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Review

The nursing educator's role in e-learning: A literature review

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SUMMARY

Background: e-Learning is becoming more commonplace in nursing and healthcare professional education. Research has shown that e-learning can be just as effective at helping students achieve cognitive learning objectives as traditional face-to-face courses, provided that certain quality criteria are met. However, the decentralized, asynchronous nature of e-learning precludes spontaneous, personal interaction between the instructor and the learner. In addition to this, learning objectives in nursing and other healthcare professions are not only within the cognitive, but also within the affective and psychomotor domains.
Objective: This article seeks to answer the following question: How does e-learning transform the role of nurse educators?
Design: Narrative literature review.
Review methods: A comprehensive database search was conducted using the English and German key words "teacher," "educator," "role," "e-learning," and "nursing" to identify literature that examined the role of (nurse) educators in e-learning.
Results: The search strategy resulted in the inclusion of 40 sources. The majority of the literature is expert opinion and examines the educator's role in e-learning from a theoretical point of view ($n = 30$). There is a paucity of empirical research pertaining directly to the educator's role ($n = 10$). Only four sources deal specifically with the nurse educator's role.
Conclusions: The literature agrees on the need for a new role definition in light of e-learning. This role is more complex than the educator's traditional role. The literature does not provide any indication of how the educator's role can be adapted to the specific needs of online nurse education. There is a need for more empirical research on this subject.

Introduction

The technological revolution brought about by the internet has affected many aspects of modern life, in particular nursing education. Modern information and communication technologies (ICTs) have permeated classrooms, lecture halls, skills labs, libraries, etc. Their omnipresence in the world of education cannot be denied. On the one hand, they offer nurse educators opportunities for creating new and enhanced educational experiences for their students. On the other hand, ICTs present nurse educators with many challenges that go above and beyond mere technical aspects (Jäger, 2013a). The primary challenge lies in developing the competency to teach by utilizing innovative instructional methods geared toward, indeed based upon, these technologies (Kerres et al., 2005, p. 6).

With e-learning becoming more commonplace in tertiary education, there is a documented need for what is being called "e-pedagogy" or "e-didactics" (Jäger, 2013a). Some even see e-learning as "the future of higher education as movement is made away from the structured classroom to the much larger learning environments of home, community, and the clinical setting" (Finke, 2005, p. 5). Although computer-assisted learning has been used in nursing education since the 1960s (Bloomfield et al., 2010), it was not really until the mid-1990s, when widespread use of the internet became available to the general public, that ICTs began to have a major impact on the field. This was due mainly to the rapid technological development of ICTs (Bloomfield et al., 2008; Schiffer and Templ, 2006, p. 1085). This perhaps also explains why there is almost no relevant literature published before 1990 (Chumley-Jones et al., 2002).

When we now think of how technology has changed nursing education, high-fidelity simulation and computerized testing are the two areas which immediately come to mind, though the technological revolution is actually much more comprehensive, with students (and instructors) using laptops, smartphones, and tablets in class to instantly access great stores of information on the internet. One of the most recent applications is the virtual patient. These interactive, case-based learning programs are more easily accessible and less expensive than high-fidelity simulation labs. However, it is e-learning which will most likely change the way we teach nursing, for it "is an entirely new type

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of educational experience, which requires a re-examination of the online instructor's role" (Maor, 2003).

e-Learning

Definition

Over the course of the past two decades, a plethora of terms has been coined to describe the use of ICT for learning purposes, including computer-assisted learning, web-based learning, and online-learning. For the purposes of this paper, I will be using the term "e-learning", which has found widespread international acceptance (Rey, 2009). e-Learning is defined as any educational offering that makes use of ICT for asynchronous, decentralized content presentation and distribution, as well as for interpersonal communication and interaction (Halstead and Billings, 2005, p. 424; Holmberg, 2008, p. 37; Kerres et al., 2005, p. 6). According to this definition, there are three elements which characterize e-learning as being different from face-to-face learning:

1. Asynchronicity (lack of unity of time);
2. decentralization (lack of unity of place); and
3. electronically mediated interaction and communication.

The elements of e-learning and face-to-face learning are the same, with the exception of the unity of time and place (see Fig. 1). While interaction and communication obviously take place during face-to-face instruction, these occur instantaneously and include the full gamut of non-verbal communication such as facial expression, posture, and gestures. The same cannot be said of e-learning. The lack of unity of time and place dictates that interaction and communication between the instructor and the student be mediated electronically.[1] Indeed, the "distance classroom creates a social environment quite different from that in a face-to-face classroom and necessitates the development of new social skills. The communication process is hindered by the lack of nonverbal cues" (Gunawardena, 1992; see also Bennet and Lockyer, 2004).

The altered nature of communication and interaction affects all the other elements of teaching as depicted in Fig. 1, which in turn demands a different approach to teaching, one which "revolves around a learner-centered system with teaching activity focused on facilitating learning… and [which] is based on the principle that the key to learning is what students do, not what teachers do" (Beaudoin, 1990; see also Moore and Kearsley, 1996, as well as Sammons, 1988). This implies the need for a role adaptation among educators.

Advantages and Disadvantages of e-Learning

Compared to face-to-face learning, e-learning offers some advantages as well as disadvantages to both teacher and student (see Table 1). e-Learning allows the individualization of educational materials and employs innovative, interactive methods in an information-rich environment, all of which are important for a constructivist approach to adult learning (Bloomfield et al., 2008; Cook et al., 2008; Jäger, 2013a). Since study materials must be accessible for all students at any time during a course, these must be fully prepared prior to course begin. This improves quality by ensuring consistency of educational delivery (Bloomfield et al., 2008). One of the greatest advantages afforded by e-learning lies in its asynchronous and decentralized nature, because this offers flexibility in time and location of learning. The ability to access a course at a time and place which is convenient to the student increases student independence and motivation (Cook et al., 2008). It also allows students to proceed at their own speed (Jäger, 2013a), while at the same time it helps reduce overall learning time (Bloomfield et al., 2008; Coomey and Stephenson, 2002). In addition, e-learning expands student access to education (Cook et al., 2010; Cravener, 1999).

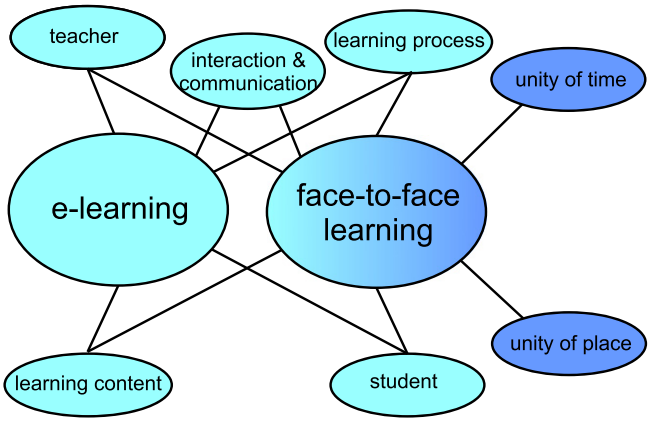

Fig. 1. Elements of teaching and learning: All of the elements are common to both e-learning and face-to-face learning, with the exception of the unity of time and place, which are unique to face-to-face learning.
Adapted from Vertecchi (1998).

That said, the lack of spontaneous, personal interaction and communication between the instructor and the student can impede the social process of learning (Bloomfield et al., 2008; Halstead and Billings, 2005, p. 435). Many instructors fear that this "facelessness" will lead to a loss of relationships between instructor and student, and thus may negatively affect the instructor's ability to teach (van Rensburg, 2013; Thornam and Phillips, 2001). Others point out their concern that the lack of social presence, both of the instructor as well as of other students, may hamper the establishment of a community of learning thereby negatively affecting learning outcomes (Beer et al., 2003; Hiltz, 1998). For the instructor, e-Learning is "generally more time consuming than working with standardized curricula and learning formats" (Beaudoin, 1990; see also Beer et al., 2003; Clark and Ramsey, 2005, p. 410; Cravener, 1999). Despite these disadvantages, e-learning has been shown to be an effective mode of education.

Effectiveness of e-Learning

Education scientists, psychologists, and media analysts have researched the e-learning phenomenon extensively since the early 1990s. A number of systematic reviews have been conducted which provide adequate evidence that e-learning is an effective educational method. Whereas Paulus and Strittmatter (2002, pp. 295–297) found no conclusive evidence that e-learning was more or less effective than face-to-face learning, Chumley-Jones et al. (2002) conclude that the quality of learning outcomes achieved via e-learning in healthcare professions is comparable to traditional classroom-based education, provided the pedagogical–didactical design meets specific quality criteria. Cook et al. (2010) reach a similar conclusion as do Childs et al. (2005), who add that both instructors and students perceive e-learning as an effective and enriching experience. Bloomfield et al. (2008) confirmed the effectiveness of e-learning in the acquisition of clinical skills. In summary, e-learning can be seen as an equally effective alternative to traditional classroom based instruction.

The Role of the Nurse Educator in a Traditional Classroom Setting

The concept of the social role is defined as the sum of the behavioral expectations which a social system places upon an individual, based upon their social function. These expectations include social norms which are more or less accepted by the individual fulfilling the role (Biddle, 1986; Zielke-Nadkarni, 2005, pp. 76–77). If we apply this definition to the role of the nursing instructor, then we must look at the

[1] In this respect, e-learning is very similar to old-fashioned distance learning via correspondence, with the exception that communication now takes place electronically. Indeed, most distance education is now conducted in the form of e-learning.