THE USE AND MANAGEMENT OF ICT IN SCHOOLS: STRATEGIES FOR SCHOOL LEADERS

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ABSTRACT: *Information and communication technologies (ICT) have become commonplace entities in all aspects of life. Across the past twenty years the use of ICT has fundamentally changed the practices and procedures of nearly all forms of endeavour within business and governance. Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contact with learners. Many important changes have occurred in the last few years in the education systems, which will require teachers and school leaders to upgrade and refine their technology skills. Some of these changes are due to changes in government policies related to the use of information communication and technology (ICT) in schools while others are due to developments in state of the art pedagogical practices .As technology flows faster into the schools, many school leaders are facing a range of difficult management issues. This article discusses the potential use of ICT in schools and also issues related to ICT integration. In managing the use of ICT in schools some strategies are suggested and discussed for the school leaders to adhere to.*

KEYWORDS: ICT, School, Strategies, Leaders

INTRODUCTION

According to Daniels (2002) ICTs have become within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education, alongside reading, writing and numeracy. However, there appears to be a misconception that ICTs generally refers to 'computers and computing related activities'. This is fortunately not the case, although computers and their application play a significant role in modern information management, other technologies and/or systems also comprise of the phenomenon that is commonly regarded as ICTs. Pelgrum and Law (2003) state that near the end of the 1980s, the term 'computers' was replaced by 'IT' (information technology) signifying a shift of focus from computing technology to the capacity to store and retrieve information. This was followed by the introduction of the

term 'ICT' (information and communication technology) around 1992, when e-mail started to become available to the general public (Pelgrum, W.J., Law, N., 2003). According to a United Nations report (1999) ICTs cover Internet service provision, telecommunications equipment and services, information technology equipment and services, media and broadcasting, libraries and documentation centers, commercial information providers, network-based information services, and other related information and communication activities.

The field of education has been affected by ICTs, which have undoubtedly affected teaching, learning, and research (Yusuf, 2005). A great deal of research has proven the benefits to the quality of education (Al-Ansari, 2006). ICTs have the potential to innovate, accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change (Davis and Tearle, 1999; Lemke and Coughlin, 1998; cited by Yusuf, 2005).As Jhurree (2005) states, much has been said and reported about the impact of technology, especially computers, in education.

During the past decade there has been an exponential growth in the use of information communication and technology (ICT) which has pervasive impacts both on society and on our daily lives. It is thus not surprising to find increasing interest, attention and investment being put into the use of ICT in education all over the world. In addition to the efforts to employ ICT to improve learning, the emergence of the knowledge economy has also brought about much greater emphasis on education. In responding to the impact of ICT in education there are some fundamental areas where ICT plays crucial roles. These include:

ICT ENHANCING THE QUALITY AND ACCESSIBILITY OF EDUCATION

ICT increases the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere. It can influence the way students are taught and how they learn as now the processes are learner driven and not by teachers. This in turn would better prepare the learners for lifelong learning as well as to improve the quality of learning. In concert with geographical flexibility, technology-facilitated educational programs also remove many of the temporal constraints that face learners with special needs (Moore & Kearsley, 1996). Students are starting to appreciate the capability to undertake education anywhere, anytime and anyplace.

One of the most vital contributions of ICT in the field of education is- Easy Access to Learning. With the help of ICT, students can now browse through e-books, sample examination papers, previous year papers etc. and can also have an easy access to resource persons, mentors, experts, researchers, professionals, and peers-all over the world. This flexibility has heightened the availability of just-in-time learning and provided learning opportunities for many more learners who previously were constrained by other commitments (Young, 2002). Wider availability of best practices and best course material in education, which can be shared by means of ICT, can foster better teaching. ICT also allows the academic institutions to reach disadvantaged groups and new international educational markets. As well as learning at any time, teachers are also

finding the capabilities of teaching at any time to be opportunistic and able to be used to advantage. Mobile technologies and seamless communications technologies support 24x7 teaching and learning. Choosing how much time will be used within the 24x7 envelope and what periods of time are challenges that will face the educators of the future (Young, 2002). Thus, ICT enabled education will ultimately lead to the democratization of education. Especially in developing countries like India, effective use of ICT for the purpose of education has the potential to bridge the digital divide.

India has a billion-plus population and a high proportion of the young and hence it has a large formal education system. The demand for education in developing countries like India has skyrocketed as education is still regarded as an important bridge of social, economic and political mobility (Amutabi and Oketch, 2003). There exist infrastructure, socio- economic, linguistic and physical barriers in India for people who wish to access education Bhattacharya and Sharma, 2007). This includes infrastructure, teacher and the processes quality. There exist drawbacks in general education in India as well as all over the world like lack of learning materials, teachers, remoteness of education facilities, high dropout rate etc. (UNESCO,2002). Innovative use of Information and Communication Technology can potentially solve this problem. Internet usage in home and work place has grown exponentially (McGorry, 2002). ICT has the potential to remove the barriers that are causing the problems of low rate of education in any country. It can be used as a tool to overcome the issues of cost, less number of teachers, and poor quality of education as well as to overcome time and distance barriers (McGorry, 2002).

ICT ENHANCING LEARNING ENVIRONMENT

ICT presents an entirely new learning environment for students, thus requiring a different skill set to be successful. Critical thinking, research, and evaluation skills are growing in importance as students have increasing volumes of information from a variety of sources to sort through (New Media Consortium, 2007).ICT is changing processes of teaching and learning by adding elements of vitality to learning environments including virtual environments for the purpose. ICT is a potentially powerful tool for offering educational opportunities. It is difficult and maybe even impossible to imagine future learning environments that are not supported, in one way or another, by Information and Communication Technologies (ICT).

When looking at the current widespread diffusion and use of ICT in modern societies, especially by the young the so-called digital generation then it should be clear that ICT will affect the complete learning process today and in the future. Authenticity is an important issue which should be addressed in the design and development of learning environments (Collins, 1996). Learning environments need to reflect the potential uses of knowledge that pupils are expected to master, in order to prevent the acquired knowledge from becoming inert. In addition, teachers should stimulate pupils to engage in active knowledge construction. This calls for open-ended learning environments instead of learning environments which focus on a mere transmission of facts (Collins, 1996; Hannafin, Hall, Land, & Hill, 1994; Jonassen, Peck, & Wilson, 1999). ICT may contribute to creating powerful learning environments in numerous ways.

ICT ENHANCING LEARNING MOTIVATION

ICTs can enhance the quality of education in several ways, by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by enhancing teacher training. ICTs are also transformational tools which, when used appropriately, can promote the shift to a learner centered environment. ICTs, especially computers and Internet technologies, enable new ways of teaching and learning rather than simply allow teachers and students to do what they have done before in a better way. ICT has an impact not only on what students should learn, but it also plays a major role on how the students should learn. Along with a shift of curricula from "content-centered" to "competence-based", the mode of curricula delivery has now shifted from "teacher centered" forms of delivery to "student-centered" forms of delivery. ICT provides-Motivation to Learn. ICTs such as videos, television and multimedia computer software that combine text, sound, and colorful moving images can be used to provide challenging and authentic content that will engage the student in the learning process. Interactive radio likewise makes use of sound effects, songs, dramatizations, comic skits, and other performance conventions to compel the students to listen and become more involved in the lessons being delivered. Some of the parents of the respondents opined that their children were feeling more motivated than before in such type of teaching in the classroom rather than the stereotype 45 minutes lecture. They were of the view that this type of learning process is much more effective than the monotonous monologue classroom situation where the teacher just lectures from a raised platform and the students just listen to the teacher.

ICT ENHANCING THE SCHOLASTIC PERFORMANCE

Based on the extensive usage of ICTs in education the need appeared to unravel the myth that surrounds the use of information and communication technology (ICT) as an aid to teaching and learning, and the impact it has on students' academic performance. ICTs are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality. However, the experience of introducing different ICTs in the classroom and other educational settings all over the world over the past several decades suggests that the full realization of the potential educational benefits of ICT. The direct link between ICT use and students' academic performance has been the focus of extensive literature during the last two decades. ICT helps students to their learning by improving the communication between them and the instructors (Valasidou and Bousiou, 2005).

The analysis of the effects of the methodological and technological innovations on the students' attitude towards the learning process and on students' performance seems to be evolving towards a consensus, according to which an appropriate use of digital technologies in education can have significant positive effects both on students' attitude and their achievement. Research has shown that the appropriate use of ICTs can catalyze the paradigmatic shift in both content and pedagogy that is at the heart of education reform in the 21st century. Kulik's (1994) meta-analysis study revealed that, on average, students who used ICT-based instruction scored higher than students without computers. The students also learned more in less time and liked their classes more when ICT-based instruction was included

Strategies in Managing the Use of ICT

Managing the use of school ICT is challenging and it requires perseverance from every member of an organization. With the large amount of money spent by the government the school leader must work in concert with the government's policy in managing and integrating ICT in education. The following are suggested strategies to help design a functional solution in managing school technology.

1. Develop a school ICT policy

   In achieving the integration of ICT and technological solution, the school leader must have a proper ICT school policy. The policy is a blue print for the school to design and manage ICT programme for teachers and students in a systematic and progressive manner.

2. Learn the Technology

   The school leaders' command of technology is important. Leaders who are computer literate are more aware of his staff member's needs. Learning the basic of word processing, spreadsheets, presentation software, using web page and the Internet are prerequisite to boost their computer skills. In order to stay ahead and becoming a competitive person, a leader must keep abreast with the recent technology. A school leader must be well informed and technologically conscious

3. Involved Others in The Process

   Literarily, participation gives one sense of belonging and responsibility. In implementing technology successfully, all staff should be encouraged to participate in the implementation process. Continuous participations in a change process should be encouraged because participation gives those involved a sense of control over the change activity. All teachers should be encouraged to share their technical and pedagogical methods and working in teams in integrating ICT into teaching and learning.

4. Enhancing Partnership and Collaboration

   Partnership and collaboration can enhance technological development and promote decision making of the school leaders. Also having a clear vision for technology is essential in order to make wise decision in integrating and managing ICT in schools. In gaining ICT expertise and fund raising, leaders can foster good partnership and collaboration with the community, public and corporate sector. Resourceful leaders should explore many avenues for acquiring technology resources in order to increase accessibility and equity of ICT among the students.

5. Plan a Training Programme for Teachers

   Teachers are the nation builders; they need to be versatile and conversant with the latest technology. They are the custodians of knowledge dissemination. Therefore constant training programme for teachers will promote the sense of professionalism in them. In planning for an ICT training programme for teachers, the first step is motivating them to learn new knowledge and gaining new skills and competencies. To acquire new knowledge and skills in ICT, the schools should:

- Set up a team which consists of teachers with varying skills and competencies.
- Acquire new inputs from other experts such as teachers from other schools.
- Implement a mentoring system to help teachers with minimum skills in ICT.

- Provide opportunities for teachers to pursue ICT training at any teacher's training colleges or universities which offer in-service short courses within one to three months. Evaluating and supervising ICT-using teacher in teaching and learning are significant roles that have to be played by the school leaders. These will ensure the skills and competencies of the teachers are met as have been targeted in the school's documented policy.

6. Benchmarking other schools

   As the use of new technologies is increasing, the school should anticipate and prepare for an ongoing change. In doing so, leaders can exchange information with other schools, be it in pedagogical methods or managerial styles. They can benchmark schools that have good reputation for having an established ICT system in teaching and learning or using ICT effectively in school management. This will broaden knowledge and ideas in integrating ICT in schools.

CONCLUSION

Managing the use of ICT is both challenging and rewarding. The arrival of digital technologies in schools has impacted the roles and responsibilities of school leaders in significant ways. ICT has triggered demands for systematic changes in schools. Inevitably school leaders and teachers feel the pressure to change and must find ways of implementing and sustaining technological innovation.

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