

EDITORIAL

uLearning for Nursing Professional Development: Paving the Road Ahead

Antonia Arnaert, Norma Ponzoni

The practice of nursing and the development of the profession have always required that one stay current with the evolving standards of practice, yet in today's ever-advancing and hectic clinical environments it can be a Herculean effort to do so. Staying informed requires that one constantly receive updates on new protocols, guidelines, and evidence-based clinical approaches. Health-care institutions have a vested interest in supporting nurses' professional development, to achieve a competitive advantage over other organizations. Excellence of staff practice, the provision of high-quality services, and the promotion of patient safety, as well as a heightened institutional profile in the community, are outcomes that can be tied to investments in staff development.

Traditionally, professional development has consisted mainly of face-to-face instruction — often a challenging and costly endeavour in terms of program development, accessibility, and the regular updating that is required. Access to continuing education is a challenge not only for nurses working in remote regions. Even in urban areas, shift work and the difficulty in leaving busy practice units at fixed hours serve to limit access to in-service education programs. Arguably the most cost-effective and efficient way to address these constraints is ubiquitous learning, or uLearning, a future-oriented and innovative educational strategy for making professional development readily available.

uLearning — an extension of ubiquitous computing — incorporates the use of advanced computing and communication technologies such as sensors, mobile phones, RFID (radio frequency identification devices) tags and cards, wireless communication equipment, and wearable computers, for the purpose of creating environments of *omnipresent* education, enabling anyone to learn anywhere and at any time.

“Anywhere and any time learning” often confuses users of uLearning environments: it is so broad and all-encompassing that its potential for

learning in various contexts of daily life can be hard to fully appreciate. We prefer the less abstract definition offered by Yahya, Ahmad, and Jalil (2010): “uLearning is a learning paradigm which takes place in a ubiquitous computing environment that enables learning the right thing at the right place and time in the right way” (p. 120). The main purpose of uLearning, therefore, is to help learners obtain the information they are seeking at any given moment. In fact, uLearning puts the learner’s needs and the dynamics of learning ahead of the technology that supports it. The arrival of ubiquitous computing does not mean that people’s fundamental way of processing and assimilating information has changed, but uLearning allows us to develop ways to better serve the ever-changing learning needs of individuals.

uLearning can be seen as an extension of distance education — the provision of learning opportunities when content and learners are separated by time and distance. Distance education includes both paper-based and electronic delivery methods. Some speak of transitioning from conventional to electronic learning (eLearning), from eLearning to mobile learning (mLearning), and, most recently, the shift to uLearning (Yahya et al., 2010). Yet nurses and other health professionals are only beginning to adopt eLearning, a term that often encompasses Web-based learning, online learning, distributed learning, computer-assisted instruction, or Internet-based learning, which are static modes of content delivery that allow interaction with subject matter (Ruiz, Mintzer, & Leipzig, 2006). However, users of eLearning have the ability to incorporate forums for learning and exchange. These environments facilitate various levels of interactivity with the content and between learners, which allows for a constructivist approach to learning in which the learner is actively engaged. The true potential of this learning space, created by and among learners, is co-construction of knowledge and creation of online or virtual communities of practice (Boulos, Maramba, & Wheeler, 2006; Bristol & Zerwekh, 2011).

Today, the Internet, also called Web 2.0, incorporates online collaborative tools, such as blogs, wikis, mash-ups, podcasts, social network sites, online worlds, open-source systems, and a host of other current and emergent entities. These are the existing media that people use to work together on the Internet in order to facilitate peer support, collaboration, and dialogue among individuals located in different physical areas even at great distances from one another (Hanson, Thackeray, Barnes, Neiger, & McIntyre, 2008). Virtual collaborations can have a social purpose but can also be used by groups of professionals. Of particular interest for nurses is the potential for communities of practice that promote networking, fruitful exchange, and opportunities for peer learning between practitioners near or far (Boulos et al., 2006; Ruiz et al., 2006). These col-

laborations, in addition to letting nurses select the information they would like to review, have the effect of making eLearning more learner-centred, allowing for personalized sessions and for nurses to have control over the pace of their learning.

Most current eLearning applications are limited to enabling learner interaction with content despite the inherent ability of technology to facilitate a second level of exchange — that between learners. At present, learning management systems (LMSs) hosting online content are most often passive online repositories of information, with instructors simply slotting in their prepared materials. Practically speaking, the natural tendency of instructors, when information technology (IT) was first widely introduced in education, was to directly apply conventional pedagogical practices to online, electronic delivery systems and call them LMSs. There are at least two forces that likely account for the relatively unsophisticated use of the technology, one related to the course creator and the other to the limitations of proprietary software (programs licensed by a copyright holder under very strict conditions) that support LMSs. Firstly, the instructor who creates a course may not be aware of the benefits of an interactive approach to pedagogy, or may not have the technological expertise to incorporate various features that promote interactivity between learners. Very few instructors are “digital pedagogues” (teachers who use technology in a fluid manner) or are sophisticated users of digital media in their teaching and learning. The simple act of using electronic elements in one’s online teaching does not mean that one is practising digital pedagogy. Essentially, this demands that we use digital media to rethink the power relations between learners and instructors and create more collaborative and less hierarchical spaces for learning (Milton, 2013).

Turning to the second group of limitations, for years proprietary software was the norm in eLearning and its vendors “locked in” customers to specific systems, thereby limiting technological interoperability with other systems or eLearning components (Pankaja & Mukund Raj, 2013). The imposed restrictions of propriety software limited users’ ability to interact with people across systems and led to a shift from proprietary to open-source software (OSS) systems. OSS is a type of software licence that makes the source codes — scripts used for programming — available to the public with no copyright restrictions. That said, it may not be entirely free, as people with limited programming skills require administrative and technical support. OSS developers realize that one size does not fit all and have given educational providers the freedom to build a tailored and flexible eLearning platform incorporating features that suit the learning needs of users. In addition, the adaptability of OSS allows for easy and timely integration of new design features and Web develop-

ments, such as the upcoming conversion from Web 2.0 to Web 3.0, also known as the Semantic Web. The popularity of this software has generated a broad base of users and programmers who support its development and thus provides the premise for a sustainable community. It is clear that OSS systems, supported by these large communities of users, are becoming serious competitors of proprietary eLearning systems (Kertalj, Jerkovic, & Hlupic, 2006).

Despite the rapid uptake of new learning technology, the mere acquisition of equipment is insufficient to enable organizations to shift the delivery of nurses' professional development to eLearning. Too often, organizations fail in their attempts to adopt eLearning because they are not ready to take it up and to maximize the benefits and innovation that can follow. Assessment of an organization's readiness to implement eLearning is a critical element and should be circumscribed before an institution even considers introducing eLearning (Schreurs, Ehlers, & Sammour, 2008). In reality, an organization's readiness is reflected by its e-maturity, which encompasses, for example, the availability of infrastructure; its openness and commitment to investing in IT initiatives; and the attitudes and perceptions of users as well as their experience with computers and various mobile devices and their skill in navigating the features incorporated into an eLearning platform. Whatever the e-maturity of an organization, all of these factors must be assessed and taken into consideration prior to implementation and integration of eLearning.

In conclusion, the use of technology to facilitate teaching and learning is here to stay. uLearning, with its networking and collaborative possibilities, offers nurses a tremendous opportunity to share knowledge and expertise with their peers in virtual communities of practice. These communities represent a more engaging and learner-centred environment for professional development, making this method of content delivery more effective compared to traditional approaches. In light of this new reality, the nursing profession should fully embrace uLearning, to capitalize on all that existing and future computing and communication technologies have to offer in order to promote high-quality services for those entrusted to our care.

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Antonia Arnaert, PhD, MPA, is a CJNR Editor and Associate Professor, Ingram School of Nursing, McGill University, Montreal, Quebec, Canada. Norma Ponzoni, RN, MSc, MEd, is Faculty Lecturer, Ingram School of Nursing, McGill University.