

Chapter 30

Information and Communication Technology (ICT) and Its Mixed Reality in the Learning Sphere: A South African Perspective

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ABSTRACT

The purpose of this article is to discuss the literature review and observable experiences on mixed reality posed by the use of information and communication technology (ICT) systems in the education system in the South African landscape. Human progress in the 21st century has been characterised by the rise of computer technology, that has become a defining feature in almost all social spheres. However, the reality shows that though ICT is celebrated for its undisputed, “uncertainty” and efficient services, especially when it comes to communication, information and dissemination. It also tends to encourage the abandonment of other modes of communication, specifically in relation to teaching and learning. In discovering the challenges and possibilities posed by the information technology, the notion of a didactical triangle will be explored. Literature reveals that the advent of ICT brought about various developmental opportunities and threats to human life. This article argues that consideration of institution and context is fundamental when it comes to a better understanding of the practicalities of information technology. This article will add value by shedding light on the realities and challenges in relation to ICT on the human life. The conclusion is that interventions that relates to information and communication technology have to seriously consider the structural constraints of access and social inequity as well as the effects of coloniality.

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INTRODUCTION

The vast literature available on information and communication technology tends to disregard the augmented reality of the use of the information and communication technology (ICT) such as the computer and the internet, especially in relation to the challenges that it poses and the possibilities that it offers in particular when it comes to the South African learning sphere (Pfeffer, 2012, p. 142). This tendency tends to have an influence on and creates an idealistic impression of the practicalities of ICT. ICT is known for its ability to modify physical or hard copy materials to electronic or soft copy versions of such material, which encourages flexibility and quick access to various resources at the same time. For example, a learner from a country in Africa can enroll for an online course in an overseas country, for instance Japan, and be able to access various data sets in different places around the world, at the same time, without physically visiting those places or the libraries that were accessed. In other words, ICT facilitates the new teaching practice between “actors” within the didactical triangle: the educator(s), the learner(s), and the knowledge (De Sousa Monteiro, & Gomes, 2014, p. 143).

Conversely, when we look at the traditional education practices, a learner and academic institution(s), including the open distance-learning institutions, have been a source of analogue information, however, presently they are exposed to modern technologies that provides greater and quicker access to information for users (Asogwa, 2011). The proliferation of ICT has facilitated the development of various electronic software and digital materials including digital archives, related qualifications as well as teaching and learning approaches. In addition, this required the restructuring of various learning structures within institutions of higher learning, including open distance-learning institutions. In other words, technological advancements have offered wider possibilities and also created new challenges for learners and academic institutions, especially when it comes to the administration of an efficient learning environment (Şimşita, Günayb & Vayvayc, 2014, p. 931). Furthermore, technology facilitated the creation of soft (electronic) information, through the digitisation process, that is more readily accessible to users.

Though the rise of the electronic information age brought about high aspirations to various segments of society, there has been systemic challenges, particularly among previously disadvantaged communities. Some of these challenges include lack of affordability to access the internet, particularly in remote, rural locations, which tends to increase the number of other unexpected challenges such as financial and structural development constraints for various community members (Olawumi, 2013, p. 132). In other words, the shift from the traditional by approach to the electronic mode has mandated scholars including administrators to devise new teaching and learning methods.

This manuscript aims to contribute to existing knowledge by revealing the lived experiences on the use of information technology on human lives, especially in the education sphere in South Africa, and to document related issues and possibilities in this regard. More specifically, though they various related issues that can be discussed in this instance but for the feasibility of this project, it will deliberate on this topic by looking, firstly, at the novelty of information technology, focusing on the historical development of information age; secondly, it presents a summary of the conceptual and methodological framework guiding this manuscript by focusing on the “constraints” and “possibilities” of the realities caused by information technology in the learning sphere; thirdly, it explores contemporary issues and challenges linked to information and communication technology; fourthly, the manuscript exposes possibilities that are associated with the advent and impact of information technology on the learning environment; fifthly, there is a discussion on the implications of the information age on the human lives with a view to highlighting some issues to consider, in particular, the context and guarantee of equal access to ICT

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