Using ICT in Teaching and Learning: Issues and Challenges
Introduction

ICT in Education: The South African Landscape

Obstacles Holding Back Schools

ICT Integration in Education Takes Two Forms

First Things, First

Meaningful Intervention Programme
Introduction

» Studies have shown that world over ICT tools open up exciting and innovative instructional techniques that may be used to overcome student passiveness and enhance critical thinking skills (Tan, 2012; Laxman, 2010; Chiu, 2009; Yang & Chou, 2008).

» That ICT integration has the potential to improve academic performance and school functioning is also well-documented (Davis & Venezky, 2002; Brown, 2004; Jordan, 2005; Miller et al., 2006).

» ICT enables “improved learning results by providing access to information and content experts, facilitating collaboration, encouraging creation, improving communication, and supporting assessments” (Tan, 2012, p. 88).

» Hakkarainen et al., (2000) qualifies need for ICT in education in the 21st century by arguing that, “ICT is a transformative tool and its full integration into the school systems is necessary to prepare students for the information society they will inherit.”

» It also represents a critical variable in socio-economic development of any country today and therefore the way ICTs are integrated in schools is important.

» ICTs are perceived as a means to transform teaching and learning as it heralds new opportunities unexplored by other technologies (Fleming, 2002).

*Educators need to find relevance as they integrate ICT in their profession to develop the motivation to use ICT tools in the classroom.*
ICT in Education: The South African Landscape

» ICT integration is still at its infancy in the South African education landscape where various initiatives are still dominated by technical aspects.

» In an American context, Belland (2009, p. 354) defines technology integration as the “sustainable and persistent change in the social system of K-12 schools caused by the adoption of technology to help students construct knowledge”.

» The pedagogical ICT integration does not subscribe to the one-size-fits-all situation it is multi-dimensional and demands multidisciplinary research as it situates itself at the intersection of social, political, economic and technical perspectives.

» According to Dasuki (2012) ICT “needs to be conceptualized in its many facets and perceptions and its manifold impacts on societies” (p. 2), while Walsham and Sahay (2006) argued that ICT is “deeply implicated in the approaches we adopt in the name of development” (quoted in Dasuki, 2012, p. 2).

» From Belland (2009), Dasuki (2012) and Walsham and Sahay (2006) it is obvious that ICT integration should consider the **social, economic, and cultural contexts** that mediate teaching and learning outside the formal learning environment.
Obstacles Holding Back Schools from Maximizing the Impact of Technology as a Catalyst for Innovation

» The usage of ICTs in education is poorly conceived. Computers are only used for communication [emailing] and social interaction. ICT use is an enabler for a full range of essential knowledge and skills.

» ICTs are marginalized in the complex and vital affairs of education.

» The lack of a systematic and sustained approach to education and development in regards ICT training.

» Lack of support in the adoption, appropriation and implementation process at various levels of the education sector

» Lack of research in contexts where there is uneven access to ICT, with a view to inform interventions.

» Access to computers or computational devices. Computers in South Africa continue to be a luxury and very expensive to acquire and maintain, yet computing devices are the single point of entry to digital literacies.
Skills Development

Always determine participants’ extant levels of knowledge with respect to ICT tools.

Developed in terms of a constructivist framework with the understanding that “Central to the theory is the idea that learning is an active process of trying to "make sense" of new experiences (Doherty et al., 2009, p. 865).

Stay away from “blunderbuss approach” (Minshul, 2004, p. 12) but deliver skills development programme that emphasizes relevance and personalization.

“Teacher educators need to be confident users of IT before they will risk deploying these methods in their own teaching” (Lord and Pearson, 2003, p. 5).

Hence, creating an enabling environment for teachers to “construct understandings that make sense to them, rather than having understanding delivered to them in already organized form” (Sesemane, 2007, p. 2).

Pedagogical Integration

How learning occurs in the ICT for teaching and learning domain.

In this case the constructivist approach is our pedagogical philosophy, active learning is our pedagogical strategy.

Dembélé and Lefoka (2007) assert that in the quest for pedagogical renewal, “the professional development of teacher educators/trainers must be considered a critical enabling condition” (p. 531).

Student (2010) “pedagogical effectiveness of ICTs depends more on the capacities of teachers to integrate and operate new technologies in a relevant pedagogical context than on the available information technology infrastructure” (p. 30).

Therefore, there is a need to develop and validate strategies for an effective integration of ICTs in the schooling system.
Establish Educators Profile and the State of ICT Integration with Regard to the Following Variables

- Teacher ICT competence or self-efficacy
- Teachers attitude towards computers
- Teachers intention to integrate ICT in their classrooms
- School policy with respect to ICT integration from both the principal’s perspective and perceptions of teachers
- The relationship between school policies and the actual use of ICT in the classrooms
- ICT Support
- ICT Coordination
- Teachers ICT collective practices
- *ICT Teachers Professional Development*
- ICT Infrastructure
Meaningful Intervention Programme

» Address:
  > Technical concerns
  > Functional concerns
  > Affective concerns
  > Conceptual concerns
  > Instructional concerns
Thanks!

ICT Integration...Nobody knows for sure, but we know what is not working today...