

## Chapter 87

# Effectiveness of Using Mobile Technologies in Teaching and Learning

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### ABSTRACT

*This chapter examines the effectiveness of using mobile technologies in teaching and learning in a Nigerian university. The study explores the techniques that guide undergraduate students to learn with digital support from mobile devices and wireless communication during their classroom activities. This research focuses on mobile phones because of their accessibility to students and lecturers. The researchers investigate the types of mobile application used by students, the time spent on using the devices for learning, and the effectiveness of using mobile technology in teaching and learning. The research is a descriptive cross-sectional survey. Three research questions are raised, and the respondents are 100 undergraduate students of the educational technology programme. Frequency count, percentages, and mean are used for data analysis. It is revealed that students often use their mobile phones for academic purposes, and the academic performance of students can be improved through the use of mobile phones to solve classroom questions. The time spent on using mobile phones for the learning process is also unveiled, and recommendations are made based on the researchers' findings.*

### INTRODUCTION

The 21<sup>st</sup> century presents its citizen with new choices, opportunities and challenges due to the ubiquitous presence of technology which has permeated all facet of human of life: business,

administration, government, education, and so on. The profound shift in the academic fields must be viewed from the perspectives on the new possibilities that technology has brought to the field. Traditional teaching and learning paradigms have been shaken by the impact of the integration of

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information and communication technology (ICT) into educational practice and the acquisition of skill and literacy in the usage of information and communication technology as necessary tools which will lead students to become knowledge creators and users. Thus, the modern society is deeply immersed in knowledge, a society based upon critical, rational and reflexive use of and distribution of information (Gilbert, 2003), a society in which the most outstanding communication means are telemetric networks. One of the greatest challenges to overcome in the 21<sup>st</sup> century is for teachers and learners to achieve competency in the use of technology, instead of being enslaved by it.

Mobile learning refers to any activity that allows individuals to be more productive when consuming, interacting with, orienting information, and mediated through a compact digital portable device that the individual carries on a regular basis, has reliable connectivity and fits in a pocket or purse (Wexler, Brown, David, Rogers, & Wagner, 2008). Mobile learning (M-learning) is the use of mobile technology to aid in the learning, reference or exploration of information useful to an individual at that moment or in a specific use context (float learning).

M-learning requires a whole new strategy for assessment. Traditional e-learning often includes a final knowledge check/assessment with the initial results recorded on a Learning Management System (LMS) but given that there is often a time delay before the learner is actually meant to put the learning into action. It can be difficult to measure and evaluate long-term behaviour change and the effects of the outcome. The time between M-learning taking place and the learner putting what they have learnt into action is relatively short; so, it can be easier to measure behaviour at change and impact on the business/outcome (Aurion Learning, 2012).

Researchers have argued that these technologies have the potential to improve efficiency and

effectiveness in teaching and learning (Dubendorf, 2003), and to challenge the essence of face-to-face teaching and learning (Traxler & Kukulska-Hulme, 2005). In examining the benefits of mobile technologies in education Kim, Mims, and Holmes (2006) summarized them in the following: (a) Mobility, which is associated with the advantage of accessing information anytime, anywhere; (b) Information management capacity, which is associated with the digitization of information and electronic-based management; and (c) Beaming capability which allows the sharing of files instantly and in real-time.

Mobile technologies can have a far-reaching effect on how teachers teach and learners learn. The ability to harness these technologies in the design of online classrooms can impact the engagement of teaching and learning by creating more options for learners to connect with course content as well as to other learners (Delich, Kelly & McIntosh, 2008). Naismith, Lonsdale, Vavoula and Sharples (2005) posited that mobile technology can be used by school teachers for managing their schedules, review. Mobile technologies such as Blackberries Treo's, iPods and cell phones are being used in the classroom and distance education to reach out to students and to deliver learning materials to students. Instructors are taping their lectures and making them available for students to listen whenever they like. Providing lectures and learning materials in audio format are important for some subject area such as when learning a language and English Literature. The mobile technologies are also used to connect to students to inform them when course requirements are due and informing them on updates to courses. Mobile technologies can be used in any discipline that can be broken down into small segments of instruction (Ally & Lin, 2005). Inquiry education is a student-centered method of education focused on asking questions. Students are encouraged to ask questions which are meaningful to them, and which do not necessarily have easy answers.

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