

EXPERIENCE EXCHANGE

Nursing faculty and use of Web 2.0

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Received: August 3, 2012

Accepted: October 10, 2012

Online Published: January 22, 2013

DOI: 10.5430/jnep.v3n8p13

URL: <http://dx.doi.org/10.5430/jnep.v3n8p13>

Abstract

The purpose of this study was to assess how nursing faculty at a southeastern university use Web 2.0 tools in their personal lives and for educational purposes. Current Web 2.0 tools are technology, software, and the Internet. Those tools allow users to share, create, collaborate and/or publish web-based content. The use of Web 2.0 shapes the practice of scholarship in education by creating an environment which enhances the teaching/learning process. Limited empirical data, however, exists describing the use of Web 2.0 among nursing faculty. The results of this study at one southeastern university will be used for faculty and curriculum development in order to meet the needs of current and future nurses. This study was conducted as part of a larger multisite study being coordinated by the principal investigators at another university.

Key words

Nursing, Faculty, Web 2.0, Informatics

1 Introduction

The purpose of this study was to assess how nursing faculty at a southeastern university use Web 2.0 tools in their personal lives and for educational purposes. For this study, Web 2.0 tools were defined as interactive social web applications that allow users to share, create, collaborate, and/or publish web-based content. These tools include, but are not limited to, blogs, podcasts, tagging, wikis, and social bookmarks accessed by using personal computers (PC) and mobile devices; such as a personal digital assistants (PDA) or smart phones.

The Institute of Medicine's (IOM) reports entitled Crossing the Quality Chasm ^[1] and Keeping Patients Safe: Transforming the Work Environment of Nurses ^[2] are the impetus for the transformation of nursing education and practice. In order to increase the use of Web 2.0 tools in nursing education and to meet the goals outlined in the IOM reports, the Quality and Safety Education for Nurses (QSEN) initiatives defined knowledge, skills, and attitudes as essential features of a competent and respected nurse ^[3]. Additionally, QSEN identified health professionals and patients increasingly rely on information technology to communicate, manage knowledge, reduce error, and support decision-making. Therefore, it is imperative nurse educators embrace and utilize Web 2.0 tools. Some believe nursing educators are lacking the necessary skills and knowledge to adequately prepare nursing students in the use of Web 2.0 tools ^[4, 5].

Review of literature

Limited data exists related to nursing faculty use of Web 2.0 tools. Reports from literature indicate these tools are being integrated and implemented into curricula. They are shaping the practice of scholarship; yet the full integration of Web 2.0

tools into curricula does not exist. If the use of Web 2.0 tools is indeed shaping the practice of scholarship; it is of value to identify how the Web 2.0 environment affects current and future nursing education.

A search of literature from 2005 to 2011 was conducted including nursing education, nursing informatics, and Web 2.0 tools. The literature review revealed Web 2.0 tools support faculty-student communication and prepare students to work in the current technology rich healthcare environment. The uses of Web 2.0 tools have relevance to nursing in that they are prevalent in the educational and healthcare environments. The use of Web 2.0 tools by nursing faculty is significant because these tools allow users to share, create, collaborate, and/or publish web-based content.

Gugerty^[4] suggests a significant lack of knowledge in nursing informatics is one of the key issues severely affecting nursing shortages and healthcare; implying more training would improve nurses' use of technology. Thompson and Skiba^[5] blame nurse educators and their lack of knowledge in the field of technology for this deficiency. The nursing profession must be prepared for demands associated with the rapid advancement of technology in health care. Nursing faculty must also be educated and knowledgeable about the complex and changing world of technology and its ability to prepare students for the world in which they will work.

Pravikoff, Tanner, and Pierce^[6] suggest nurses lack the appropriate knowledge in the field of technology to obtain the necessary information to implement evidence based practice (EBP). Marc Prensky^[7] and Weiss and Hanson-Baldauf^[8] labeled nursing faculty as "digital immigrants" and their students as "digital natives." Raneskog and Gerdnert^[9] suggest a lack of established minimum competency skills for faculty and students, along with integration throughout curriculum, created a barrier to meeting the demands of information technology in the healthcare setting. Christian^[10] used a sample of nurse educators and measured the perception of the knowledge and use of computer assisted education (CAI) methods of teaching that included e-mail, chat rooms, internet, search engines, and software programs such as power-point. Based on the findings of the study, Christian^[10] suggested nurse educators must become more familiar with how to use information technology so they can confidently use it in their classrooms. After conducting a "Computers in Nursing" course, Schutt and Hightower^[11] discovered technology tools such as course management systems, live classroom meetings, and online tutorials prepare nursing students to locate and evaluate evidence-based information to ultimately guide their practice.

Data from a national survey conducted by Thompson and Skiba^[5] concluded that nurse educators were confusing nursing informatics with classroom technology. Findings suggested nurse educators perceived that using computers constituted education in informatics. Thompson and Skiba^[5] also postulated that while nursing informatics were being used in the classroom, it was more of an attempt at meeting guidelines and curriculum requirements rather than an honest attempt at preparing nurses for the future using Web 2.0 tools. McNeil, et al^[12] collected qualitative data regarding information technology knowledge, skills and use from 266 baccalaureate and higher nursing programs in the United States and Puerto Rico. The findings suggest the skills were developed but underused.

Ellaway and Masters^[13] developed a guide to the many ways in which technology can be used in healthcare and classroom settings. They described the following tools: e-learning, e-teaching, and e-assessment, as ways in which to innovatively bring the classroom together and provide a way for students to practice high level cognitive learning skills. Hrastinski^[14] made similar recommendations for classroom use of these technologies. Hrastinski analyzed synchronous and asynchronous learning opportunities and discovered a combination of these two provided multiple platforms for learners and teachers to exchange information, collaborate on work, and build relationships by using Web 2.0 tools such as e-mail, discussion boards, and blogs.

Not only does Web 2.0 provide innovative techniques to share knowledge, but it provides a foundation for future nurses to be educated and prepared for the technologies used in healthcare. Web 2.0 tools are advantageous for nursing students and beginning nurses to learn about and utilize. Competent use of Web 2.0 tools will provide them with the basic knowledge and skills that are transferable to their new role as a registered nurse^[9, 15]. Nurse educators and experienced nurses may need to learn these same skills, for the first time, so that they may advance their education and career and adequately

prepare new nurses^[11]. Nurse educators occupy key positions to influence nursing students' appreciation of Web 2.0 tools^[9].

Research questions

The following research questions guided this study:

- 1) What Web 2.0 tools do nursing faculty use in their personal lives and for educational purposes?
- 2) How do nursing faculty use web 2.0 tools in the teaching learning process?

2 Methodology

For the purpose of this study, Web 2.0 was defined as technology, software, and internet which allow users to share, create, collaborate and/or publish web-based content. Following approval by the university's Institutional Review Board and using convenience sampling, nursing faculty at a southwestern university was invited to volunteer to complete an online survey.

2.1 Sample

Nineteen of 22 full-time faculty members completed the survey, for a response rate of 83%. All respondents were white females. Of the sample; 15 described their primary teaching role as a member of a baccalaureate program; one described primary teaching responsibilities in a RN-BSN program; and three reported primarily in the Masters Program. The average age was 49 years with a range of 29 to 64 years.

2.2 Procedure

Following approval by the university's Institutional Review Board; faculty members were invited to complete the online survey anonymously via university email. The link to the survey on Zoomerang, an online survey research tool, was included with each invitation. The details for informed consent were provided on the survey and completion indicated the participant's consent. Participants were offered an incentive to enter a drawing for a gift card at a separate site.

2.3 Instrument

EDUCAUSE is a nonprofit association whose mission is to "advance higher education by promoting the intelligent use of information technology"^[16]. Since 2004, EDUCAUSE Center for Applied Research (SCAR) has conducted an annual survey researching the "role and implications of information technology in higher education"^[16]. For this study, the survey instrument was a modified version of the EDUCAUSE Students and Information Technology in Higher Education: 2007 Survey Questionnaire^[17]. Permission was obtained by the principal investigators to modify the survey for use with nursing faculty. The survey was divided into four main sections with a total of 41 questions addressing demographic data, type of electronic devices used, types of Web 2.0 tools used, purpose for using the tools, and how the tools were used for teaching learning purposes.

3 Results

Findings from this study revealed all respondents had a desktop or laptop provided by their university employer. All respondents also teach courses including some degree of an online component. Sixty-nine percent of respondents identified a combination cell phone and PDA device or "smart phone" was the primary electronic device used. The most common types of Web 2.0 tools used were E-mail (100%), social networking sites such as Facebook (74%), instant messaging (53%) and online calendar sharing (58%).

When assessing the number of hours spent using Web 2.0 tools, respondents reported spending more hours per week using Web 2.0 tools for school than personal use. When questioned about personal use, 74% of respondents reported fewer than 10 hours per week for personal and 26% reported between 10 to 19 hours. In comparison, when asked to identify Web 2.0 use for school purposes 26% reported fewer than 10 hours per week and 74% reported between 10 and 29 hours per week. When comparing types of users, 68% of respondents were passive users (those who only view or access Web 2.0 tools) and 26% of respondents were active users (those who create or collaborate in Web 2.0 tools), while 5% reported having never used Web 2.0 tools.

When respondents were asked to identify their own use of new technology and opinion of Web 2.0 tools in the classroom, 58% reported they use technology when most do, 31% liked technology and trying new things, and 11% replied they were the last people to use new technology. Seventy-nine percent of respondents agreed Web 2.0 tool usage has improved the effectiveness of the teaching/learning process, while 5% disagreed, 5% had no opinion, and 11% replied that they did not use Web 2.0 tools. Data related to the degree the respondents used technology during the current semester revealed most utilized email (79%), course management systems (79%), presentation software (74%), video (58%), audio (44%), instant messaging (44%), blogs and social networking (39%), e-portfolio (29%), wiki (24%), and office collaboration tools (18%).

When asked to identify their individual preference in regard to use of Web 2.0 tools in teaching courses, 6% replied that they “preferred courses that did not use Web 2.0 tools”, 33% “preferred courses that use limited Web 2.0 tools”, 50% “preferred courses that use a moderate level of Web 2.0 tools”, and 11% “preferred courses that use Web 2.0 tools extensively.”

4 Conclusion

Findings from this study of faculty use of Web 2.0 tools identified these tools are utilized in nursing education for faculty communication with one another, and with students. The results of this survey identified gaps between the availability and the use of Web 2.0 tools. Survey data indicated faculty utilization of Web 2.0 tools was beneficial, however these tools are not used to their full potential. Findings of this study support the need for nursing faculty to become knowledgeable and savvy consumers of Web 2.0 tools. Faculty knowledge and continued use of Web 2.0 tools shortens the gap between an array of Web 2.0 tools available and their use to promote learning.

Further research is needed to explore current use and barriers to the implementation of Web 2.0 tools by faculty in order to provide data related to increasing the application and overcoming the barriers in nursing education’s use of Web 2.0 tools. A limitation of this study was the use of a small, non-random, convenience sample. However, the results of this study have relevance to this university and will contribute to understanding the multiple uses of Web 2.0 tools more fully when merged with results from the larger multisite study with a larger and more diverse sample. Future studies would benefit from having survey data collected from a larger sample size.

Acknowledgement

The authors gratefully acknowledge the contributions of the investigators for the multisite study on the use of Web 2.0 tools for their valuable assistance with our work: Professor Jeanne Sewell, Dr. Flor Culpa Bondal, and Dr. Martha Colvin.

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