Ict Education In Present And Future Vision

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INTRODUCTION

Information and Communication Technology (ICT) includes computers, the Internet, and electronic delivery systems such as radios, televisions, and projectors among others, and is widely used in today's education field. Kent and Facer (2004) indicated that school is an important environment in which students participate in a wide range of computer activities, while the home serves as a complementary site for regular engagement in a narrower set of computer activities. Increasingly, ICT is being applied successfully in instruction, learning, and assessment. ICT is considered a powerful tool for educational change and reform. A number of previous studies have shown that an appropriate use of ICT can raise educational quality and connect learning to real-life situations.

Learning is an ongoing lifelong activity where learners change their expectations by seeking knowledge, which departs from traditional approaches. As time goes by, they will have to expect and be willing to seek out new sources of knowledge. Skills in using ICT will be an indispensable prerequisite for these learners. ICT tends to expand access to education. Through ICT, learning can occur anytime and anywhere. Online course materials, for example, can be accessible 24 hours a day, seven days a week. Teleconferencing classrooms allow both learner and teacher to interact simultaneously with ease and convenience. Based on ICT, learning and teaching no longer depend exclusively on printed materials. Multiple resources are abundant on the Internet, and knowledge can be acquired through video clips, audio sounds, visual presentation and so on.

BENEFITS OF USING ICT IN EDUCATION

The merits of ICT in education have been extolled in the literature. The use of ICT has been found to: Assist students in accessing digital information efficiently and effectively ICT is used as a tool for students to discover learning topics, solve problems, and provide solutions to the problems in the learning process. ICT makes knowledge acquisition more accessible, and concepts in learning areas are understood while engaging students in the application of ICT. Support student-centered and self-directed learning Students are now more frequently engaged in the meaningful use of computers. They build new knowledge through accessing, selecting, organizing, and interpreting information and data. Based on learning through ICT, students are more capable of using information and data from various sources, and critically assessing the quality of the learning materials. Produce a creative learning environment ICT develops students' new understanding in their areas of learning more specifically, these e-books may come with some reading applications, which offer a reading-aloud interface, relevant vocabulary-building activities, games related to reading skills and vocabulary acquisition, and more. Therefore, ICT involves purpose designed applications that provide innovative ways to meet a variety of learning needs. Promote collaborative learning in a distance-learning environment Koc (2005) mentioned that using ICT enables students to communicate, share, and work collaboratively anywhere, any time. For instance, a teleconferencing classroom could invite students around the world to gather together simultaneously for a topic discussion. They may have the opportunity to analyze problems and explore ideas as well as to develop concepts. They may further evaluate ICT learning solutions. Students not only acquire knowledge together, but also share diverse learning experiences from one another in order to express themselves and reflect on their learning. Offer more opportunities to develop critical (higher-order) thinking skills Based on a constructive learning approach, ICT helps students focus on higher-level concepts rather than less meaningful tasks (Levin and Wadmany 2006). McMahon's study (2009) showed that there were statistically significant correlations between studying with ICT and the acquisition of critical thinking skills. A longer exposure in the ICT environment can foster students' higher critical thinking skills. Thus, schools are strongly advised to integrate technology across all of the learning areas and among all learning levels. Where this is done, students are able to apply technology to the attainment of higher levels of cognition within specific learning contexts.

THE IMPORTANCE OF SCHOOL CULTURE ON ICT USE

School culture encompasses the vision, plans, norms and values that are shared by school members (Maslowski 2001). Focusing on the importance of school culture for ICT integration, Pelgrum and Law (2009) indicated that effective ICT integration depends on the perceptions and vision of school leaders rather than teachers' ICT skills. School culture has a mediating role that influences teachers' actions, beliefs, and attitudes (Chai, Hong and Teo 2009). Therefore, in addition to the external and internal variables mentioned previously, school culture also plays an important role in successful technology integration (Tezci 2011b). In

order to explore teacher perceptions of school culture related to the level of ICT usage, Tezci (2011b) examined Turkish teacher perceptions from both the technical and motivational perspectives. The results showed that their perceptions from both perspectives were not positive, because the majority did not believe that they would receive adequate technical and motivational support from their school. However, as the school culture became more positive, the teachers' ICT usage level increased. Ward and Parr (2010) stated that teachers need to feel confident in their ability to facilitate student learning with technology in order to integrate technology into their classrooms. To achieve this goal, more professional development is required with a focus on increasing teachers' skills so that they are able to overcome apprehensions associated with using technology. Further, new teaching approaches and technical support should be offered by schools to allow them to retain control while facilitating learning with computers. Overall, implementing effective teaching with technology integration requires changes in teachers' knowledge, beliefs, and school culture.

Information and Communications Technology (ICT) can impact student learning when teachers are digitally literate and understand how to integrate it into curriculum.

Schools use a diverse set of ICT tools to communicate, create, disseminate, store, and manage information.(6) In some contexts, ICT has also become integral to the teaching-learning interaction, through such approaches as replacing chalkboards with interactive digital whiteboards, using students' own smart phones or other devices for learning during class time, and the "flipped classroom" model where students watch lectures at home on the computer and use classroom time for more interactive exercises.

When teachers are digitally literate and trained to use ICT, these approaches can lead to higher order thinking skills, provide creative and individualized options for students to express their understandings, and leave students better prepared to deal with ongoing technological change in society and the workplace.

ICT issues planners must consider include: considering the total cost-benefit equation, supplying and maintaining the requisite infrastructure, and ensuring investments are matched with teacher support and other policies aimed at effective ICT use.

Issues and Discussion

Digital culture and digital literacy: Computer technologies and other aspects of digital culture have changed the ways people live, work, play, and learn, impacting the construction and distribution of knowledge and power around the world. Graduates who are less familiar with digital culture are increasingly at a disadvantage in the national and global economy. Digital literacy—the skills of searching for, discerning, and producing information, as well as the critical use of new media for full participation in society—has thus become an important consideration for curriculum frameworks

In many countries, digital literacy is being built through the incorporation of information and communication technology (ICT) into schools. Some common educational applications of ICT include:

- *One laptop per child*: Less expensive laptops have been designed for use in school on a basis with features like lower power consumption, a low cost operating system, and special re-programming and mesh network functions. Despite efforts to reduce costs, however, providing one laptop per child may be too costly for some developing countries.

- *Tablets*: Tablets are small personal computers with a touch screen, allowing input without a keyboard or mouse. Inexpensive learning software can be downloaded onto tablets, making them a versatile tool for learning. The most effective apps develop higher order thinking skills and provide creative and individualized options for students to express their understandings.

- *Interactive White Boards or Smart Boards*: Interactive white boards allow projected computer images to be displayed, manipulated, dragged, clicked, or copied. Simultaneously, handwritten notes can be taken on the board and saved for later use. Interactive white boards are associated with whole-class instruction rather than student-centered activities. Student engagement is generally higher when ICT is available for student use throughout the classroom.

- *E-readers*: E-readers are electronic devices that can hold hundreds of books in digital form, and they are increasingly utilized in the delivery of reading material. Students—both skilled readers and reluctant readers—have had positive responses to the use of e-readers for independent reading. Features of e-readers that can contribute to positive use include their portability and long battery life, response to text, and the ability to define unknown words. Additionally, many classic book titles are available for free in e-book form.

- *Flipped Classrooms*: The flipped classroom model, involving lecture and practice at home via computer-guided instruction and interactive learning activities in class, can allow for an expanded curriculum. There is little investigation on the student learning outcomes of flipped classrooms. Student perceptions about flipped classrooms are mixed, but generally positive, as they prefer the cooperative learning activities in class over lecture.

ICT and Teacher Professional Development: Teachers need specific professional development opportunities in order to increase their ability to use ICT for formative learning assessments, individualized instruction, accessing online resources, and for fostering student interaction and collaboration.(15) Such training in ICT should positively impact teachers' general attitudes towards ICT in the classroom, but it should also provide specific guidance on ICT teaching and learning within each discipline. Without this support, teachers tend to use ICT for skill-based applications, limiting student academic thinking. To support teachers as they change their teaching, it is also essential for education managers, supervisors, teacher educators, and decision makers to be trained in ICT use.

Ensuring benefits of ICT investments: To ensure the investments made in ICT benefit students, additional conditions must be met. School policies need to provide schools with the minimum acceptable infrastructure for ICT, including stable and affordable internet connectivity and security measures such as

filters and site blockers. Teacher policies need to target basic ICT literacy skills, ICT use in pedagogical settings, and discipline-specific uses. Successful implementation of ICT requires integration of ICT in the curriculum. Finally, digital content needs to be developed in local languages and reflect local culture. Ongoing technical, human, and organizational supports on all of these issues are needed to ensure access and effective use of ICT.

Conclusion

ICT integration in education has its merits. Its use not only changes the traditional ways of teaching, but also requires teachers to be more creative in adapting and customizing their own teaching materials and strategies. Among all the teaching methods and strategies, collaborative learning, problem-based learning, and the constructivist approach are the most widely used teaching strategies to deal with the challenges of ICT use (Abbott and Faris 2000; Whelan 2008). This corresponds with the suggestion of Palak and Walls (2009), as well as Tezci (2011a), that technology integration will not have the desired effect without student-centered classroom practices. Therefore, ICT integration in education cannot be implemented in isolation. When it is applied in combination with diverse teaching methods and approaches, especially constructivist practices.

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