

## Integrating ICT into Teaching & Learning- “A 21<sup>st</sup> Century Technology Tool for Continuing Education”

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***Abstract:** Higher education around the world must undergo a dramatic makeover, if it expects to educate a workforce in profound transformation by providing second-chance students the opportunity to pursue academic or professional studies. Thus Life long learning performance and the outcomes are expectations of all learners form infancy to adulthood. 21<sup>st</sup> century represents a new era of continuing education identified by collaborative communities of inquiry in an online learning environment. The 21<sup>st</sup> century job market is increasing specialized and complex, which is one of the challenges in the present day knowledge-based economy. Continuing education provides many advantages for adults who need to continue their education for career sustainability. Empowering teachers and learners with ICT skills opens up a world of learning unavailable in the past and is crucial to achieving success in today's global knowledge economy. This paper will discuss the concepts of technology integration and the precise roles that ICT could play in enhancing teaching and learning. The paper will also discuss various problems and challenges faced by teachers in implementing ICT in teaching & learning.*

What is ICT? We see the letters ICT everywhere - particularly in education. But what does it mean?

ICT is an acronym that stands for Information Communications Technology

However, apart from explaining an acronym, there is not a universally accepted definition of ICT? Why? Because the concepts, methods and applications involved in ICT are constantly evolving on an almost daily basis. It's difficult to keep up with the changes - they happen so fast.

Let's focus on the three words behind ICT:

-INFORMATION

-COMMUNICATIONS

-TECHNOLOGY

A good way to think about ICT is to consider all the uses of digital technology that already exist to help individuals, businesses and organizations use information. ICT covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form. For example, personal computers, digital television, email, robots.

So ICT is concerned with the storage, retrieval, manipulation, transmission or receipt of digital data. Importantly, it is also concerned with the way these different uses can work with each other.

### **A Global Challenge in Higher Education**

"It is indeed a global challenge to make higher education widely accessible and cost-effective, while maintaining quality in the face of the growing demand," ICT- based distance education project was launched to serve as an e-learning hub for distance education students. ICT would replace and transform the traditional memory based learning into education that stimulates thinking and creativity necessary to meet the challenges of the 21<sup>st</sup> century. Developing countries have witnessed that these technologies have an enormous potential for knowledge dissemination, knowledge acquisition, effective learning and the development of more efficient education services. The overall policy goal for integrating ICT into education was to enable graduates from educational institutions, formal and non-formal to confidently and creatively use ICT tools and resources to develop the requisite skills and knowledge needed to be active participants in the global knowledge economy by 2015.

### **Expansion of Distance Education**

Distance education makes logical sense, especially in today's fast paced technological society. Almost everyone uses a computer and the Internet on a daily basis. Many adults are as comfortable with online technological tools, as others are with using the remote control to change the channel on a television. This is why distance education continues to expand every year. Colleges and private schools are taking advantage of the interactive multimedia way many adults learn today. Besides distance education:

- Makes economic sense because in many cases it is cheaper than attending a traditional college.
- Does not require the adults to quit their full time employment and miss out on family events.
- Allows adults to remain on job longer and obtain the privileges that come with job seniority.

## Flexibility of Distance Education

Distance education has become the optimum method for completing continuing education courses today. Adults are no longer constrained to a set schedule for classes at a local college that are inflexible for the working environments that many adults are faced with today. The flexibility of distance education allows:

- Adults to complete a continuing education program on their schedule.
- Enrollment in part-time programs that are not constrained by a college's course offering schedule.
- Adults to take advantage of financial aid opportunities they may not be otherwise qualified to receive.
- Allows adults planning to make a change in careers the opportunity to complete the required education without affecting current employment commitments.

## What is ICT Integration?

ICT (information and communications technology) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware, software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning ([www.whatis.com](http://www.whatis.com)). Webopedia, an online Encyclopedia, defines ICT as the study or business of developing and using technology to process information and aid communications.

Integrating technology with teaching means the use of learning technologies to introduce, reinforce, supplement and extend skills (Pisapia, 1993). For example, if students are instructed to read certain topic in a textbook without any follow-up activities, the book is not integrated. If students are just provided with computers to play games or surf the net without clear follow-up activities that leads to mastering of certain skills, there is no ICT integration.

Providing ICT facilities and related programs is not enough to enable teachers and students to acquire the skills and proficiencies to use them effectively. It is Breuleux's contention that ICT can, indeed, support more powerful and complete knowledge-building experiences for learners and states that the most important and the most difficult challenge in ICT is how teachers can help to improve existing conditions or to create important educational opportunities that did not exist without ICT. Increased access to basic education for all, both formal and nonformal, ICT can be used as one of the major tools for learning, teaching, searching and sharing information.

### **Key Challenges in Integrating ICTs in Distance Education**

Although valuable lessons may be learned from best practices around the world, there is no one formula for determining the optimal level of ICT integration in the educational system. Significant challenges that policymakers and planners, educators, education administrators, and other stakeholders need to consider including educational policy and planning, infrastructure, language and content, capacity building, and financing.

The set of tentative goals for empower ICT, have been developed are:

- To empower teachers to integrate ICT into their classroom
- To promote collaborative curriculum development
- To improve teaching and learning
- To facilitate reform in education policy, curriculum, pedagogy, and assessment
- To promote systemic, systematic, and sustainable change in education

### **A Framework for Integrating ICT in Teaching and Learning**

- Teacher Preparation

A Retrospective on Twenty Years of Education Technology Policy, “Teacher professional development has been one of the enduring themes across the past twenty years and is often highlighted ... as the single most important step toward the infusion of technology into education”

- Technology and the Culture of Schooling

Continuing old practices with new technology will not change nor improve education. Old curricula and pedagogical approaches should be reformed, and if necessary replaced, to take advantage of the affordances of the new media.

- Collaboration among Teachers, Faculty, and Experts

An approach that seems to work well on preparing teachers to teach with technology focuses on the idea of building partnerships among stakeholders in developing, implementing and evaluating programs for teacher preparation to teach with ICT. Collaborative curriculum design anchors the process of learning to use technology within an exploration of what it is to teach and learn the subject.

- Communities and Continuous Support

A major issue emanating from research on teacher preparation has to do with the provision of ongoing teacher support to continue integrating ICT in their teaching. Teachers do not just need support in the form of a workshop, they need to have access to support throughout their careers as they try to integrate technology into their curriculum and seek to improve their teaching. One-time workshops and teacher preparation during the course of a semester are not sufficient. For teachers to continue integrating technology successfully in their classroom, ongoing support is essential. New technologies, and particularly the online environment, allow access to knowledge and expertise that was previously unavailable to several teachers.

- **Make Technology an Integral Part of Teacher Preparation Programs** If ICT is valued as an important educational tool, and if we want teachers to use ICT in their teaching, then ICT should be an integral part of teacher preparation programs, the goal should be to provide students with opportunities to think like experts in making instructional decisions and selecting the appropriate combination of ICT, and structuring learning activities in real-life contexts.
- **Constructivist Pedagogical Approaches**

Technology has the potential to support constructivist learning and be used for active, authentic, reflective, and collaborative activities pedagogically sound uses of technology can provide an environment within which learners can take control of their learning and become active builders of knowledge while collaborating with others on solving real-world problems.

### **Research and Evaluation in Teaching and Learning**

Online environments are rapidly expanding as a venue for professional development in education, business, and industry. The demands of work and family life for teachers, underline the need for professional development activities that can be delivered any time, anywhere. Missing are frameworks grounded in research and evaluation that can provide some direction to the creation and evaluation of online professional development. Research is needed that will help improve distance education theory and practice at all levels. A coordinated, systematic study and evaluation of online professional development will allow designers, developers, researchers, and policymakers to make informed decisions for the course development and implementation.

### **Conclusion**

The present age is the age of technology whereby technology plays a key role in daily lives; this also includes the education system. There are endless possibilities with the integration of ICT in to the education system. E-learning has rendered convenience of online learning to

thousand's of learners who can not avail the benefits of higher education due to several constraints, such as time, cost, geographical location, age etc. In such cases ICT has enhanced distance learning and is able to reach remote areas and learners are also able to access qualitative learning environment from anywhere at anytime. It is important that teachers or learners should be made to adopt technology in their teaching and learning styles to provide pedagogical and educational gains to the learners. Distance learning has made continuing education easier. The new cyber age of the 21st century means that technological literacy is a critical job skill and the technology requirements of distance education indirectly improves these job skills. Empowering teachers and learners with ICT skills opens up a world of learning unavailable in the past and is crucial to achieving success in today's global knowledge economy.

### References

- Bandura, A. (1986). *Social foundations of thought and action: A Social-Cognitive View*. Englewood cliffs,NJ:
- Prentice-Hall Brosnan, T. (2001). *Teaching Using ICT*. University of London: Institute of Education.
- Carnoy, M. (2002). ICT in Education: Possibilities and Challenges. (Downloaded from: <http://www.uoc.edu>, 04 March 2011).
- Hare, H. (2007). Survey of ICT and Education in Africa: Ethiopia Country Report (ICT in Education in Ethiopia). [www.infodev.org](http://www.infodev.org) downloaded February 28
- Jonassen, D.H. (1991). Objectivism versus constructivism: Do we need a new philosophical paradigm? *Educational Technology Research and development*, 39(3), 5-14
- Kok, A. (2007). *ICT Integration into Classrooms*: Unpublished literature review Kozma,
- R.B, (2005).National policies that connect ICT-based education reform to economic and social development. *An interdisciplinary journal of humans in ICT environment* 1(2) 117-156
- Kulik, J.A. (1994).Meta-analytic studies of findings on computer-based instruction. In J.E.L.Baker &H.F.O'Neil (Ed.), *Technology Assessment in Education and Training*. Hillsdale, NJ:
- Lawrence Erlbaum OECD. (2002). ICT: Policy Challenges forEducation. Planning Meeting, Agenda and Issue Paper. (Retrieved from <https://www.oecd.org/LongAbstract> on December 2009)

- Olson, J. (2000). Trojan horse or Teacher's Pet? Computer and the Culture of the School. *Journal of Curriculum Studies*, 32 (1), 1-8. *Ethiop. J. Educ. & Sc. Vol. 6 No 2*
- Pedro et.al. (2004). Technology in Schools: Education, ICT and the Knowledge Society. (Retrieved from [http://www.worldbank.org/education/pdf/ict\\_report\\_oct04.pdf](http://www.worldbank.org/education/pdf/ict_report_oct04.pdf) on December 2009)
- Tinio, V.L. (2002). ICT in Education: UN Development Programme. (Retrieved from <http://www.eprmers.org> on December 2009)
- UNDP. (2004). Promoting ICT for Human Development. A Pioneering Regional Human Development Report in Asia in 2004: Realizing the Millennium Development Goals (Retrieved from <http://www.apdip.net/projects/rhdr/resources/PDF> on December 2009)
- Volman M. (2005). Variety of roles for a new type of teacher. Educational technology and the teacher profession. *Teacher and Teacher Education*, 21, 15-31.
- Voogt, J. (2003). Consequences of ICT for aims, contents, processes, and environments of learning. In J. van den Akker, W. Kuiper & U. Hameyer (Eds.), *Curriculum landscapes and trends* (pp 217 – 236). Dordrecht: Kluwer Academic Publishers.
- Watson, D.M. (2001). Pedagogy before Technology: Re-thinking the Relationship between ICT and Teaching. *Education and Information Technologies*, 6, 4, 251-266.
- Yousef, A. B. and Dahamini, M. (2008). The Economics of E- Learning: The Impact of ICT on Student Performance in Higher Education: Direct Effects, Indirect Effects and Organizational Change (<http://rusc.uoc.edu>, downloaded March 4, 2011)