Chapter 9
Qualitative Investigation for Educational Technology: A Lesson on the Presentation of Methodology

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ABSTRACT
This chapter presents a look at a qualitative methodology employed to solve a research problem concerning the design of course management systems. The discussion starts with a look at the problem that defines the methodology used. It then discusses qualitative research methodology in relation to the research question and the investigation by the researchers. The chapter presents the methodology based around the four qualitative concepts of credibility, transferability, dependability, and conformability. For each concept, the chapter also discusses issues that arise during the investigation; and how these issues were solved and presented.

INTRODUCTION
Course Management Systems (CMS) are systems that provide facilities for teachers and students to engage in teaching and learning activities online by helping to manage various functions like course content preparation and delivery, communication, assessment, administrative functions and collaboration (Ellis, 2001). Other terms have also been used to describe CMS: online learning environment, virtual learning environment, and course-in-a-box (Collis & De Boer, 2004). In the corporate sector, when the emphasis is more on tracking and automating the administration...
of online learners and courses, the term LMS (learning management systems) are frequently used. Edutools (www.edutools.info) listed several CMS for comparisons, and although enterprise level systems listed there such as Blackboard and WebCT contains various levels of functionalities (as befits their price and stated aims), the core functions are still about student-teacher interactions (Afendi & Mohamed Amin, 2009).

No matter what it is called, CMS are increasingly used by institutions of higher learning around the world (Sausner, 2005) so much so that they are the ‘face’ of e-learning for many in these institutions. CMS are built by both business entities, which charge for their products, and under open source initiatives, which normally provide the products for free. But how much learning is there in these products? Hubscher and Frizell (2002) argue that CMS provide little or no support for effective design of web-based instruction.

In order to properly frame the discussion on the problem being investigated by this chapter, it is helpful to look at how technology has been the centerpiece of the equation whenever a revolution in education is predicted. Thomas Edison, the famous inventor, proclaimed in 1922 that television will revolutionize education (Cuban, 1986). Edison was a strong believer, in 1925, he said “In ten years textbooks as the principal medium of teaching will be as obsolete as the horse and carriage are now.... There is no limitation to the camera” (Oppenheimer, 2003: 1). Although known for his inventions, Edison unfortunately would not be known for his clairvoyance in educational issues relating to technology. And so the pattern goes for a few other notables and their predictions including Skinner and his teaching machines (Dreyfus, 2001). Levin and Meister (1985) say that a commonly used word to describe educational technology is “promise”.

Noble (1996), drawing on his work on the political history of educational technology, warns educators that the use of educational technology is being driven by primarily high-tech corporations eager for a slice of the pie. He further cautions that the visions of education as proposed by the industry and pundits of technology are “skewed” and “no better than our own (predictions)”. Koblitz (1996) too warns that the real big winner of educational technology is the computer industry, citing a few cases when the headlong rush to bring technology into education began with grand fanfare and ended in failures, but money for the industry.

With the coming of the Internet and the powerful microprocessors of today’s computers, a new dawn has arrived in the annals of education technology. That the combination of the two is indeed potent has been established by available literature. For example, Owston (1997: 27) claims that “nothing before has captured the imagination and interest of educators simultaneously around the globe more than the World Wide Web”. In Malaysia, the interests in these new technologies have manifested into various projects beginning with the 1989 plan for ‘Computers in Education’ on a national level (NST April 13, 1989). The most well known of these projects is the Smart School initiative. The apparent popularity of e-commerce has led to the adoption of the term e-learning when referring to the use of ICT in education.

E-learning is a huge, multibillion dollar global industry in the corporate as well as the higher education sectors. E-learning has vast potential and holds much promise (Brown, 1997; Langan, 1996) and has major influences on how education is being shaped (Brown & Ford, 2002). In 1999, John Chambers, the CEO of Cisco, proclaimed that “the next killer app is education over the internet” (New York Times Nov 17, 1999). The fall of e-learning came in the year 2002, described by Kruse (2002) as the nadir of e-learning, characterized by reduced stock prices and closure of businesses and mergers. How did this come about? Various articles dealing with this subject (Mitchell, 2004), point towards two factors: focus on technology-led development and overhyping of e-learning. UK’s e-University went under in early 2004, and the focus on technology platform instead of content
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