Volume: 3, Issue: 1
Page: 167-174
2019

ISSN 2520-4750 (Online) & ISSN 2521-3040 (Print)

International Journal of Science and Business

ICT Culture in Quality Education: Open and Distance Learning Perspective in Bangladesh

Md. Dulal Mahmud & Sabina Yeasmin

Abstract

ICT has been a contributing factor in social change and thus leading to development in education. It provides greater access to target learners both on campus as well as the distant learners and has become a vehicle for enriched pedagogical experiences. Education system is still to exploit the full potential of ICT for optimizing human learning. In a developing country like Bangladesh, the question is to bridge the big gap between the 'have' and the 'have not', which has led to the euphoria of introducing ICT in education. ICT and ODL (Open and Distance Learning) have a symbolic relationship. However, its usage is mainly hampered by low speed, inadequate skills and less awareness of how online technology can improve the productivity, creativity and quality of knowledge work. Today ICT has entered the arena of e-governance starting from ICT literacy and social development. But it has still far from classrooms to create a classroom revolution. It has not percolated to the deeper levels of educational functioning due to various reasons. It is yet to become a culture in the educational sector of Bangladesh. This paper brings into lights the importance of ICT in education, highlights the emerging trends in and various impacts of ICT on primary and secondary education in general and tertiary education in particular, analyzes challenges and opportunities, explore potential future developments and suggests adoption of future strategies so that the nation can prepare its upcoming generations to become global citizens, who can communicate across culture, time and space.

IJSB
Accepted 21 July 2019
Published 23 July 2019
DOI: 10.5281/zenodo.3346863

Keywords: Education, ICT, Culture, ODL, Pedagogy.

About Author (s)

Md. Dulal Mahmud, Lecturer, Bangladesh Open University, Gazipur-1705, Bangladesh.
Sabina Yeasmin (Corresponding Author), Professor, Bangladesh Open University, Gazipur-1705, Bangladesh.

Introduction

At the second World Summit on the Information Society (Tunis, November 2005), Kofi Annan, the then Secretary General of the UN reminded us, "information and communication technologies (ICT) are not a panacea or magic formula…but they can improve the lives of everyone on the planet." Education surely is the noblest profession known to humanity because it involves not only the consolidation and extension of knowledge, but the transmission of that knowledge to future generations. Technology as an aid enhances the process of learning and helps in achieving higher level objectives. Depending upon the nature of content, scope of content, and level of learners, appropriate technology integration must be sought. In efforts to meet the new and changing demands for education, open and distance learning (ODL) may be seen as an approach that is least complementary and under certain circumstances an appropriate substitute for the face to face (f2f) methods that still dominate most educational system. The rationale of distance education (DE) from its earliest days has been to open opportunity for learners to study regardless of geographic, socioeconomic or other constraints. There has been significant progress in the incorporation of ICT in education. ICT have been flaunted a potentially powerful enabling tools for educational change and reform. When used appropriately, different ICTs are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace and raise educational quality, helping make teaching and learning into an engaging, active process connected to real life. Experts are now talking about the 'School of the Future' (Taylor and Hogenbirk, 2001), which must grapple with the ever changing need of Bangladesh is increasingly inter-connected, globalized, information-based society. Westbrook (2001) observed that the introduction of ICTs in education has resulted in the changes in four core areas: 1) curriculum; 2) role of facilitator and learners; 3) organizational structure; and 4) learning environment. The use of ICT in education has enhanced the quality of education in various educational institutions throughout the world. Pedagogy includes how the teaching occurs, the approach to teaching and learning, the way the content is delivered and what the students learn as a result of the process. There are, in fact, the center point of quality instructional delivery process and determinants of quality education. ICT is increasingly being heavily relied upon in many developing countries including Bangladesh because it has potential for social and economic development. However, in various education systems across South Asia, ICTs are increasingly being taught as a completely separate discipline, while ICT integration into pedagogical practices to improve the quality of teaching and learning remains in the exploratory stage. In a nation where the concern of most people is meeting their basic need for food, clothing, and shelter, access to ICTs, especially the most modern ones, is very low on their list of priorities – and oftentimes, not considered a priority at all. Indeed, the use of a particular ICT must not only address certain pedagogical concerns, it must aim to bridge the digital divide and democratize access to quality education. The objective of this paper is to examine on how quality of education is ensured in a technology-driven system of teaching and learning, which includes, among others, the employment of the 'quality circle approach' in the development of courses and learning packages, and the provision of appropriate technologies to perform academic processes and achieve institutional goals. Finally, it recommends policy and practical responses to the identified gaps and challenges.

Methodology

The methodology used in this study were both quantitative and qualitative, where a mixed methods approach was used in the collection of data which consisted of self administered questionnaires, one to one interviews, focus group discussions (FGD), observation and review

of documents. 3 regional resource centers (RRCs) and 12 tutorial centers (TCs) were included in this study. All the RRCs/TCs were of mixed gender, which were purposively selected from rural, semi-urban and urban areas. Triangulation method was used, wherever possible.

Development and applications of ODL in Bangladesh

The development of ODL in Bangladesh has undergone few stages or generations. Unlike other countries, the root of ODL in Bangladesh was not print, nor even correspondence. On the contrary, radio was the first ODL instrument. However, it is interesting to note that the early ODL programs in Bangladesh were designed, developed, and implemented by the natives for the native people. Much variation can be observed in the ICT software components needed to support e-Learning or m-Learning. Such software tends to be customized to address variables such as specific applications or purpose for which it will be used; the combination of hardware used to support DE applications; and features that need to be incorporated to meet users' needs. One key indicator of 'physical access' in Bangladesh is the level or rate of ownership. For example, most Bangladeshi households and businesses own a radio, television, audiocassette, and/or VHS/ VCD/ DVD player. Indeed, such technologies are very common. Moreover, because very little skill is required to operate these technologies, their use is only limited by the cost of the hardware itself and electricity needed to power it. The use of cellular mobile telephone in the country has enjoyed phenomenal growth. The number of cell phone subscribers has expanded to manifolds. Use of the short messaging service (SMS) has become an integral part in Bangladeshi communicative lifestyle. There are now more mobile phone subscribers, than fixed-landline telephone subscribers in the country. Given the proliferation of cellular mobile telephone use across all sectors of Bangladeshi society especially with the introduction of smart phone, it is becoming increasingly evident that this highly mobile form of technology and its infrastructure can be leveraged to deliver flexible educational opportunities to more and more people. In other words, simple, low-cost cellular mobile telephones are now helping them bridge the once formidable digital divide.

Quality Education vis-a-vis Technology-Driven Learning

Educational providers must strive to use quality and reliable ICT hardware (connections should be available, 24/7) and software (i.e., the LMS). Just as important, these systems must be supported by highly skilled individuals, armed with the knowledge and skills they need to ensure hard and software runs smoothly. To accomplish the human aspect of ICT, institutions must offer training to various user groups (i.e., learners, facilitators, administrators etc.). Offering such training helps to ensure the efficient and effective use of ICT for all stages of the teaching and learning process, from accessing online classrooms, to course registration, to managing digital library materials, to manipulating databases to get the information one needs to do their work or complete an assignment . . . and so forth.

Findings

ICT Integration is still inadequate - more individualized than institutionalized. First, those seeking to deploy DE must ensure that any technology used is both pedagogically sound and socially-driven. In other words, it is not wise to use technology simply for technology sake, it must be 'relevant.' 'Relevance' in this case has two dimensions: the first is process and the second is substance. Kling (2001) asserts that design and implementation processes must be relevant to the actual social dynamics of a given site of social practice, and that the substance of design and implementation – specifically the actual designs and the actual systems – must

be relevant to the lives of the people in which they affect. The cost will always be a consideration, however. A fact that has been implied by Bates (2000), who advised that institutions must comprehend the costs of using new technologies. These costs not only must cover the purchase of the technology (e.g., hardware and software), it must cover the cost of training staff so they can acquire the needed skills and knowledge to use the new technologies effectively, or if that is not feasible, securing funds to hire additional staff that possess the needed skills and knowledge. Access and cost of access must be attainable and affordable for students. While universities can always find ways to make DE technologies available to its staff and personnel, students must also be considered in the costing equation of 'access'. The cost using ICT, such as the cost of Internet access, cost of sending SMS, or cost of the mobile telephone itself, must be considered when selecting technologies to support DE. Another consideration is that those using this technology should ideally have the skills and knowledge necessary to use the technology effectively.

Partnerships and collaboration are strategies that can work to reduce costs associated with DE. Resources tend to be limited and few institutions of higher education have everything they need to implement quality DE. For instance, there may be cases when the R&D associated with the development of DE projects is best shared across two or more universities. Moreover, as technologies converge, organizations must respond with common goals and objectives. In this context, collaborations can reduce costs associated with designing and implementing commonly used DE platforms and courses (i.e., sharing of reusable learning objects housed in a common repository). Moreover, collaborations often serve as an enriching learning experience for all involved. The progress of any country depends upon the quality of education offered and its practices. Education in Bangladesh has undergone various phases and stages of development. At all stages of development there was a concern for bringing in quality education reflecting on the practical aspects in education. The experts had emphasized on developing the inner potential of individuals by reflecting on unique potential of individuals. Getting educated is solely dependent upon the individual teacher's role to set conditions and generate environments for learning.

The recent developments in technology have changed the world outside the classroom. The ICT has made learner interested for learning. This is because technological developments have brought developments in two ways: First, by enhancing human capabilities by helping people to participate actively in social, economic, and political life in a society at large. Second, by giving advantage to technological innovation as a means for human development due to economic progress and increased productivity. The power of information is such that almost all decisions made in different sectors like science, technology, economics, and business development will be based on information that has been generated electronically. Many studies have been conducted with regard to the attitude of teachers towards use and interactions of technology have revealed the importance of attitudes for learning to use technologies (Cox et al., 1988; Davidson and Ritchie, 1994; Hannaford, 1988; Kay, 1990). These findings were further supported by Bandalos and Benson, 1990; Dupagne and Krendl, 1992; Francis et al., 1996; Loyd and Gressard, 1984; Mowrer-Popiel et al., 1994; Office of Technology Assessment, 1995.) Several studies have found that individuals' attitudes toward computers may improve as a result of well-planned instruction (Kluever et al., 1994; Madsen and Sebastiani, 1987; Woodrow, 1992). Like other individual characteristics that are hypothesized to play a role in the continued growth of technology proficiency, attitudes and beliefs can't be easily taught and must be developed by an individual over a period of time.

Research has shown a high correlation between efficacy judgments and subsequent performance (Bandura and Adams, 1977; Bandura et al., 1977; Schunk, 1981). This particular link between self-efficacy and subsequent actions is significant in developing an idea for a facilitator who continues to learn to teach with technology apart from instruction in teacher preparation (Ashton, 1985). Just as ICT literacy and skills lay down the foundation of ICT culture in education, ICT integrated education is the central theme in developing ICT culture. From the angle of ICT culture, it is very important to create opportunities for personal access to ICT facilities, especially computers and internet for every teacher and member in educational fraternity. This will ensure digital empowerment. ICT culture in education cannot be achieved either by government or the private sector independently. It needs a collective effort of government and civil society. So there is a need to launch the next generation advocacy for ICT Culture in Education- an ICT Culture that will ensure complete integration of ICT in every aspect of educational processes, rather than 'hanging as a piece of decoration' in the educational institutions.

ICT in educational management is not only essential for improving the managerial efficiency of the education system, but also for creating transparency within the system. Just as ICT literacy and skills lay down the foundation of ICT culture in education, ICT integrated education is the central theme in developing ICT culture. As of now, digital content occupies peripheral space in teaching-learning process. Introduction of pedagogically sound digital content directly onto the curriculum and syllabus would have the capability of relieving the teachers of mechanical workload, generating enough space for them to be creative and nurture higher-order thinking and creativity among the children. Other ICT tools like Smart Boards, Web Portals, Blogs, etc. can significantly speed up the process.

There is also a need to change the concept of teacher empowerment. At the moment it is restricted to good, bad or indifferent teacher training which at best contributes to cognitive empowerment. From the angle of ICT culture, it is very important to create opportunities for personal access to ICT facilities, especially computers and internet for every teacher and member in educational fraternity. To establish ICT culture in education, everyone in the organisation must develop not only ICT literacy but also relevant skills. ICT literacy and skill development must include people occupying leadership positions in educational organisations, teaching fraternity, non-teaching staff etc. This will reduce the digital divide within the organisation and create a common platform to share information, data, knowledge etc. According to the evidence of research and experiments, ICT can optimally play its role only when it is a part of Institutional Culture.

Education system is still to exploit the full potential of ICT for optimizing human learning. Absence or near-absence of educational web portals, blogs and wikis, face-books (where teachers can actively participate both as a beneficiary and benefactor), is proving to be one of the biggest hindrances in development of ICT culture in the country. With the significant quantitative expansion of education system in the country, declining quality and internal efficiency has remained a major concern. The low quality and internal efficiency of education can be attributed to many reasons of which deficiencies in teachers' teaching skills and capability is one of the prime reasons (Ahmed et al., 2006). In fact, quality of an education largely depends on quality pedagogy. Teachers' teaching skills strongly linked with quality pedagogy (Tasker, 2008:15).

Conclusion

ICT provides an important opportunity of improving quality education – curriculum design and planning, curriculum transaction, learner evaluation and assessment and academic management. In efforts to meet the new and changing demands for education, ODL may be seen as an approach that is least complementary and under certain circumstances an appropriate substitute for the face to face (f2f) methods that still dominate most educational system. The concept of quality education is a global issue now. The question of educational quality, of course, connected with educational needs, and in turn their relevance to particular learners. Thus it has to be reinvented within nations and then contextualized in each and every particular bounded community of shared conditions and aspirations. Conventionally, equity and quality has been seen as competitors. A large majority of the people in educational policymaking and planning still believe that quality can be achieved only with few. Hence, quality comes before equity. Education is socially oriented activity and quality education has traditionally been associated with strong facilitators having high degree of personal contact with learners. Today's learners live in a world that is constantly connected and alive outside the classroom. Education is no longer conceived in terms of teaching, rather it is perceived now as a process of 'learning through experience' or 'experimental learning' and 'lifetime learning'. 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 teachers training. ICTs are also transformational tools which, when used appropriately, can promote the shift to a learner-centered environment.

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Cite this article:

Mahmud, M. D. & Yeasmin, S. (2019). ICT Culture in Quality Education: Open and Distance Learning Perspective in Bangladesh. ***International Journal of Science and Business,*** *3(1), 167-174*. doi: https://doi.org/10.5281/zenodo.3346863

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