TECHNOLOGY INTEGRATED EDUCATION TECHNOLOGY FOR LOCAL AND GLOBAL PERSPECTIVES

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As we entered the new century, globalization and liberalization have emerged as issues of worldwide interest. A major challenge before educational planners, administrators, researchers, teachers and managers of education thus, making quality education available for all students. Yet no country can today afford to ignore the emerging global trends in education. A major global trend, obviously, is the increasing use of modern scientific and communication technology in education.

Educational Technology got developed as a new subject in the field of education. The scope educational Technology includes teaching, learning and training.

General working areas of Educational technology can be pointed out in the areas of curriculum construction, selection of teaching-learning strategies, selection of audio-visual material, determination of educational objectives, teacher training activities, area of feed-back and hard ware aspects.

Interactive Multimedia:

Media for Instruction: Media is a channel of communication. Media forms are useful for information and motivational purposes. There can be no doubt that properly designed instructional media can enhance and promote learning and support teacher based instruction.

Media for learning process; Presenting the stimulus, directing and controlling the student's attention, creating readiness towards learning providing clarity, accuracy of the information processed, inducing transfer and assessing attainments, providing feed back. Media are best used for instructional design process systems approach has been defined by Banathey as, "A systematic way of analyzing a problem and solving it."

Deepika. B. Shah (1988) defines multimedia as "More than one medium" used in a single communication either sequently or simultaneously.

Rationale for Multimedia usage:

1. Multimedia learning experiences represent a natural way for learning to take place.
2. Learning pace can be accelerated by involving maximum number of senses.
3. Sensory experiences forms the foundation of intellectual activity within in any formal school situation, learners differ in the effectiveness of their sense reception.

With the existing numerous kinds of aids, carefully organized presentation of information, through a variety of media should occupy the conscious attention to living stimuli and provide a range of instructional and informational support.

In order to achieve the goals of education, we have developed an interactive multimedia system which presents, stores, retrieves and transmits audio, video, graphic and textual information. These kinds of systems can have a powerful impact on the learner's problem solving abilities which can generate a positive environmental effect in educational institutions. The development of computer assisted interactive multimedia technology appears to be a major breakthrough for industrial training and academic performance support for both teachers and students.

Internet:

Internet connection in India is only about 45 thousand in a country 1 billion when compared to the world. We are a great power in software intellectually sound and India is the second largest English speaking man power in the world yet the percentage of users are very low.

The wide use of Internet and the most recent advances in the telecommunication technology presenting a challenge to the traditional educational paradigm. In August of 1997 the Department of Computer Science at James Madison University started a remote distance master program which is possible to develop a new and almost lecture less paradigm for adult education.

As indicated by Aukstakalnis and Mott, "the great challenges faced by

educators are to present different concepts to students in forms which achieve the greatest measure of clarity an understanding".

Children of different age groups learn differently. Therefore, role of teachers for taking care of teaching-learning at different stages of education vary correspondingly. For teaching pre-schoolers competencies required in a teacher are different from those that are required by an elementary school teacher, which are different from those required by a secondary school teacher, which are different from those required for teaching at the tertiary stage. For each stage of education specialized teachers are required for teaching different school subjects such as languages, mathematics, science, social science, humanities, physical education, fine arts etc. In addition, for taking care of education of children with special needs in an inclusive environment teacher requires special skills, particularly, the ability of identifying the learning need of each child and selection of learning aids appropriate for that child. There are many tasks that a teacher performs which go beyond imparting the basic skills of reading, writing and arithmetic, commonly associated with what a teacher normally does in a primary school. Teachers are expected to teach as per the curriculum, take care of all round development of children, develop abilities such as learning how to learn, problem solving, creative thinking, which are crucial for living effectively in the world rapidly changing with the development in science and technology.

School of Education, Indiana University; Bloomington, has been introduced;

Learning to teach Technology Studio (LTTS): A web based environment of aid teachers in learning to integrate technology into their teaching. The environment, currently under development, consists of two major components; A learning centre unit a rich section of problem centered learning modules and a production centre that consists of templates and guidance for producing courses. It can support instruction for teachers while the entire system can become a professional development environment for taking producing critiquing courses.

Software Developed by Indians University: This is text comprehension instruction designed in 1987 for low literate adults. It is a tutorial with practice exercises. The program is now marketed on CDROM for Mac and IBM platforms. The same approach we developed has been applied to different contents and the program has expanded to a 10 CD package.

Strategic Teaching Frame Work:

This is hypermedia system designed in 1991 to aid teachers adopt a problem solving, learner – centered approach to instruction. The design of the system reflects our construct visit framework for the design of learning environments. A library of videos of expert teachers is at the core of STF. These are videos of a whole class period of instruction. Comments from the teacher and from the other teachers are appended to the video using hypermedia technology. Additionally the user can append his or her own notes to the system. Finally there is a database of multimedia information on the various teaching and management strategies and on the change process. STF was beta tested in 20 elementary schools and three pre-service education programs.

Asynchronous Conferencing Tool (ACT): This is web based conferencing tool to support collaborative problem solving in an educational environment developed in 1996. The design is based on pedagogical considerations and thus the functionality permits the instructor to form conferences that reflect conversation or the analysis of issues, to require students to label how their contribution first into the analysis (e.g. using argument structure), and to require posting before viewing.

The Indiana University Digital Library Program is dedicated to the production, maintenance, delivery, and preservation of a wide range of high-quality networked resources. Its services and projects support the teaching and research of Indiana University students, and foster research about the digital library.

Most of the principles give rise to save new developments in both educational and science and technology and provide a unique chance to fill the gap between the scientific studies and real educational practice.

Technology to bring the distant in class rooms

In a bid to use modern technology to teach students, a university in Cochin has developed a visual problem appraisal (VPA) technique which simulates real-life situations in class rooms.

The technology involves use of filmed interviews and audio-video presentations for training students on case studies in the class rooms. Once such audio-visual kit, using the methodology, has been developed on coastal areas of Kerala by the Cochin University of Science and Technology in association with three Dutch universities.

The kit of features presentations on various coastal activities in the state.

Educationists said it can be utilized as an interactive teaching tool for the courses in coastal zone management, industrial fisheries and marine biology offered by the University.

Through this technique the students get an opportunity to visualize and see what is happening in different areas, and locations in and around Kerala and they can analyse and study critical issues and problems faced by the people of coastal areas, they can understand the socio-economic and cultural aspects of the state with an interactive manner.

The kit, currently under testing at the Dutch Universities, will be included in the curriculum of the university from the next academic year.

It would be used under a team activity session where the students will have to evolves solutions to rectify the imbalances in the case presented.

The university also intends to organize a workshop to train teachers and students on the technology.

The entire content of Smart Class has been developed by the Educomp team, an innovative technology integrated programme developed by India-based e-learning company Educamp. They has 4000 content modules over the last two years. The teacher uses digital resources such as animation, graphics, images and video clippings while teaching the chosen topic in the ETEC. For example in a geography class on volcanoes, a video on how it erupts and its features would be shown. Multiple 17-inch monitors encased in tamper-proof custom designed casings have been installed in each classroom, connected to a dedicated PC for the designated teacher in each class, school students in the US of A will soon be studying with the aid of Smart Class through this programme. The program introduced in schools last year will shortly be rolled out in American schools from this year. In terms of investments, the company is likely to pump about Rs.7 crores in developing and customizing content for US Schools.

With falling academic standards and high drop-out rates in US schools, Educamp's Smart Class is being seen by many in the US education community as a programme that cold generate greater interest among students.

Use of Information Technology in acquiring knowledge and skill has become

an essential element in education and training. A national intellectual strength depends on IT support. The use of modern technology to enhance the efficiency of transaction and productivity is the driving force in this new era of social and economic transformation in the new information society.

A strong IT infrastructure can give an institution a competitive advantage for the best students and faculty and provides a qualitative environment for digital information storage and retrieval and valuation. This field is derived from those related to mathematics, logic, linguistic, psychology, computer technology, graphic art, management and other fields.

Recommendations:

1. Software programmes should be developed by engineers with the help of subject experts.
2. Training in multimedia and use of soft skills must be made compulsory for student teachers. They should be frame their lessons by using technology devices.
3. NCTE should take initiation to give special training programmes for all student teachers. To that the present course time won't be sufficient.
4. Infrastructure facilities and Technical devices like computers, Internet, Televisions (with dishes) should be provided by the Government and UGC for each and every educational institution.
5. Periodical training programmes for in-service and pre-service teachers in utilization of technology is compulsory.
6. Perfect guidance and supervision should be necessary for proper implementation of these strategies.
7. Provide incentives and scholarships to the innovative projects.

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