowledge of ICT. It has made information accessible / transmittable from anywhere and by / to all groups of people. Education has reached most parts of the world and therefore, ICT has become integral part of human life. This paper relates how ICT has been used in education and its impact on education sector.

Keywords: ICT, Information, Technology, Education.

Introduction

The rapid advances in information technology along with progress made in communication technology have influenced almost all aspects of our life in positivity. A boost in the use of ICT is being seen in the need for information facilities in terms of quantity, quality and access to information. History has witnessed several revolutions that humanity went through and the recent one is the revolution of information and communication technology. This

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revolution caused breach among all old practices and moreover it is also being observed that everything new today is quickly turned into an old and obsolete trend tomorrow. Because of these advancements, the demand for this technology has increased. It has become the infrastructure of what is known today as the knowledge economy which depends on the information and its delivery methods in the shortest time and at the lowest costs possible. Due to tremendous development attained by this sector and to the extent it has contributed in all sectors, especially in light of the use of satellite, mobile phone and the Internet, this has put the companies in front of a new challenge which is the acquisition of information and communication technology.

People when talk about more advanced information technology, it usually comes to their mind that it is the use of any computers, storage, networking and other physical devices, infrastructure and software to create, process, store, secure and exchange all forms of electronic data. The process of communication and transmission of information has become so fast that it has spread all over world widely, and it has brought about a radical change while affecting human life to a great extent. The world now depends entirely on technology even knowing that this technology carries a significant enough risk to destroy society. People are amazed that exactly what the new technologies of information and communication consist of. Its effects on the daily lives of individuals on the different areas of life: Education, economic, political, and social is tremendous. Information technologies have bestowed society with a vast array of new communication capabilities**.** It's applications in our lives are enormous ranging from simple addition, subtraction to flying an aircraft though autopilot and controlling a spaceship which has landed on mars from the ground of the earth. Electronic databases now can store immense volume of data which can be used very conveniently and internet can be accessed for any information on any field of activities.

ICT in Education Sector

Delivery and dissemination of knowledge through ICT has completely metamorphosed the education sector. Its integration in the field of education has influenced greatly in improving the quality of education as it has potential to transcend any barrier (Fig. 1).

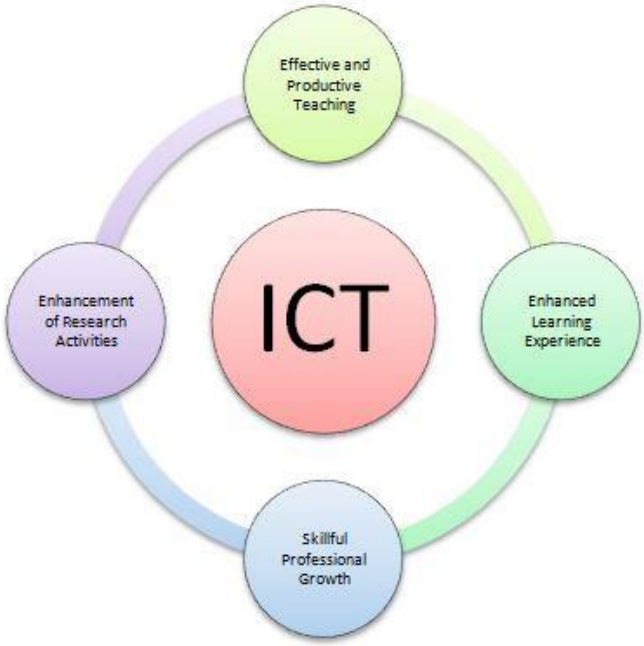

Fig. 1 Perspectives of education in ICT

Integration of ICT with education allows collaboration, networking, easy sharing of resource and effective accessibility to resource. Education is becoming more affordable, assessable with improved quality of services to learners. Now many of the educational institutions are using Information Technology to provide better understanding of difficult concepts to students in classroom and at home. On the web there is availability of vast amount of information which can provide access to all types of learning material. The lecture notes are no longer the primary focus of a learning process and therefore, teacher's role and student learning process is changing. In the modern times all over the globe role of teacher is shifting from "dispenser of information" to "facilitator of learning." Now teacher is only to guide the active students who are involved in using e-learning material. **T**he education process has become more effective and productive with the help of ICT as it has increased the learning level of the students. Developed methods of education by technology have made this process easier, such as the replacement of books with tablets and laptops. There is emergence of e-learning platforms also that allow students to learn from their homes. These have become an effective alternative for people who are out of institution, or who have difficulties keeping up with their teachers in class. These platforms gives students the chance to review the courses with simpler and more concrete explanations at every moment, there by reinforcing the educational process and leading better results in institution for most of the students.

Advances in information technology are affecting the craft of teaching by complementing rather than eliminating traditional classroom instruction. Now the effective teacher is

having multiple roles; in one role the teacher is a supplier of services to the students, who might be regarded as its customers, but on the other hand, one can act as a supervisor of students, and therefore, is playing a role in motivating, encouraging, evaluating, and developing students. It has been found that sometimes for any topic there will always be a small percentage of students with the necessary background, motivation, and self-discipline to learn from self-paced workbooks or computer assisted instruction and for the majority of students, however, the presence of a live instructor will continue to be far more effective than a computer assisted counterpart in facilitating positive educational outcomes. Information technology has the greatest potential in improving the productivity of time spent outside the classroom. Making solutions to problems set to students and assigned reading content available on the internet offers a lot of convenience. Communication between students and faculty and among students who maybe engaged in group projects has been vastly simplified with e-mail. We find role of ICT in distance learning as, internet has made possible a large expansion in coverage and better delivery of instruction. Distance learning via internet is complementing existing institutions for student, but it could have more of a substitution effect for continuing education programs. For some degree programmers, high-prestige institutions could use their reputation to attract them who would otherwise attend a local institute. Owing to the internet's ease of access and convenience for distance learning, overall demand for such programmers will probably expand, leading to growth in this segment of e-commerce text can be combined with audio/video, and students can interact in real time via e-mail and discussion groups/blogs. Such technical improvements coincide with a general demand for retraining and up skilling of those who due to work and family demands cannot attend traditional courses.

It is evident that traditional education environment does not seem to be suitable for preparing learners to function or be productive in today's society. The demand for education and training concerns the full range of modern technology. Information technologies are uniquely capable of providing ways to meet this demand. Online training via the Internet ranges from accessing self-study courses to complete electronic classrooms. These computer based training programs provide flexibility in skill acquisition and are more affordable and relevant than more traditional seminars and courses. Today, the power to transform education is with ICT and it is making dynamic changes in society. It provides students and teachers with more opportunities in adapting, learning, teaching and managing the individual needs. It adds value to teaching by enhancing the effectiveness of learning.

Impacts

We see the penetration of ICT in every walk of education. Every aspect of education is being affected from teaching, learning to assessment and evaluation. It is even being applied as a means of improving efficiency and also helps in literacy movements and research communications. Based on this technology we observe following outcomes in teaching learning process.

- Comprehensive learning objectives and contextualization.
- Relevance of class.
- Sharp increase in motivational level of learners.
- Successful consolidation and recollection of learning content.

Some features which highlight its penetration in student life are discussed in Table 1 as; students are expected to be skilled user of ICT in day to day life.

Table 1: Impact of ICT on Students.

Technology	Activity	Outcome
Animated videos and graphics	Enjoyable watching	Absorbance and critical thinking
e-Books	Convenient use anytime anywhere	Environmental friendly and time saver
Broadcast media	Mass communication	Better perception, enhancement of memory and mass literacy
Online education	Learning at will	Self paced education with no bar
Internet	Access information with ease	No isolation
Personal computers and laptops	Interactive sessions	Positive use of addiction to digital media
Power point presentations	Assignments and projects	Deep understanding and enjoyment
Audio/video lectures	Listening and watching the contents at will	Better understanding and retention of the content
Video conferencing	Group discussion	Collaboration and problem solving
e-Mail, social media and blogs	Better and quick connectivity	Satisfaction of queries quickly
Intelligent testing system	Interactive sessions	Individualised evaluation

It is required that teachers are having necessary knowledge, skills and attitude to shift to new role and are at home to take care that pedagogical skills are redefined in the context of

increasing use of ICT. It is a reality that teachers are at the center of curriculum change and they control the teaching and learning process. Therefore, if the attitude of teacher is positive towards the use of ICT in education, then, they can easily provide useful insight about the adoption and integration ICT in teaching and learning. The training of teaching staff is must in pedagogical issues if they are to be convinced of the value of ICT. Teaching profession needs to be redefined with respect to technology based teacher education program. This emphasizes on integrating ICT skills in respective subjects regarding pre service teacher's training program, design lessons, activities etc.. In some reports it has been found that such approach has significant changes in their understanding of effective implementation strategies and self-efficiency to their ICT competencies. While going through following points, we can very well see how ICT is impacting teachers:

- Teachers are creating interesting audios videos and presentations for better understanding of the content.
- Technology is helping the teachers and administration to keep track of all students in the classroom.
- Teachers can also keep parents up to date about the achievement of their child.
- The teachers are helping the students in their weak subjects and provide them some extra time and notes through the use of ICT.
- IT is saving the teachers from old methods of maintaining student records on books and registers.

Conclusion

Effective integration of technology into classroom practices poses a challenge to teachers and learners. Empowering our youth with latest technology to tap their creativity and skills is the need of the hour and therefore, we look at Information technology playing a major role for both, the students, to achieve a better understanding, learning and education and for teachers to keep themselves up to date and improve their teaching skills. Although, we know that that availability of computers is less, the cost of internet is high in some countries and ratio of computer to population is in sufficient but still the motive of lifelong learning can be achieved by reinforcing and updating existing system of learning both in public and private sectors. Teachers should ensure that knowledge and skills are not presented to students directly but are constructed by them in response to information and learning talks. Students who used to learn facts and skills by absorbing contents presented by teachers and media resources should move towards creating personal knowledge by acting on content provided by teachers, media resources and personal experiences. Focus should be to acquire

higher order skills like problem solving and critical thinking. Role of quality leadership and better management of ICT in education sector is also very crucial. A judicious use of ICT technologies together with new functions and role of education personnel can bring about more efficient and effective teaching learning process

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