Chapter 9

Active Learning Application of Technology Tools and Services and Increased Student Achievement:
Online and Blended Learning Environments in Higher Education Institutions

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ABSTRACT

This chapter evaluated the use of technology tools and services and increased student achievement in online and blended learning environments in higher education institutions, which have experienced universal uptake and is responsible for enormous changes in online and blended learning environment, not only in industrialized nations, but in developing countries education as well, particularly sub-Saharan Africa. Given the role that online and blended learning can play in educational development worldwide, higher education institutions, students, employers, and governments are increasingly urged to examine the economic, demographic, and technological environments of the present so as to ensure comprehensive preparedness for the future. This study employs an inclusive data gathering process. The findings reveal a significant improvement in the use of online and blended learning methods to achieve effective and active academic performance in students. The impact of online and blended learning in higher education institutions is evidenced in the changing instructional strategies to increase student academic achievement, which results from more active interactive learning processes.

INTRODUCTION

Researchers' (Douidi, Djoudi & Khentout, 2007; Picciano & Seaman, 2010; Zidat & Djoudi, 2006) especially in the west have always viewed online and blended learning as an extremely popular way of making students earn academic degrees. Now universities and colleges are using online and blended learning methods as a way to deliver lectures to their students as well as in conferences and seminars. In fact, studies show that over 81 percent of the universities and colleges in the west use online methods to keep their students and faculty up-to-date with changes in their institutions and majority of theme use bended learning tools during instruction (Schlosser & Simonson, 2010). Successful online and blended learning courses utilize a variety of different technological tools to deliver lectures. Some students will want to read over their computer screens during lectures, while others may possibly want to load the content onto their tablets to read on the road. Nevertheless, some students will want the opportunity to read lecture materials from their smart-phones and others will feel at ease printing lecture materials to read from paper.

As a result of the benefits of increased students' academic achievement in online and blended learning environments, successful educational technology tools have forced a redefinition of active learning applications. At the same time, active learning agenda has also evolved as a discipline and its focus and application has shifted to a more learner-centered approach. Researchers are not merely looking at students' achievement in online and blended learning environment but also examining learners attribute and perceptions, as well as interaction patterns and how these contribute to the overall learning environment. Although there has been continued interest on the role of technology, the focus is not on which medium is best but on what attributes of the medium can contribute to a positive and equivalent active learning experience (Schlosser & Simonson, 2010).

The main objective of an educational system, irrespective of the level of education, is to offer high quality education to learners and educational systems around the world are effective to the extent that they make use of available tools and services to increase student achievement in online and blended learning environments in higher education (Ololube, 2014). The resources needed to provide high quality education include financial as well as human and material resources (Carrim & Shalem, 1999; Ololube, 2009). The success of any online educational environment using blended learning tools and services undoubtedly depends on methodological competence in the use of such tools and services (Ololube, 2014).

Given the dramatic increase in educational methods rendered possible by technological advances, a more open and flexible approach to teaching and learning, particularly in higher education institutions where various forms of online/e-learning are taking shape, has been advocated across the globe (Fisher, 2003, Ifinedo, 2005; Ifinedo & Ololube, 2007; Ololube & Egbezor, 2009; Ebrahimi, 2012). The most frequently used blended learning format combines face-to-face (f2f) and online delivery methods (Graham, 2006; Osguthorpe & Graham, 2003; Jackson, 2005; Nel, 2005, Ololube, 2011), with the objective of providing a resourceful and effective instructional experience. More broadly, blended learning has been invoked to explain approaches that combine several different learning delivery methods. It is also used to describe learning that mixes event-based activities, such as f2f classroom learning, e-learning, and self-paced learning (Graham, 2006). Online and blended learning methods have resulted in more proactive and higher quality teaching methods. In its most recent manifestation, the incorporation of Information Communication Technology (ICT) in educational settings and curriculum has significantly altered the tools, content, dynamics and expectations of teaching and learning (Ololube, 2011).

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