Chapter 12

Critical Issues in Evaluating Education Technology

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EXECUTIVE SUMMARY

This chapter highlights some issues that are critical in evaluating technology in education such that it will be implemented to meet educational goals, and it will also serve as a spotlight for policy makers and educators to make a worthwhile return on their technology investment. Schools and institutions of learning invest heavily on technology before establishing clear plans on how it will be integrated into teaching and learning to achieve educational goals. Even though many studies have reported positive impact of technology on students’ learning, few studies have been carried out to investigate whether the investment on technology in schools have been commensurate with the investment. Particularly, needs assessment on both students and teachers’ technology needs is often ignored before technology implementation. Educators and policy makers need to consider certain evaluation issues before committing huge budget percentages into technology. It is crucial to ask what can technology do that cannot be done without it, what percentage of the institution’s budget should be invested on technology, how should technology be integrated in the curriculum to achieve educational goals, and lots more before investing on educational technology to avoid resource wastage. Thus, this chapter

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highlights these critical issues in the light of a study conducted on the integration of information and communication technology (ICT) in the teaching and learning of science and mathematics in Malaysian secondary school (Adedokun, 2008). The research investigated some concerns that culminated from the integration of ICT in the instruction of English, mathematics, and science in Malaysia among which are: Can the teachers deliver? Do they have the strong will to deliver? Are there adequate facilities for them to carry out this new task? Do they possess the necessary skills for them to be able to deliver? Does the government provide adequate training on the integration of ICT in subject content? Are the students prepared for the change in the medium of instruction? What is the present situation in schools with regards to the use of ICT? And is better teaching and learning achieved with the integration of ICT?

INTRODUCTION

Technology in Education is seen as a tool for achieving instructional goals, not a goal in itself. Yet, many institutions are putting the cart before the horse by investing in educational technology before establishing clear plans on how to deploy it. Education technology is not just an ornament for school design, but an important component of the curriculum. Education researchers (QED, 2004) have observed that government and institutions are expending huge sum of money on technology in education as an indication of development and improvement in schools. However, studies observed that these funds will amount to wastage if not properly expended. Thus, policy makers and educational administrators need insight into how to deploy the technology expenditures and maximize its positive impact on education.

Educational technology has greatly impacted on teaching and learning and grossly increased improvement on students’ achievement. Internet technology helps students become independent, critical thinkers, able to find information, organize and evaluate it, and then effectively express their new knowledge and ideas in compelling ways.

Similarly, technology acts as a catalyst for fundamental change in the way students learn and teachers teach, and it revolutionizes the traditional methods of teaching and learning. Educational technology has a significant positive impact on achievements in subject areas, across all levels of school, and in regular classrooms as well as those for special-needs students. Most of these reported effects of technology integration occur with peculiar conditions that worked in those situations and may not necessarily result in positive effect in other situations if the right conditions are not in place. Issues like teacher readiness, training, student attitude and access to proper technology infrastructure are the right conditions for successful technology integration.
The Knee Bone Connected To the Thigh Bone: A Case Study of Teaching Anatomy to Engineering Students Using State-Of-The-Art Anatomical Software
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