Exploring a Virtual Conference Web Site for Undergraduate Health Education Students

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Abstract

Undergraduate health education students have been encouraged to attend professional conferences at the regional, state, and national levels. However, despite the benefits of attending these conferences, students may be reluctant to attend due to time and financial constraints among others. One solution for overcoming these barriers is the creation of a virtual conference Web site for health education students. The purpose of this paper is to compare the benefits and barriers of face-to-face and virtual conferences, to describe several elements required for the successful development and operation of a virtual conference, and to propose recommendations for evaluating the effectiveness of a virtual conference Web site for undergraduate health education students.

Key words: *Virtual Conference, Conferences, Financial Constraints, Professional Development, Health Education Students, Web Site, and Cultural Competency.*

Introduction

Attendance at national conferences is just one of many activities integral to the professional development of health educators. Participation at professional conferences is encouraged for reasons such as the acquisition of new skills and networking with established professionals in the field.[1] Students also are generally encouraged to attend professional conferences to develop leadership skills and to network with students and faculty outside of the classroom.[2]

However, despite the obvious benefits, today's economic environment may prevent students from attending conferences. The lack of financial resources for students' professional development is evident in the increase in the number of full time undergraduate students that work and in the increase in the number of hours that they work. "In 1970, some 10 percent of full-time students worked 20-34 hours per week, and 4 percent worked 35 or more hours per week; in 2006, however, about 22 percent of these students worked 20-34 hours per week."[3(p68)] These increases in work hours also decrease the amount of time that can be dedicated to activities associated with professional development and may prevent attendance at even local meetings.[3]

The financial and time limitations of undergraduate students call for a practical solution to address the barriers preventing student attendance at professional conferences. One solution to this barrier utilizes the strengths of today's undergraduate health education students—technology. Commonly referred to as the "Web 2.0 Generation,"[4,5] many of these students thrive in a technology based environment; technology has the potential to provide a cost effective means to provide them with the primary benefits of attendance at conferences, networking and professional development in the form of an interactive virtual conference Web site. An interactive virtual conference Web site such as this also has the potential to provide health education students from throughout the world with a venue to form an international social network while also enhancing their professional development.

From the early 1990's, online, or virtual, conferences have been proposed as a solution to engage students as active participants in education.[6,7] The International Council for Distance Education conducted the first international conference online in 1992.[8] Time, cost effectiveness, and convenience,[8,9] as well as increased accessibility[9,10]

and increased participation[7,10] are just some of the reported advantages offered by a virtual conference.

Purpose of Study

The purpose of this paper is threefold: to compare the benefits and barriers of face-to-face and virtual conferences; to describe several elements required for the successful development and operation of a virtual conference; and to propose evaluation criteria for testing the effectiveness of a virtual conference Web site for undergraduate health education students.

Literature Review

A Comparison of Face-to-Face and Virtual Conferencing

In recent years, online or virtual conferences have been used by professionals outside of health education to provide students with an opportunity to access the benefits provided by traditional, or face-to-face conferences as well as to address the limitations of face-to-face conferences.[11-13] In developing a virtual conference website it is very important to understand these benefits and limitations in order to provide a website that meets students' professional development needs.

Face-to-Face Conferences

Face-to-face conferences have been recognized as essential tools for professional development.[11-13] This traditional type of conference requires attendees to convene at a specific location during a specified time period. This format provides attendees with the opportunity to share original research, acquire knowledge and skills, and collaborate with colleagues.[11-13]

In education, attendance at professional conferences is encouraged for professionals as well as pre-professionals.[11,12] However, research addressing the effectiveness of face-to-face conferences for student professional development is limited. A qualitative study conducted by Knipe, Walker, Beavis, McCabe, and Mitchell suggests conference attendance is also beneficial for future professionals.[11] The following quote from a pre-professional attendee confirms the value of conference attendance:
Attending the conference strengthened my understanding of the importance of professional development and continual reflection and reform of practice. The opportunity to gain knowledge

through attending workshops and interaction with colleagues was hugely beneficial. Attending the conference gave me a chance to make contacts, helping me to feel part of the educational community.[11 (¶ 18)]

The effectiveness of professional conferences has been studied to a greater extent among professionals. The measurement of pre-established conference outcomes was investigated in terms of improvement in college faculty members' teaching as a result of attendance at a professional peer-group conference.[12] The peer-group conferencing had a significantly positive effect on faculty members' professional development, as "more than half the respondents (1,111) reported professional reinvigoration and renewal as a direct outcome of participating in peer group conferences, 646 (30%) cited improved classroom instruction, and 521 (24%) indicated enhanced student learning as a benefit of peer group participation". [12(pp 390-391)] However, despite the positive outcomes, respondents had also indicated prior to the conference that time and financial factors could serve as barriers to professional development activities.[12]

Conference participation, specifically the nature of the knowledge shared and the collaborative relationships developed, also has been investigated.[13] The findings indicated 74.9% of the conference participants attended with colleagues familiar to them, which may create a barrier to networking with others.[13(p. 241)] Sessions containing mixed audiences (researchers and practitioners), tended to be more passive than those with more homogenous audiences. The majority of attendees were practitioners, and they responded they were visitors rather than presenters. According to the authors of this investigation, this is suggestive of a traditional role of researchers as the givers of knowledge and practitioners as the recipients.[13] Consequently, while face-to-face conferencing does offer valuable tools such as networking, the researchers suggested it reinforces role division between participants.[13]

In light of the barriers posed by the face-to-face conference format, virtual or online conferencing has been recommended as a means to promote interactivity between conference participants, regardless of their position.[13] A web-based conference may also addresses the financial and time constraints of participants both of which have been found to have a detrimental effect on attendance at face-to face conferences, specifically for students.[3] Thus, the potential advantages offered by a virtual conference format provides the opportunity to overcome the limitations posed by the face-to-face conference, creating new opportunities to promote the professional growth of both professionals and pre-professionals.

Virtual Conferences

Yu-mei Wang participated in an international virtual, or online, conference which she stated had "as many as 1,700 participants and 60 presenters from all over the world."[8] Although her paper, Online conference: A participant's perspective" had been published in 1999, Wang recognized even at that time the revolutionary impact the online or virtual conference would have on participants throughout the world:
The online conference adds a new dimension to professional development and provides a truly international forum for scholarly presentations and discussions. The online conference collapses distance, tears down social and cultural barriers, offers more flexible scheduling and significantly reduces costs.[8(¶34)]

In the decade since Wang's paper had been published, interactive technologies have emerged that would lend themselves to an even greater extent than those referred to by Wang. Health education students of the Web 2.0 Generation would likely have much higher comfort levels with a virtual conference than participants in the international online conference to which Wang refers. Therefore, it seems logical to assume a virtual conference could become even more easily integrated with traditional professional development activities than those of the 1990's and perhaps have an even greater impact on health education students.

Although there are limited data addressing students and the measurable outcomes of the use of a virtual conference Web site, findings from previous studies have indicated positive outcomes with professionals participating in these conferences.[14] Conference outcomes of a web-based conference to promote "aging-friendly" communities were measured. The findings indicated "most respondents strongly agreed or agreed that the conference provided them with access to new resources (95%), expanded their knowledge about aging-friendly communities (90%), and provided useful peer interaction (84%)."[14(p.13)] These outcomes are similar to those investigated for face-to-face conferences.[11-13] However, the lack of purposeful discussion in the chat rooms was reported as a negative aspect of the virtual conference.[14] Consequently, a moderator or leader may be needed to ensure the active participation of individuals engaged in an online discussion.[15]

The lack of a need to travel as well as the considerations of reduced cost and time requirements involved with a virtual conference format may provide both professionals and students with the practicality and flexibility not offered by a face-to-face conference. One labor education web-based conference was evaluated as effective by a small sample of participants, as 80 percent indicated they would participate in another conference in a virtual format.[16]

However, while time factors have previously been addressed as an advantage of a virtual conference over a face-to-face format, time constraints have been suggested as a possible limitation of the virtual conference format.[15,17] Planners of a virtual conference must allow a sufficient amount of time to prepare materials and for addressing technical issues that may arise.[16] Furthermore, it has been pointed out that while more convenient than the face-to face format in some aspects, participants in virtual conferences must still break away from their day-to-day life to participate in the conference[17]. Sessions can be stored on line well after the presentation so that participants can access this information on their own time schedules. However, even then, the professional may have difficulty allocating time to view the session.[17]

Another important barrier for Virtual Conferences to be overcome is the technology that must be available to participants.[17] While many health professionals have access to this technology, many others, especially those from less developed countries, may lack adequate technology.[17] Furthermore, even when technology is readily available, a lack of familiarity with the required technology or a technological malfunction can prevent an individual from fully participating in a virtual conference.[18] Additional challenges center on the time needed to develop and maintain the virtual conference Web site.[17] To maintain an interactive Web site, it is important to monitor the website to assure that content is appropriate to a professional Web site.[15]

Elements of a Virtual Conference Web Site

There are advantages and disadvantages in both face-to-face conferences and virtual conferences. When designing a virtual conference Web site it is critical to bear these advantages and disadvantages in mind when choosing the elements that will be used in a virtual conference Web site. The selection of appropriate virtual conference components may have

a significant impact not only on the operations of the Web site but on its overall effectiveness as well.

Although there is no substitute for face-to-face contact with health educators throughout the world, a virtual student conference Web site would provide an environment that is accessible to students with limited travel resources in which to engage in professional development activities. In an online format, students would have unlimited access to appropriate files and networking tools of the virtual conference at any time; however, virtual conferences should provide students with structured schedules to provide sufficient preparation time for virtual presentations. With these aspects as well as best practice in mind, the following elements are required to provide students with professional development resources in a web environment: Educational Opportunities,[13, 18, 20-24] Resources and Support,[6,14,17,20,25,26] and Networking.[14-16, 29-31, 33]

Educational Opportunities

An often cited benefit of conference attendance is the opportunity to acquire knowledge and skills participants may not otherwise receive.[1,2] Conferences provide both professionals and students the opportunity to share their original work enhancing the educational and professional development of students as well as professionals.[1,2,13]

As noted above, De Vries and Pieters, reported that face-to face conferences may promote perceptions of role division,[13] which may hinder the active participation of attendees (e.g., students). However, submitting presentations online in a video format may reduce this role division as well as provide students with a flexible alternative avoiding the travel time and cost of face-to-face conferences. Furthermore, students would have the option of giving their presentations at a specified time via a web camera or they may submit their video for asynchronous viewing.[14] While synchronous viewing would allow interaction between the presenter and the audience,[17] asynchronous viewing would allow presentation videos to be uploaded by students and streamed from the virtual conference site and stored for viewing at a later time.[20,21] While videos streamed from a Web site have been found as effective tools for increasing student learning of health-related material, technical support should be available if students encounter difficulty retrieving the video files.[20,21]

Providing an opportunity for students from various cultural backgrounds to interact is also an important

educational feature of a virtual conference Web site and cross cultural student interaction online has been reported to increase cultural knowledge.[18] In health education, cultural competence is defined by the Joint Committee on Health Education and Promotion Terminology as, "The ability of an individual to understand and respect values, attitudes, beliefs, and mores that differ across cultures, and to consider and respond appropriately to these differences in planning, implementing, and evaluating health education and promotion programs and interventions."[22(p.5)]

Cultural competence is very important to health educators and Laquis, Perez, and Young discuss the importance of providing learning opportunities to develop cultural competence:

The newer concept [of "cultural competence"] requires health educators to take into account the needs of diverse populations in their programs and services. Therefore, educational institutions have a professional responsibility to provide learning opportunities related to cultural competence to the students they prepare. [23 (p234)]

There are many ways educators can meet this "professional responsibility" and various methods have proven successful such as service learning and internships.[24] The virtual conference has the potential to provide another avenue for students to interact in a cross-cultural setting allowing for an understanding for health issues that are of primary concern to students of various backgrounds and to appreciate the diversity of the global health education community.

Resources and Support

In addition to the promotion of educational opportunities for health education students, a virtual conference Web site can provide resources and support through web-based components.[14] Specifically, it would provide an avenue for housing of educational resources as well as individual support in the form of online mentoring.

Although a number of resources may be provided to students through a virtual conference format, one practical resource is that of hyperlinks to external Web sites.[14] While hyperlinks provide students with the flexibility to access numerous valuable and relevant Web sites, they are cost-effective and practical for the moderators of the virtual conference.[6] However, it must be kept in mind that hyperlinks must be frequently updated and monitored for broken links.[20]

Mentoring by professionals in the field is critical for the personal and professional growth of health education students. While not able to substitute for face-to-face contact between a mentor and a mentee, online mentoring allows mentees to receive support regardless of their geographic location[25] and has been demonstrated to be an effective means of facilitating professional development.[26] Thus, the online format of mentoring offered by a virtual conference Web site format has the potential to provide health education students with the flexibility to receive knowledge and support from professionals without the time, geographical, and cost constraints of a face-to-face mentoring relationship.[25] Peer mentoring is another important resource for professional development. A recent study reported the use of peer-to-peer mentoring for education students completing a practicum.[27] Electronic peer mentoring was reported to be effective and relevant in meeting the needs of students completing a practicum.[28] E-mentoring may be equally important and helpful to health education students completing an internship or preparing for the Certified Health Education Specialist exam.

Networking and Collaboration

Attendance at a professional conference provides students with the opportunity to interact with health education professionals and peers and amongst the conference attendees during sessions as well as between sessions in informal settings. A virtual conference Web site can provide these same opportunities and has the advantage of providing these opportunities throughout the year. Gathering places were discussed by Farooq, Schank, Harris, Fusco, and Schlanger as important for sustaining an online community and they suggest multiple meeting areas, just as there are multiple meeting areas in a face-to-face conference.[29] This can be accomplished in an online environment through discussion boards and chat rooms.[30, 31]

Some discussion boards may be freeform and address issues of the participants' choosing while others may be more structured and focus on collaborative learning. Collaborative learning in an electronic environment has been demonstrated to be as effective in the online environment as in the classroom.[32] However, structure is important to collaborative learning. In the structured discussion boards, a moderator may post a specific health topic and facilitate an engaging discussion allowing forum participants to post their responses.[14, 15] A lack of structure in discussions may prevent participation or promote random discussion among participants.[15, 16,

[30] Therefore, students may be more motivated to actively participate in a discussion if a discussion moderator prepares questions prior to the discussion.[15]

In addition to the location of resources, a virtual conference Web site has the ability to provide students from across the profession with an opportunity for collaborative writing and the publication of manuscripts through the use of a wiki.[33] Their work may be submitted to the virtual conference for review that is analogous to the review process of papers submitted for a face-to-face conference. If accepted, the paper may be published and housed on the virtual conference Web site. This peer review process will promote the professional development of students while also maintaining the professional integrity of the virtual conference Web site.

Recommendations for the Development of a Virtual Conference

The Web Site

The previously described review of literature suggests the need for a virtual conference Web site for undergraduate health education students**.** This review identified specific elements that should exist in order to provide undergraduate health education students with educational opportunities, resources and support, and networking and collaboration to enhance their professional development. For the purpose of illustration, a pilot virtual conference Web site (in progress) is currently hosted by a free webhosting service Webs.com. To view the pilot Web site (in progress), visit the URL: http://aahestudentconference.webs.com.[34] The Web site contains several of the elements described previously in this paper, and more elements are being added. Since virtual world software is frequently used to create a realistic perception of one's own online presence,[17] the pilot virtual conference utilizes ExitReality, a free virtual world platform, which enables registered members to create virtual worlds as well as view two-dimensional Web sites in 3D. To view the virtual conference Web site, a first-time user will need to register with ExitReality. However, visitors who wish to view the site in 2D simply visit the URL without clicking the "Launch 3D" button at the bottom of the home page.

During the development of this website, the authors have functioned as both developers and reviewers of the Web site. For future work, the authors will be inviting health education students and professionals

to take on leadership roles to increase the sustainability of the online community.[29] Potential roles by students and professionals are diverse including monitors for discussion boards, peer reviewers for submitted presentations, documents, or any files to be displayed on the virtual conference Web site.[31] Furthermore, the input of a panel of health education students and professionals must be assembled for scheduling and coordinating events and conference presenters, recruiting volunteers, and marketing the virtual conference.

As with any online communication medium, security issues must be taken into consideration.[35] Therefore, this panel must also establish ground rules and these ground rules must be clearly expressed, and consistently enforced to maintain the integrity of the professional development center.[15] Just as chat rooms have been suggested as a medium for enhancing interaction in a distance education environment, they may also serve to facilitate real-time communication among international health education students in a virtual conference. However, as with any type of online communication that could potentially be accessed and distributed by individuals outside of the intended audience, security measures (e.g., password protection) may need to be implemented for the safety of the students participating in the virtual conference.[35]

Evaluation Criteria

Evaluation is critical to the ongoing development of the virtual conference Web site. As noted previously, a review of the literature guided the development of the virtual conference Web site and its initial components. The effectiveness of these components and the need for additional or revised components must be assessed on a continual basis to understand if the virtual conference Web site is meeting students' needs and to keep abreast with technological advancement. Students' participation in this evaluation process will be critical.

Once the virtual conference Web site is complete, undergraduate health education students will be recruited to test the effectiveness of the pilot virtual conference Web site. The Web site will be monitored for use to determine which elements are used most often. Formative evaluation of the pilot virtual conference Web site will also utilize electronic qualitative[11] and quantitative surveys. Upon completion of the pilot virtual conference (during which a scheduled mini-student conference will be conducted), a quantitative summative evaluation will be used.[14, 16]

Based on the previously discussed review of the literature, several conference outcomes will be measured to determine the effectiveness of a virtual conference. The conference outcomes will be evaluated in terms of students' perceptions of general effectiveness, practicality,[8,9,16] flexibility,[9,10,17] educational opportunities,[1,2,13, 18, 20-24] ease of web-based elements[20,21,35], and operations.[14-17]

Conclusions

The purpose of the paper was to compare the benefits and barriers of face-to-face and virtual conferences; to describe several elements required for the successful development and operation of a virtual conference; and to propose evaluation criteria to test the effectiveness of a virtual conference Web site for undergraduate health education students. It is clear a virtual conference can never serve as a replacement for a traditional face-to-face conference. However, a virtual conference may serve as a practical and effective solution to the limitations posed by face-to-face conferences. The development and testing of a virtual conference Web site is an important step in better understanding the potential role of technology in meeting the professional development needs of the Web 2.0 generation of health educators

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