



IMPACT OF DIGITAL TECHNOLOGY ON EDUCATION

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Abstract

Advances in digital technology have opened up many avenues of learning. Technology has made information accessible / transmittable from anywhere and by / to all groups of people. Education has reached most parts of the world and ICT has become an integral part of human life. Digital Education is a campaign initiated by the Indian Government to move towards a new direction and ensure that education services are made accessible electronically to a students through enhanced online infrastructure. Traditionally education is centred on sources such as schools, teachers and print media. The learners reached the information sources by enrolling with schools, teachers and libraries. Prior to the digital era, information was not accessible by the majority of people, and even those accessed were unable to obtain current information with respect to today's context. This paper described the process of generation, creation and acquisition of knowledge through the technology. The use of ICT to manage and organise explicit knowledge is highlighted. The paper also described how technology is used to access and apply such knowledge.

Traditional Education

In Indian context formal education was traditionally centred on schools and provinces at village level while non-formal education was centred in libraries at Central places in the form of newspapers and books. Teachers delivered the formal education either following a Textbook or not prepared using books and their experiences the learners enrolled and visited the places that offered formal education. Teacher has to be well educated and knowledgeable to be able to educate other. Also they have to acquire the skills of retaining student's attention and deliver content in an effective way. Thus teaching is an important profession and people respected them as they guided and assisted the learners to be useful citizens of the country. Due to the respect earned by the society teaching was one of the social services activities. Also most activities people then used to were centre at village level and teaching too was carried out at village where small populations used to live.

Electronic and Digital Era

Electronic Era commenced with the use of wireless Electronic Communication over 100 years ago. Transmitting Telegraph messages and the radio are among the important

application of this technology. The messages were passed through the air invisibility on radio waves. Since then the technology use has Moves radio and are according to movies to television to computers and internet. This Technology was very useful to convey instant urgent messages and well as to make people be aware current local and international news. This has become an informal but effective form of education.

Supporting Technologies And Applications

There are a number of Technology components available to build knowledge management system. Local area network internet and intranets are the backbones. They provide transparent speedy transfer of knowledge among people and applications. Internet application built using software and tools allow collaborative intelligent access to knowledge. Appropriate access and authentication layers ensure the security aspect of such system. Data and document bases Act as the responsibilities to generate the knowledge.

Media For Explicit Knowledge

Text - Text is one of the most effective components of representing knowledge. The words embodied as text convey a powerful message and this has been widely used in handwritten and print media. Most data and information is represented through this medium. It is the impossible to convey an unambiguous message without text. To convey message effectively the message should be specific, definite, concrete and precise selection of suitable fonts and size is important for legibility and aesthetics effects.

Graphics- Text and graphics are the basic components of multimedia system. Text without graphics will fail to retain person's attention as well as long – term retention.

Animation- Animation adds impacts to a presentation. Unlike text and graphics these are dynamic time based media. The visual impact of animation is to harness the learning process. Animation usually take forms like moving an object across the screen.

Sound- All forms of verbal communication use sound. Technology has been used to transmit sound across the universe. Teachers' voice has been the primary focus in delivering knowledge. A multimedia system requires the use of speech, music or special sound effects.

Video- Video occupies the most disk space and bandwidth when used over the network. Hence video can be integrated with other media only through use of edited segmented video clips each conveying a specific message.

Accessing Explicit Knowledge-

Internet – Internet provides a cost effective global network backbone. It connects users from anywhere, as long as they have access to the web. This has allowed users to host information

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on their computers and make them available for others. Such computers need to be dedicated for that purpose as users will be searching for information at different times. These sites are called web sites and they are connected to the web on 7□24.

Intranet- Intranet is used only within an organisation, thus restrict access to information from outside the organisation. The appropriate security measures implements such requirements. These web sites allow to employees and authorised users to access information while protecting the same from others. This technology is used to share confidential information within an organisation.

Search Engines - Search Engines are very effective powerful tools that allow text based information retrieval. Web based search engines deploy different types of navigation strategies. Meta searching, hierarchical searching, attribute searching and content searching are among them.

Sharing Knowledge –

Knowledge sharing is done among a network of people. Communication among people could be done through paper mail, fax and telephone. However these techniques are synchronous and less effective across geographical boundaries. IT provides more effective solutions through the use of e-mail, video conferencing, virtual meeting, and document collaboration.

E-mail- E-mail allows sharing knowledge asynchronously. An individual could share knowledge with a community by sending a message to a group of people. Creating students groups, teachers and well as students share knowledge and this is practised to some extent in India as well.

Video Conferencing – Telephone allowed voice communication among distant personnel. This has evolved not only to view a live video of the person but also to connect to a number of people. Although the technology is costly it is been used for scheduled meeting involving people internationally.

Virtual Meeting – Virtual meeting allow people from different locations connect with each other to conduct meeting and share knowledge as if everyone were in the same room. Application such as presentation graphics, spreadsheets and word processing can be shared in real time. Educational Institutions created to deliver knowledge have to adopt technology for this purpose. Universities, technical education centres should use them on regular basis.

Documents Collaboration – Documents collaboration lets team member's work together with many other participants with documents or information in real time. Everyone can

manage and use information in real time. Documents in digitised form can be transmitted to a remote place in the exact form and reproduced any number of times.

Changes Taken Placed –

Availability of vast amount of information on the web has provided access to all types of learning material. The teacher's lecture notes are no longer the primary focus of a learning process, and the teacher's role and the students learning process is changing.

Paradigm Shift - In terms of education this means we should create knowledge that is accessible virtually with the focus on the students. Virtual access is achieved through Internet / Intranets.

Classroom Level – Use of technology at classroom level was not possible until the teacher's delivery mechanisms were aided with technology. Originally delivery mechanism was through verbal communication and then through the introduction of written media such as blackboards. Thus the teachers are now equipped with tools to teach effectively:

Method	Teacher	Student
Verbal explanations	Dictate	Listen and copy
Writing during class	Blackboard/ Whiteboard & Chalk/ Pen	Copy notes
Pre-written transparencies	Overhead Projector	Copy notes
Pre-prepared slides	Multimedia Projector & Computer	Printed material
E-learning	Provide learning material	Learn through participation

Teacher's Role – In the modern global learning environment teacher's role shifts from “dispenser of information” to “facilitator of learning” as he has only to guide the active students who are involved in using the e-learning material. Classrooms have been fully equipped with permanent multimedia projects and computers and the facilitator needs to access the w-learning system through the Intranet.

Students Role – Some classrooms are equipped with computer access to all students. In such cases students interactively participate in the learning process. Now the students focus is totally on the learning process than on copying note as the learning material can be accessed at a future time. Thus students who used to learn facts and skills by absorbing the content presented by teachers and media resources should move towards creating personal knowledge by acting on content provided by teachers, media resources, and personal experiences.

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Conclusion

Over the last Ten years computers have been introduced to most educational institutions although its ratio to a student is very high. By making the educators aware of the available technology and some taking initiatives to implement them, some forms of reforms take place.

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