MEDINFO 2007
HISA Ltd Australia
© 2007 The authors. All rights reserved.

The Quality Indicators of Delivering E-learning for Dementia Care to Nurses

Zhenyu Zhang [a] , Ping Yu[b]

[ab] *School of Information System & Technology, University of Wollongong, Australia*

Abstract

The inadequate supply of trained professionals to provide quality care for people with dementia is a big problem. E-learning could provide an effective solution to this challenge. Although e-learning is not a new teaching method, a quality framework is lack that can be used to judge the quality of e-learning delivery for working nurses. This gap thus should be overcomed. Therefore, the primary aim of this study is to identify the quality indicator for effective e-learning delivery. Based on these indicators, a quality framework of e-learning packages that teach nurses to deliver dementia care is constructed. The approach taken is systematic literature review. The literature in the fields of e-learning for adult education and nursing continuing education were reviewed. Based on critical analysis of published literature, our quality framework was constructed. It consists of seven components, namely, learner, facilitator, content, delivery mode, technology, service and outcome. Each component covers various issues that need to be further investigated.

Keywords:

e-learning, web-based learning, distance learning, continuing nursing education, e-learning framework, dementia care, adult learner, quality assurance

Introduction

The world's population is aging. Associated with an aging population is a prevalence of dementia. Governments and healthcare consumers are concerned about the inadequate supply of trained professionals to provide quality care for people with dementia. The nurses are the major health care workers that provide quality care to dementia patients. Thus, there is an urgent need to provide training to nurses to ensure that they are qualified and use best practices to provide high quality care to patients with dementia [1]. Nowadays, the advances in Information and Communication Technology (ICT) have made it possible to deliver dementia care information via networked computers. Although a lot of work has been conducted in using e-learning method to deliver health care education to nurses, there is little study about using e-learning method for delivering dementia care education to nurses. To ensure that this e-learning course is effective and efficient, a quality framework should be established as a guideline for its development.

Methods

The approach taken is systematic literature review. Two fields of literature were searched: e-learning for adults and nurse continuing education. The following databases were searched for the literature in the field of e-learning for adults: CINAHL, Medline, ERIC, SpringerLink, the ACM digital library, ScienceDirect, ProQuest 5000, Synergy, A+ Education and IEEE. The keywords used for database search were "nurs*", "e-learning", "online learning", "web-based learning", "adult education", "quality framework", "quality assurance", and "e-learning model". The database searched on the second field include CINAHL, Medline, ScienceDirect and ProQuest 5000. The keywords used for the search were "nurse continuing education", "nurse computer literacy", "nurse information literacy", and "dementia care".

Results

In order to construct an e-learning quality framework, three basic themes need to be considered: learner, teacher, and content. Firstly, the targeted learners are nurses. In order to keep pace with the development in the medical field, technology and policy, they are increasingly engaged in continuous education [2]. The nature of learning and the driving forces for nurses to learn should be considered. Secondly, the teacher's role should always be considered. As both teaching and learning are not happening face-to-face in e-learning environment, 'facilitator' is used to replace the term 'teacher'. Facilitators facilitate the students' learning rather than a dispenser of information, as is sometimes practiced in a traditional learning course. In addition, content are the information to be delivered to satisfy nurses' need for practical dementia care, thus should be carefully designed.

In the online environment, three other themes are worth to be considered, too. They are technology, delivery mode and service. It is obvious that technology is important for the successful delivery of e-learning. Students must be online to learn via computers in Web-based learning delivery. It is critical that learners could interact with other learners, with facilitators, and with content [3]. Moreover, high quality service is the pre-requisite to guarantee the success of an e-learning project, such as, the firewall software problem [4] and password confusion issues have to be solved [5]. In addition, the pedagogical theories which are

suitable to design and deliver knowledge in online learning environment are important for the success of the delivery.

Discussion

A proposed quality framework for an e-learning package that teaches nurses to deliver dementia care is shown in Figure 1. It consists of seven constructs, namely, learner, facilitator, content, delivery mode, technology, service and outcome.

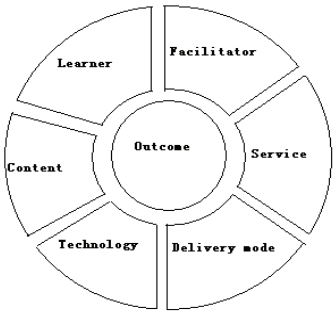

Figure 1 – A proposed quality framework for an e-learning package that teaches nurses to deliver dementia care

1. Learner

Learners of the e-learning course are working dementia care nurses, who have diverse backgrounds and levels of experience. Three issues were emphasized about nurse learners in literature: time limitations, nurses' computer literacy and familiarity with internet technology. It is obvious that lack of time to complete the course is one of the main barriers for nurses to gain a successful e-learning experience [5]. The learners' computer literacy and their familiarity with internet technology are varied. Thus the e-learning designers should understand nurses' levels of computer and information literacy before customizing effective e-learning courses for them.

2. Facilitator

There are two kinds of facilitators that are considered in our framework: knowledge facilitator (online teacher) and technical support facilitator. The knowledge facilitators should create a positive learning experience for each learner and be empathic to individual learner's needs [6]. Technical support is vital to help learners use and access the systems and the learning environment. Both knowledge facilitator and technical support facilitator should be qualified, accessible and responsive [6].

3. Content

The content of e-learning for dementia care package should be interesting, logically organized and flow well [7], comprehensive and authentic [5]. It should be directly relevant to learners' work needs and easy to understand. As the learners are working nurses who already have certain knowledge, what they want to learn via e-learning is new approaches and techniques. The previous researchers [5] suggested that improving understanding about how people suffering with dementia see the world should be an important learning objective; information on the various stages of dementia should be included. The same useful information is about the dementia patient's medications.

4. Delivery mode

In order to achieve high-quality delivery, pedagogical strategies should emphasize the following three issues: *(1)Knowledge base* - learners have different levels of previous knowledge and engagement with dementia. Therefore a variety of levels of information should be included [8]. *(2)Learning pace* - Being able to control their own pace of learning is important for nurse learners. *(3)Delivery format* - a variety of media and communication tools should be used to accommodate different learning styles. It should offer a combination of text, graphics, video and audio.

5 Technology

Technology factors to be considered include usability of website and interactivity. The previous researchers said that usability of Website is comprised of "Format (hyperlinks/buttons for ease of search-ability) and Flexibility (multimedia or plain text of material presentation indicating the utilization of web potential)"[9]. The interface for e-learning material should be carefully designed to ensure usability, which includes ease of navigation, clarity of instructions and so on.

6 Service

Service is defined as accessibility. Access to the entire website should be straightforward. Unconstrained access to services such as libraries, bookstores, and an extensive range of other learning resources should be provided via web links [6]. The course content should be available 24 hours per day, 7 days per week to ensure that the learners could access the course any time, anywhere [7]. It should also provide the learners with the download and printout right from the beginning.

7 Outcome

The outcome in the quality framework is measured by enhancing nurses' competence in two broad aspects, clinical aspect and IT aspect. The e-learning program should facilitate the learners to acquire new and relevant dementia care skills and knowledge. Besides improving nursing knowledge about dementia care, after completing the e-learning course, learners should have better computer skills and be more familiar with Internet technology.

Conclusion

This paper proposed a quality framework of e-learning delivery to teach working nurses dementia care. This framework was build upon the researchers' studies in the fields of e-learning and adult learning. The reliability and validity of this framework is yet to be tested through empirical field studies, which is the direction of our further study.

References

[1] Coulson, J. The impact of the total environment in the care and management of dementia. American Journal of Alzheimer's Care and Related Disorders and Research, May/June, 1993, 18-25.

[2]Kenny A. Online learning: enhancing nurse education? Journal of Advanced Nursing.2002. 38(2). 127-135

[3]Berge Z.L. Interaction in post-secondary Web-based learning. Educational Technology. 1999.39 (1), 5-11.

[4]Wilkinson A., Forbes A., Bloomfield J. and Gee C.F. An exploration of four web-based open and flexible learning modules in post-registration nurse education. International Journal of Nursing Studies. 2004. 41. 411-424.

[5]MacDonald C.J. and Stodel E.J. An eLearning Dementia Care Program for Healthcare Teams in Long-Term Care Facilities. CANARIE Working Group.2004.

[6]MacDonald C.J., Stodel E.J., Farres L.G., Breithaupt K. and Gabriel M.A. The Demand-Driven Learning Model: A framework for web-based learning. The Internet and Higher Education. 2001.4 (1). 9-30

[7]Jeffries P.R. Development and Testing of a Hyperlearning Model for Design of an Online Critical Care Course. Journal of Nursing Education.2005. Aug. 44 (8). 366-372

[8] Stodel E.J. Mental training for enjoyment: Exploring the experiences, processes, and outcomes with recreational golfers. Unpublished doctoral dissertation, University of Ottawa, Canada. 2004.

[9] Stodel E.J. Mental training for enjoyment: Exploring the experiences, processes, and outcomes with recreational golfers. Unpublished doctoral dissertation, University of Ottawa, Canada. 2004.