

EMPOWERMENT OF TEACHING AND LEARNING: ICT INTEGRATING

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Abstract

The teachers need to be well equipped in ICT hence first teachers should have expertise in using technology then they will be able to use it in classrooms. To infuse technology into education there is a need to integrate teachers' content, technology, and pedagogical knowledge to take advantage of technology and use computers to teach in traditional ways. Process of ICT integration needs to address organizational, technological and pedagogical perspectives. Information and communication technology (ICT) in teaching learning means making the effective use of ICT to teach the subject matter in a more interesting manner to make learning easy and fast for the students. The students gain a lot by learning through ICT and they learn to seek knowledge on their own by using ICT. They also get an opportunity to share their knowledge with others through ICT. But there are certain factors which effect the successful ICT integration in teaching learning. This paper throws light on the benefits of ICT usage in teaching learning, three phases to successful ICT integration, factors influencing ICT by teachers, the barriers to successful ICT integration, implications to check barriers, and the changed role of the teachers.

Key words: Empowerment of Education, ICT in teaching, ICT in Learning

Introduction

Information and Communication Technology (ICT) has become, within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding of ICT and mastering the basic skills as part of the core of education, alongside reading, writing and numeracy. The recent effort of the Government of India (GOI) seek to deepen the use of ICT in almost every sphere of life. The Digital India Campaign (2015) of GOI strives to transform India into a digitally empowered society and knowledge economy by focussing on the three vision areas i. Digital Infrastructure as Core Utility to Every Citizen, ii. Governance and Services on Demand and iii. Digital literacy and empowerment of citizens. The three cardinal principle of Education Policy viz., access, equity and quality could be served well by harnessing the huge potential of ICT. Any-time and any-where mode of delivering quality education using ICT is one such implication of technology in education. To motivate school teachers to use ICTs extensively, many incentives, awards, etc. have been instituted by the Govt. of India. One such incentive for the school teachers is National ICT Award for School Teachers.

The National Curriculum Framework (NCF)-2005 also states "judicious use of technology (Multimedia and ICT) can increase the reach of educational programmes, facilitate management of the system, as well as help address specific learning needs an requirements of young learners, teachers and teacher educators. For instance, mass media can be used to support teacher training, facilitate classroom learning, and be used for advocacy. Possibilities of teaching and learning at varied paces, self-learning, dual modes of study, etc. could all benefit from the use of technology, particularly ICT. The increasing use of the Internet has enabled the sharing of information and provided space for debate and dialogue on diverse issues hitherto unavailable on such a scale. NCF calls for a shift to learner centric ways (primacy of active learner), provide scope for variations in learners needs, multiplicity of learners exposures, and creation of citizens capable of reflective thinking and empowered participation in development. MHRD-GOI initiative in Spread of ET and ICTs in Education India recognized the importance of ICT in education as early as 1984-85 when the Computer Literacy and Studies in Schools (CLASS) project was initially introduced as a pilot with the introduction of BBC micro-computers.

Educational Empowerment:

In the education sector educational empowerment can be said to be a process where school participants develop the competence to take charge of their own growth and from it are able to address or resolve their own problems by developing mechanism to do so. An empowered individual is said to have the skills and knowledge to act on a situation or even improve it in a positive way. However, for this to be realized school setting should provide opportunities for development and a display of competence in handling diverse situations making teachers to be central in this process (Frymier, 1987). Therefore the effort to restructure schools towards improvement is critical and an important component where all stakeholders teachers, administrators and students empowerment cannot be overlooked

(Murphy & Evertson, 1990; Short et al, 1991). For it is through the actions of an empowered teacher and administrators that students are made to benefit. Irwin (1991) sees an empowered educator as one who believes in himself/herself and his/her ability of action, understands the system of domination and dedicates time and energy towards the improvement of oppressive practices in the society, respects others and uses his/her power to protect the uniqueness of individuals. Whether working alone or with each other people, they are firm, practical, and passionate dedicated to the self-realization of students in the classroom, at school, and in the community.

Schemes of ICT

National Task Force on Information Technology and Software Development (IT Task Force) - constituted by the Honourable Prime Minister of India - in July, 1998 has made specific recommendations on introduction of IT in the education sector including schools. The relevant paragraphs are reproduced below: Vidyarthi Computer Scheme, Shikshak Computer Scheme and School Computer Scheme to enable students, teachers or schools respectively, desirous of buying computers to do so under attractive financial packages. These schemes will be supported by a suite of initiatives such as lowering the cost of PCs, easy instalment bank loans, computer donations by IT companies and other business houses, bulk donations of computers by NRI organizations, large-volume bargain price imports, multi-lateral funding, etc. Computers and Internet shall be made accessible to schools, polytechnics, colleges, and public hospitals in the country by the year 2003. The concept of SMART Schools where the emphasis is not only on Information Technology in Schools, but also on the use of skills and values that will be important in the next millennium, shall be started on a pilot demonstrative basis in each State.

The 'ICT@Schools'

scheme is a window of opportunity to the learners in the schools of India to bridge this digital divide. The scheme is not a simple merger of the earlier CLASS (1984-85) and ET Schemes (1972: under which Radio-cum-cassette players (RCCPs) and Colour Television sets (CTVs) were supplied in schools) but is a comprehensive and well thought-out initiative to open new vistas of learning and to provide a level playing field to school students, whether in rural areas or in the metropolitan cities. The 'ICT @Schools' Scheme is not a stand-alone scheme but actively solicits the partnership of States,

Information and Communication Technology in Schools

The component regarding financial assistance to States/UT's for purchase of Radiocum-cassette players (RCCPs) and Colour Television sets (CTVs) under the erstwhile Educational Technology Scheme has been weeded out. ICT@Schools Scheme Launched by Govt. of India The Centrally Sponsored Scheme "Information and Communication Technology [ICT] in Schools" was launched in December 2004, to provide opportunities to secondary stage students to develop ICT skills and also for ICT aided learning process. The Scheme is a major catalyst to bridge the digital divide amongst students of various socioeconomic and other geographical barriers. The Scheme provides support to States/UTs to establish computer labs on a sustainable basis. It also aims to set up SMART schools in Kendriya Vidyalayas, Navodaya Vidyalayas and schools run by States/UTs to act as "Technology Demonstrators" and to lead in propagating ICT skills among students of neighbourhood schools.

Why ICT Integration?

The e-Education White Paper outlines ICT integration as the preferred mode of ICT use in schools. Through ICT integration, learners are helped to master so-called 21st Century thinking and learning skills such as thinking, communicating, collaborating, problem-solving, information skills and self-direction

ICT Skills for Teachers

This introductory ICT skills training provides teachers with both an initial and ongoing computer experience using scenarios that directly relate to their roles as teachers. This programme's focus is catering to the teachers' needs and interests, emphasizing the development of independent learning. Participants' different levels of confidence and ICT experience are acknowledged which allows for each participant to work on ICT-based scenarios that best suit his/her skill level. The programme focuses on several aspects:

- Project-based learning in the classroom
- Challenging higher order thinking
- Integrating ICT to enhance learning
- Assessment aligned to the national curriculum statements
- Learner support strategies
- When it is appropriate to integrate ICT resources

The goal is for educators to produce a project that they can use in their classrooms; one that allows them to raise the level of excellence and innovation in their classroom and meet important learning outcomes. Thorough attention is paid to the roles of curriculum outcomes and assessment strategies at an early stage of planning.

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Barriers for ICT integration in teaching learning

Teacher level barriers: The teachers can check the barriers in the following manner: For checking lack of access, teachers should make the effective use of resources offered at the school and they also should have access to ICT at home. For checking resistance to change, the teachers should be open minded and accept the change for good. For checking the barrier of lack of time, the teachers should learn to be more organised and they should also acquire time management skills. lack of training barrier can be checked if the teachers prepare themselves by self training, or taking up the training sessions at the school or they can learn how to have access to the resources on their own. In order to check lack of technical support, the teachers should rely on themselves for solving problems arising while use of ICT and they can also access the available support.

School level barriers: The school organisation can check the barriers in the following manner: By providing the ICT hardware and software, the school can check the lack of access barrier. Providing training in the new pedagogical approaches, the school can check the barrier of resistance to change. The school can check the lack of time barrier by providing sufficient time to the teachers and this can be done by reducing the number of teacher lessons or by increasing the daily lesson time. The school can provide training courses with the new devices, modern technologies and also training in the new pedagogical approaches and check the lack of training barrier. By providing the appropriate and continuous technical support, the school can check the lack of technical support barrier.

Conclusion: The digital India campaign has promoted extensive use of ICTs in the teaching learning process. The e-pathsala, a joint initiative of the Ministry of Human Resource Development (MHRD), Govt. of India and National Council of Educational Research and Training(NCERT), has been developed for showcasing and disseminating all educational e-resources including e-textbooks, audio, video, periodicals and a variety of other materials. The App can be downloaded from respective stores. Empowerment has been defined as a process whereby school participants develop the competence to take charge of their own growth and resolve their own problems.

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