Chapter 17
Active Learning with Technology Tools in the Blended/Hybrid Classes

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ABSTRACT

Blended/hybrid classrooms technological tools and resources in this paper refers to: Personal and public computers, Projectors (LCD), E-learning management system, E-journals, Interactive CD or DVD, Video cameras, search engines and video conferencing. Universities in Kenya are buying computers, for departments, lecturers' offices and equipping computer labs for the students while increasing bandwidth and internet connectivity. But is the investment in technology translating to faculty and student use in blended classrooms? This chapter seeks to find out the answer to this critical question. A sample of 231 students and 219 lecturers from universities within Nairobi metropolitan was selected. Data was analyzed using descriptive statistics. The findings reveal that the universities made available blended/hybrid education and its technological tools and resources to students and lecturers for interaction in the teaching/learning process but they were less aware of the online technical resources and tools that can be used in the blended classrooms.

INTRODUCTION

The need for effective functioning in the knowledge society and coping with continuous change has led to the demand for higher levels of competencies (Kozma, 2005). There are new learning approaches such as active learning, resource-based, problem-based, project-based and competency-based learning that demand a high degree of information literacy. These new learning approaches demand a paradigm shift from dominant teaching methods involving pre-packaging information for the students, to facilitating learning in authentic and information rich contexts. There are different ways in which teaching and learning can be made more efficient

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especially in program delivery through the use of technology. The justification for use of technology in and learning is that it highly motivates students as well as having unique instructional capabilities such as helping students visualize data/problems, or tracking learning progress. It also provides support for innovative instructional approaches such as collaborative learning and problem-based learning and increased teacher productivity and student knowledge construction (Roblyer, Edwards, & Havriluk 2004; Moallem, 2003; Wilson & Lowry, 2000). Computer-based learning and teaching has made learning more efficient and more interesting for the learners. Use of technology is likely to bring about learner-centred approaches to teaching and learning. These approaches are supported by Freire's liberation theory of 1970's that stressed on the importance of dialogical approach to education. One of the learner-centred approach to teaching and learning is the active learning approach.

Several studies have revealed that introducing active learning at the beginning of a class as opposed to the teacher giving readings ends up in bringing about intense learning, understanding, and transfer of knowledge from one student to another (Schwartz, 1998; Kapur, & Bielaczyc, 2011; Kapur, 2010; Kapur, 2012; Kapur & Bielaczyc 2012)

Learners in an active learning environment are engaged in different learning experiences that enable them to have meaning-making inquiry, enable them to act on issues learnt in class, imagine, invent, interact, hypothesize and have a personal reflection Cranton (2012). For example in a class discussion which is held online, students can explore different perspectives, increase intellectual agility as well as develop the habits of collaborative knowledge building. Students also develop skills of synthesis and integration (Brookfield 2005). Another example of active learning is when students engage in reacting to videos. The learner can replay the video several times and this helps the student to understand what they are learning at the time in an alternative presentation mode (McKinney, 2010).

Numerous studies have shown evidence to support active learning (Hake 1998; Hoellwarth & Moelter 2011; Prince 2004; Michael 2006). From the studies, active learning increases learner's retention and improve the performance.

When interacting with technology, it is important to stick to the tools and resources that one knows and is familiar with especially in the blended/hybrid classrooms (Cholin, 2005). Interacting with technology is known to bring about a number of efficiencies in teaching; whether face to face, e-learning only as well as for the blended/hybrid learning. But the big question that remains unanswered is this: are the lecturers and students interacting with the provided technology to achieve the expected blended teaching/learning outcome? To establish this, the researchers decided to find out what lecturers and students know about learning and teaching with technology that is commonly available in our universities that are used in the blended/hybrid classrooms such as; Personal and public computers, Projectors (LCD), E-learning management system, E-journals, Interactive CD or DVD, Video cameras among other technological tools. This means that it is important to focus on tools and resources available in the Kenyan universities such as: personal and public computers in the laboratories, LCD projectors, e-learning management system, E-journals, interactive CDs and DVDs, video cameras, search engines to subscribed journals as well as video conferencing facilities. This paper highlights what lecturers and students know about the above mentioned teaching and learning technological tools as well as their interaction with them.

The knowledge of and interaction with technology will specifically touch on; availability and use of the listed tools used in blended/hybrid