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Using New Communication Technologies: An Educational Strategy Fostering Collaboration and Telehealth Skills in Nurse Practitioners

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ABSTRACT

Collaboration skills and proficiency in telehealth communication technologies are essential competencies for all advanced practice nurses and are especially important for those in rural or remote sites. This article explores new communication technologies available for use in telehealth and discusses an innovative experiential learning activity that promoted doctor of nursing practice student competencies in using these technologies to connect and collaborate from a distance.

Keywords: communication technology, distance collaboration, education, nurse practitioner, telehealth

In the report *The Future of Nursing, Leading Change, Advancing Health* the Institute of Medicine emphasized the importance of the nursing profession's mastery of communication technology tools for interprofessional collaboration and care coordination in order to promote the overall health of the nation.[1] This need is especially acute for advanced practice nurses (APNs) who have limited access to face-to-face contact with other professions. Of specific concern are APNs serving the disadvantaged and those in rural and remote areas where access to other professions can be more limited. At least 18% of all nurse practitioners (NPs) currently work in rural or distant practice areas often without direct access to other nursing and physician colleagues or specialty health care providers needed for consultation.[2,3] Developing a better working knowledge of telehealth and new communication technologies can enable APNs in potentially all settings to more conveniently collaborate with other health care professionals for improved patient care.[4–6]

A burgeoning array of new social media communication technologies is now accessible through smart phones, tablets, and computers. Experiential activity learning was developed to promote doctor of nursing practice competencies in telehealth communication skills through the use of these new technologies to connect and actually collaborate with other nursing specialties from a distance. The purpose of this article is to describe an experiential activity used in a post-master's doctor of nursing practice program to promote a technology-enhanced interdisciplinary collaboration in predominately technology-naive, if not technophobic, NPs; explore some of the newer telehealth communication technologies used that are available for use in health care; and review the impact of the technology-enhanced experience.

TECHNOLOGY-ENHANCED COLLABORATIVE EXPERIENCE

The technology-enhanced collaborative experience included an introduction for the participants to various communication technologies available for interdisciplinary collaboration as well as an activity that had them distantly use the technologies to formulate collaborative strategies to improve patient care outcomes. For the exercise, the participants were assigned to interdisciplinary pairs consisting of an APN and a nurse executive (NE) who lived in different regions. Each paired group researched and chose a technology that neither had used before to communicate during their month-long collaboration.

These communication technologies included Skype Video (Microsoft, Redmond, WA), Google Talk/VideoChat (Google, Mountain View, CA), FaceTime (Apple, Cupertino, CA), Tango (TangoME, Mountain View, CA), and Adobe Connect (Adobe Systems, San Jose, CA). While communicating through these technologies distantly, they had to discuss each other's background, clinical/administrative role, expertise, and practice and research interests. They also examined issues related to technology use such as confidentiality. In addition, they had to use the chosen communication technology to discuss the development of a collaborative program or project that incorporated both of their expertise to address a need and positively impact a patient group.

COMMUNICATION TECHNOLOGIES

Numerous communication technologies are available for health care collaboration that offer free real-time face-to-face conferencing, file-sharing capabilities, and simple setup procedures (Table). Their usefulness in health care for communicating with patients and other providers has been documented.[4–8] Additionally, original concerns over security and data protection are being addressed.[9] Even though the adoption of these technologies for interaction with family and friends has slowly begun to take hold, their use by professionals in the health care setting is still limited.[8,10,11]

Table. Communication Technologies for Telehealth

Technology	Description	Devices
Skype video	Audio/video conferencing, instant messaging, send and receive files	PC, Mac, Android Mobile Devices, Apple Mobile Devices
Google Talk/Hangout	Audio/video conferencing, instant messaging, send and receive files	PC, Mac, Android Devices, Apple Mobile Devices
FaceTime	Audio/video conferencing	Mac, Apple Mobile Devices
Tango	Audio/video conferencing, instant messaging, send and receive files	PC, Mac, Android Mobile Devices, Apple Mobile Devices
Adobe Connect	Audio/video conferencing, instant messaging, send and receive files	PC, Mac, Android Mobile Devices, Apple Mobile Devices

Skype

Skype is a voice-over Internet provider service owned by Microsoft that offers phone, video, instant messaging, and file-sharing services. It can be downloaded and used on any computer or mobile device. The services are available between Skype users for free and for a nominal fee to call non-Skype users on landlines, mobile phones, tablets, and computers. A service allowing multiple users to video conference is also available for a fee.[12,13]

Google Talk/Hangouts

Google Talk's video chat service, which allows members to conference one-on-one, has now largely been replaced by Google Hangouts, which uses a more versatile proprietary technology. Hangouts is a Google service that offers free phone, instant messaging, file exchange, and video conferences with up to 10 people on any mobile phone, device, or computer.[14]

FaceTime

Apple introduced its FaceTime advanced video conferencing technology several years ago to interface between all Apple products including the iPhone, iPad, iPod, and Mac computers. It offers a secure, free, user-friendly video conferencing service for Apple-only products, with no instant messaging or file exchange.[9,12,15]

Tango

Tango is a cross-platform technology from TangoME that offers free video conferencing, instant messaging, mobile phone, and photo file exchange between Tango users. It is compatible with all mobile devices and computers and is available in several languages.[16]

Adobe Connect

Adobe Connect is a Web-conferencing platform that offers audio and video conferencing as well as webinars and other online training. It also is available for customizable recorded meeting rooms with shared, screens, notes, instant messaging, and shared content