Evaluation of the Use of Webcasting to Support Nursing Learning *

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Abstract:
Purpose: This study used a survey to evaluate the achievements of graduate nursing students at Sukhothai Thammathirat Open University (STOU) who undertook learning by webcasting.
Design: Survey research.
Methods: The subjects included nursing graduate students who registered for the nursing course "Graduate Professional Experiences in Nursing Administration" in 2010. Webcasting was used for teaching how to write and present a radio script for health education. A questionnaire was administered, consisting of three parts: personal information, the expense of traveling for tutorial at STOU versus attending the webcast, and the advantages and disadvantages between using conventional orientation teaching (face-to-face) and the webcast format. Descriptive statistics were used, and open-ended questions were analyzed using content analysis.
Main findings: Participants reported that instruction via webcast supported their learning at the highest level, and that they had the highest level of satisfaction with this new way of learning. Participants believed that this technology provided opportunities for graduate students all over Thailand to learn at their own locations and their own convenience. Webcasting also gave them chances to construct online social communities and transfer their health education knowledge to the public, gaining writing and presentation skills in the process. Additionally, this type of learning could reduce participants' travel and accommodation costs by 90%, and so it was perceived as safer since students did not need to travel.
Conclusion and recommendations: Using Webcasting can support graduate nursing students' learning and lead them to achieve in their studies. However, a well-managed technology system needs to be prepared in order to support an increase in learning by webcasting.

Keywords: webcast learning, graduate nursing students

Introduction

Sukhothai Thammathirat Open University (STOU) in Thailand first offered a master's degree program in nursing through distance learning in 2004. Currently about 130 students have graduated from the program and have been working in various public and private health care services as well as educational institutions around the country. Their opinions on STOU's distance education system, media components and delivery system are highly positive. In addition, they feel that the study programs and the resulting degrees have contributed greatly to their professional progress and have had a positive impact on the quality of their lives.

Because of the global nursing shortage, which also affects Thailand, nurses cannot leave their work to pursue full-time study that is provided in a conventional classroom, so nurses throughout Thailand are increasingly choosing to upgrade their qualifications and enhance their knowledge by distance learning at STOU. This heightened level of interest has led STOU to introduce a variety of educational technologies, including e-learning and webcast (e-tutorial), to provide learning opportunities to those nurses on a wide scale. Educational technologies can also bring together learners from around the globe through distance education and connect students and faculty as if they are sitting in the same classroom.

As STOU has improved its educational technologies, particularly webcast support, learning has become more available and affordable, satisfying nurses' need for further education. Under the teaching and learning method of STOU, traditionally, graduate nursing students study mainly at home from printed distance learning packages mailed to them and from other electronic media that functions as one-way communication, such as CD, CAI, and DVD. Also, students travel to the main STOU campus or regional centers throughout the country to attend ten to twelve hours of face-to-face seminar sessions for each subject. After completing all the course work, students are required to register for a course entitled "Graduate Professional Experience" and attend a four-day Professional Experience Workshop at the main STOU campus in order to enhance their knowledge and experience before being awarded a degree.

The School of Nursing graduate students who registered for the course entitled "Graduate Professional Experiences in Nursing Administration" do not only attend four-day face-to-face seminar sessions, but also have other classroom training activities. For example, they have to give health education to Thai people by radio broadcast. Therefore the students have to attend a class titled "How to Write and Present a Radio Script for Health Education" at the main STOU campus.

Though education in the conventional classroom is reduced, the quality of education is still maintained. Webcast, a broadcast via the Internet, was first used at STOU by the author to teach the course titled "How to Write and Present a Radio Script for Health Education". During teaching by webcast, students can see the instructor teaching although the instructor cannot see the students. Students can however interact with the instructor and other students via a web board in real time like they are in the same classroom. Furthermore, a single instructor can teach all students who are able to access the internet, without being confined by the walls of a traditional classroom (see http://www.stou. ac.th/stouonline/orientation/webboard/question. asp?GID=1). Webcast is simple to operate and is a low-cost approach for students. It also has various benefits that are appropriate for STOU's distance education. It is believed that using webcast to support learning will lead to sustainability in online teaching. Therefore, webcast was selected by STOU to replace the face-to-face classroom.

Any STOU student who can use the internet is able to access STOU webcasts at any place that has an internet connection. The students can also visit the webcast site to review previous sessions or can download them for later review (see http://www. stou. ac.th/stouonline/orientation/). This is one advantage of using webcasts to support teaching. Ainsley and Brown[1] further noted that online educational settings also offer nursing students the ability to collaborate with colleagues in other geographic areas through participation in online group activities, thus it can lead to increased opportunities for professional networking.

Leners and Sitzman[2] asserted that a caring atmosphere for nursing students needs face-to-face interactions. Their ideas seem to imply that teaching by webcast may not provide an entirely positive impact on the outcome of nursing education given over the internet. Erdogan, Bayran, and Deniz[3] argued that

web-based education had positive effects mainly on motivating students to learn and keeping them interested in the lessons. The research finding of Bradey[4] reported that students' evaluations of video conferencing at the University of Stirling tended to focus on the skills of the presenter or instructor, rather than the logistics of the video conference itself. This indicates that students' achievement may depend on the instructor's teaching style more than the logistics of webcast itself.

Although webcast media may not support face-to-face interaction as fully as a videoconferencing approach (in which the presenter and learners can see each other during the conference), students can immediately interact with the instructor in several ways, such as web board, email and telephone. This issue was supported by Kunz[5] who recommended that the didactic delivery of a course must give way to more active involvement of participants, and the instructor must be willing to adapt his or her teaching style to the integration of the innovative media. All of these research arguments need to be investigated in this study.

Objectives and research questions:

The purpose of this study is to evaluate the achievement of graduate nursing students at the STOU School of Nursing who participated in webcast learning titled "How to Write and Present a Radio Script for Health Education by Webcast". This study is concerned with measuring three criteria: cost effectiveness, students' satisfaction and online teaching sustainability. Finally, the pedagogy of teaching by webcast needs to be investigated as well. All of this can be better understood by asking the following questions:

1. How satisfied are graduate nursing students at different levels with using webcasts?

2. What is the difference between traveling expenses for tutorial at STOU and instruction by webcast?

3. What are the advantages and disadvantages of using conventional tutorial (face-to-face) compared to e-tutorial (webcast)?

4. What is an appropriate model for webcast pedagogy?

Methodology:

Research model: Survey was adopted as the research method for the study.

Participants: The 57 participants of this study included STOU nursing graduate students who registered for the course entitled "Graduate Professional Experiences in Nursing" in 2010. Webcast was used to teach "How to Write and Present a Radio Script for Health Education by Webcast" as a part of the course.

Instruments: Questionnaires were used as research instruments and consisted of three parts: personal information, the difference in traveling expenses face-to-face teaching at STOU and teaching by webcast, and the advantages and disadvantages of face-to-face instruction (taught at STOU) compared to webcast.

Research Ethics:

This study was approved by the Human Research Ethics Committee at the School of Nursing, Sukhothai Thammathirat Open University, Thailand.

Data collection:

The research proposal was approved by the ethic research committee of the STOU School of Nursing. Questionnaires were sent to the participants after the webcast mentioned above was finished and one hundred percent of them were returned via email within a week.

Data analysis:

Descriptive statistics were obtained. Open-ended questions were analyzed using content analysis.

Findings:

From the research questions, participants rated and gave some suggestions as follows.

1. The webcast supported most of the students learning at the highest level, and participants indicated that they had the highest satisfaction with this new way of learning.

Participants asserted that the educational success of the webcast does not depend on only the workings of the technology itself, but on at least five factors. Outstanding teaching style of the instructor is the most important, particularly good personality – smile and eye contact, good relationship, good communication, building students' motivation and students' ability. Secondly, content should be simple to understand and synthesis of the ideas made manageable. Thirdly, students need to be properly prepared to use the technology. Fourthly, having operational staff who can provide technical support before and during the

webcast is an important factor. Lastly, various ways to reach the instructor should be implemented, such as web board, email and telephone, to allow questions and increase participation; and to facilitate a fast response by instructor or teaching staff.

2. Webcast learning could lower participants' traveling and accommodation costs by 90 percent. Also, webcasts are safer for students since they do not need to travel. However, a number of participants suggested that although webcast learning is beneficial in these ways, they still need face-to-face instruction once a semester (normally provided two times per semester).

3. Participants specified that webcast technology has various advantages. It provides opportunities for graduate students all over the country to learn at their own location and at their own convenience. Webcast learning also gave them opportunities to construct online social communities among participants. Additionally, they have autonomy to learn by themselves and to raise questions without fearing criticism from their peers as in conventional classroom learning. Some participants expressed that they are able to learn and work at the same time; for example, one woman took care of her children and parents who were sick in the hospital as well as participating in her

team's consultation. In addition, webcasting also gave them chances to construct online communities and transfer their health education knowledge to the public, so they gained skills in writing and presenting (see http://ctestream02.stou.ac.th/audio_nurse.htm). However, in the case of webcast learning, a number of students complained that they wanted to communicate verbally with the instructor but were unable to do so. Furthermore, the webcast experience also did not allow participants to communicate verbally with their group. These were the main reported disadvantages of webcast technology.

`Most participants suggested that STOU should use webcast media to replace conventional face-to-face classroom instruction one time per subject to cut the cost of STOU students' travel. Furthermore, it can serve some participants who have to do other things in their locations. However, most participants still need personal contact and prefer to come to face-to-face seminar sessions once a semester to build a professional network and keep in contact with their academic assistance group.

From the lessons learned by conducting this webcast research, the researcher can develop an appropriate model for webcast pedagogy as demonstrated in Picture 1:
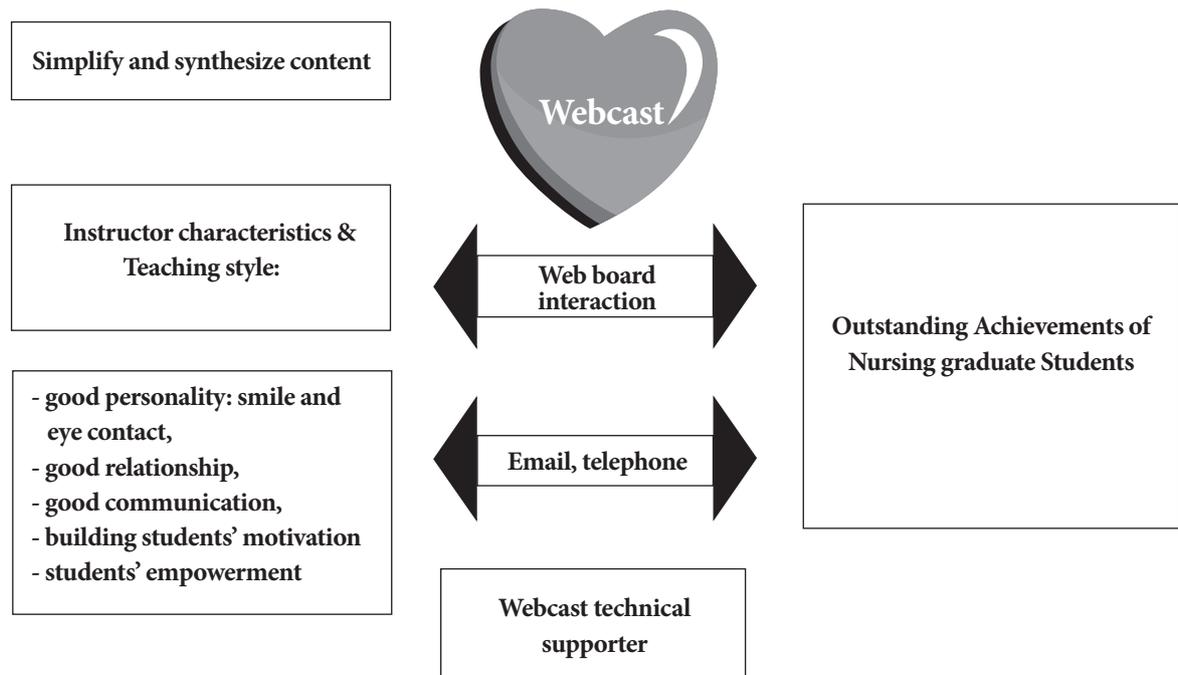
Picture 1: An appropriate model in nursing education for webcast pedagogy

Discussion:

Webcast supported most of the students' learning at the highest level. This is in line with the research of Erdogan, Bayran, and Deniz[3] that web-based education has positive effects on the improvement of academic achievement. From the open-ended questions, although participants indicated that they had the highest satisfaction with this new way of learning; it seems those students still need face-to-face classroom experience. This is supported by Johnson,[6] who revealed that an online mode and traditional face-to-face modes are both unique, each with its own advantages and disadvantages.

This research found that the teaching style of the instructor is the most important factor for academic achievement. This finding was also suggested by Kunz,[5] who recommended that the didactic delivery of a course must give way to more active involvement of participants, and the instructor must be willing to adapt his or her teaching style to the integration of innovative media. Dewan and Dewan[7] support that online teachers have increasingly become facilitators and enablers, clearing the path for learners to achieve both their collective and personal goals. Therefore, online teachers have to use more flexible, innovative, collaborative and empowering strategies than traditional educators.

Webcasting also gave students opportunities to construct online social communities from which they could transfer their health education knowledge to the public. Ainsley and Brown[1] noted that online educational settings also offer nursing students the ability to collaborate with colleagues in other geographic areas through participation in online group activities, thus these settings can lead to increased opportunities for professional networking.

Conclusion:

To reach outstanding achievements in nursing education by using a webcast to support learning, an innovative model that is appropriate to students' environments and institutional readiness to provide online teaching needs to be prepared. Firstly, it requires good teacher characteristics and an effective teaching style; followed by lessons that are simplified and content that can be synthesized. So, faculty preparations for teaching online and financial reward for teaching online are also essential. Lastly, the learning process needs webcast staff to introduce the technology and provide support before and during the webcast learning. This kind of innovative model will lead to sustainability in webcast education.

In conclusion, this research has shown that webcast learning is not better or worse than face-to-face teaching; both modes are still needed for distance students. Therefore the two teaching methods can be used in the same course without compromising quality.

Recommendation:

To overcome the issue of webcast not supporting participants to communicate verbally with the instructor and their group, a technology management system needs to be prepared so that webcasts are able to increasingly support learning.

Acknowledgement:

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บทคัดย่อ:

วัตถุประสงค์: การวิจัยนี้มีวัตถุประสงค์เพื่อประเมินความสำเร็จของนักศึกษาปริญญาโทพยาบาล ของมหาวิทยาลัยสุโขทัยธรรมาธิราช ที่เรียนผ่านเว็บคลาส (อินเทอร์เน็ต)

รูปแบบการวิจัย: การวิจัยเชิงสำรวจ

วิธีดำเนินการวิจัย: กลุ่มตัวอย่างเป็นนักศึกษาหลักสูตรปริญญาโทของมหาวิทยาลัยสุโขทัยธรรมาธิราช ที่ลงทะเบียนเรียนชุดวิชาการอบรมเข้มเสริมประสบการณ์มหาบัณฑิตพยาบาลศาสตร์ ในปีการศึกษา 2553 โดยใช้วิธีการเรียนการสอนผ่านเว็บคลาส (อินเทอร์เน็ต) เรื่อง การเขียนบทวิทยุด้านสุขภาพและวิธีการนำเสนอเพื่อเผยแพร่ออกอากาศทางเว็บคลาส เครื่องมือที่ใช้ในการวิจัยคือแบบสอบถามประกอบด้วย 3 ส่วน ได้แก่ ข้อมูลส่วนบุคคล ข้อมูลเปรียบเทียบค่าใช้จ่ายในการเดินทางมาเรียนที่มหาวิทยาลัยสุโขทัยธรรมาธิราชกับการเรียนผ่านเว็บคลาส และข้อดี/ข้อจำกัดของการเรียนแบบเผชิญหน้ากับการเรียนผ่านเว็บคลาส การวิเคราะห์ข้อมูลใช้สถิติเชิงพรรณนาสำหรับข้อมูลจากคำถามปลายปิด และใช้การวิเคราะห์เนื้อหาสำหรับข้อมูลจากคำถามปลายเปิด

ผลการวิจัย: กลุ่มตัวอย่างให้ข้อมูลว่าวิธีการเรียนรู้ผ่านเว็บคลาสได้ผลดีในระดับสูงสุด โดยพบว่าการเป็นรูปแบบใหม่ในการเรียนรู้ที่สร้างความพึงพอใจให้แก่นักศึกษาในระดับสูงสุด เพราะเปิดโอกาสให้ทุกคนได้เรียนจากที่บ้านหรือที่หน่วยงานของตนทั่วประเทศโดยไม่ต้องเข้ามาเข้าเรียนตามปกติ และยังเป็นวิธีที่สามารถสร้างสังคมในการเรียนรู้ร่วมกันได้ นักศึกษาสามารถเพิ่มพูนความรู้และทักษะในการเขียนบทวิทยุด้านสุขภาพและวิธีการนำเสนอเพื่อเผยแพร่ออกอากาศทางเว็บคลาสได้ ดูได้ที่ http://ctestream02.stou.ac.th/audio_nurse.htm และยังช่วยลดค่าใช้จ่ายในการเดินทางและค่าที่พักที่ต้องมาเรียนตามปกติได้ถึงร้อยละ 90 และยังสร้างความปลอดภัยที่ไม่ต้องมีการเดินทางด้วย

สรุปและข้อเสนอแนะ: การใช้เว็บคลาสสามารถสร้างความสำเร็จในการเรียนรู้ทางการศึกษาพยาบาลได้สูงสุด อย่างไรก็ตามการนำเว็บคลาสมาใช้ในการเรียนรู้จำเป็นต้องมีการจัดการที่ดีทางด้านเทคโนโลยีเพื่อเพิ่มความสามารถในการเรียนรู้ทางการพยาบาล

คำสำคัญ: การเรียนรู้ผ่านเว็บคลาส นักศึกษาปริญญาโทพยาบาล