Chapter 8

Student Nurses' Perception on the Impact of Information Technology on Teaching and Learning

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ABSTRACT

This paper investigates student nurses' perceptions of the impact of using information technology (IT) on teaching and learning critical care nursing. This study was conducted at the Faculty of Nursing, Mansoura University, Egypt. The sample included 163 of fourth year Bachelor of Nursing students enrolled in a critical care nursing course during the first semester of the academic year 2007-2008. The data was collected using a questionnaire sheet that gathered information about student nurses' IT skills and use, perception of the access to and use of IT at Faculty of Nursing, perception of the impact of using IT on teaching and perception, and on the impact of using IT on learning the critical care nursing course. The findings indicate that nursing students had a positive perception on the impact of using IT on teaching and learning the critical care nursing course. Students wanted access to IT at the Faculty, and expressed their need for more training on using Internet and Microsoft PowerPoint, and for IT resources in classrooms.

INTRODUCTION

The current revolution in technology plays a major role in recent transformation of nursing education. IT raised the expectations of both students and teachers. Chalk and blackboard are no longer enough for

nursing students' education. The traditional approach of education, which assumes that the teacher is the sole source of knowledge and deposits it into passive students is no longer accepted (Freire, 1994).

Technology is seen as a catalyst for teaching and learning, and a driving force of shifting towards an open learning (Sandholtz et al., 1997). It affects the way teachers teach and students learn (Thompson et al., 2003). IT creates new ways of thinking, learning and solving problems for students (Girl & Chong, 1998). It allows students to be more independent and responsible learners, and more interactive in communication with their colleagues (Schoech, 2000). It also encourages teachers to develop their skills and use computer technology to maximize student learning (Keengwe, 2007). Hence, IT is rapidly becoming an integral part of nursing education.

Literature highlighted the need for integrating IT into nursing education (Clark, 1998; Lowry & Johnson, 1999). In fact, IT has been extensively used in nursing education in the United States of America and Europe (Birx et al., 1996; Clark, 1998; Connolly & Elfrink, 2002; Rhodes, 2005; Wilson, 2002). In 1992, the American Nursing Association (ANA) recognized nursing informatics as a distinct specialty area within nursing. In 1994 the ANA defined nursing informatics as *"the specialty that integrates nursing science, computer science, and information science in identifying, collecting, processing and managing data and information to support nursing practice, administration, education, research and the expansion of nursing knowledge" (p. 3).* In Britain, the NHSIA (2001) has emphasized the importance of technology integration in preregistration education, and has listed computer knowledge and IT competencies required of nurses. Similarly, the Australian Nursing Federation, together with Royal College of Nursing Australia recommended the development of national information technology and information management competency standards for nurses, and the adoption of a competency model (Hegney et al., 2007). This actually emphasizes the importance of IT skills for nurses' professional development and advancement (Fetter, 2009).

IT is considered as an important part of contemporary health care service delivery and professional nursing practice (Kenny, 2002). Hence, integrating IT into nursing education and developing nursing students IT skills were seen as a means for improving the quality of nursing care. Increasingly, IT is playing a very important role in daily nursing practice. The use of computerized patient documentation systems is important to patient operations and safety, particularly in an environment that relies on IT (Ornes & Gassert, 2007). For example, in the intensive care unit which is a high technology environment, nurses need to be competent in dealing with machines that sound an alarm when their patients' vital signs go in dangerous directions (McBride, 2005). In order for nurses to be able to deal with such technology effectively and safely, they need to develop their IT skills (Bond, 2007).

The use of IT in nursing education has received increasing attention over the recent years in Egypt. In response to the recommendations of the Ministry of Higher Education to improve the quality of education through adoption of new teaching methods and advanced technology, Critical Care Nursing Department (CCND) at Faculty of Nursing, Mansoura University was one of the pioneers in using IT as a tool for teaching and learning critical care nursing course (CCNC). Educators used IT as a means for improving learning, enhancing student engagement and making critical care nursing education more interesting and convenient.

According to the literature, positive IT outcomes in education depend greatly on teachers, students and availability of technology resources. Teachers' IT skills, teaching style and attitude influence the effective use of IT in classroom (Webster & Hackley, 1997). Additionally, the success of using IT depends at a considerable extent on students' acceptance and use of IT in learning (Van Raaij & Schepers, 2008). Students' perception of the impact of IT is central to the educational process, and shapes the direction

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