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Twenty Plus Years of Distance Learning: Lessons Learned

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Abstract

Private institutions of higher education in the United States were hesitant to institute programs of distance learning for fear that they could not maintain the quality of the education they had delivered in face-to-face programs. Vanderbilt University allowed their School of Nursing to embark on such an endeavor in 1996, as long as quality measures were incorporated. The result has been a comprehensive resource support team using Quality Matters and an increase in program rankings.

Keywords:
Distance Education, Online Learning, Online Education

Introduction

In the 1990s, the Masters of Science in Nursing (MSN) program at Vanderbilt University School of Nursing (VUSN) was a relatively small, high quality, boutique program solely aimed at students within commuting distance of the campus. Growing the program required steps to accommodate a different type of student—the distance learner—who in turn brought about a completely new set of challenges.

The first specialty to implement a modified distance option was the Psychiatric Mental Health Nurse Practitioner program in the fall of 1996. They started by video streaming classes while simultaneously recording sessions for later distribution. Bandwidth in many of the rural areas prohibited quality viewing, so the IT support staff of five resorted to pressing CDs and mailing them out within 24 hours of the class.

Dean Colleen Conway-Welch determined that leadership was needed to guide the school through the various barriers to deliver quality online education. She had the vision to hire a Senior Associate Dean for Informatics. That individual assumed the responsibility of guiding the expansion of the program using "at a distance" tools and then identified and hired the additional staff needed for support. Support and quality became the cornerstones of all subsequent planning, implementation, and evaluation.

While the initial intent was to expand enrollments because the regional area had been saturated with nurse practitioner graduates, it soon became clear that other programs were seeing rising student satisfaction studies with online learning as faculty became more skilled with the online learning environment [1]. Furthermore, the quality of online courses was becoming the same as, or better than, traditional face-to-face courses [2].

This poster will explore the lessons learned during this 23-year journey. The design of the poster will be completed using innovative interactive software that will allow users to use smartphone technologies to further explore various subjects using augmented reality to visualize additional multimedia materials.

Methods

Staffing

When the Senior Associate Dean for Informatics was hired, she shared her vision for a comprehensive technology and informatics support team. As a condition of her employment, she received institutional commitment that a team approach would be employed to provide the best support model, prepared in a range of skill sets from networking to instructional design.

Technology Tool Set

Each year the informatics support team has chosen the hardware and software solutions that best meet the needs of the faculty. Decisions are made on which tools will be supported so that duplicate videoconferencing solutions, for example, do not exist. All software purchases have been centralized under the informatics area, including grant purchases. This decision has resulted in more effective support and more efficient purchasing.

Student and Faculty Orientation

Orientation activities are crucial to every academic year, and are presented both online and during the face-to-face sessions at the beginning of the academic year. Configuration sessions are critical so that all devices are equipped with the appropriate software tools and can attach to the university network. Once students are at home, they need to be able to make the appropriate connections so that they can successfully use their technology tools for learning. Students are instructed to call or email for any support or connection issues once they are back in their home environment.

Quality Standards

For the last ten years, VUSN has subscribed to the Quality Matters (QM) framework. Skiba describes this framework as being built upon eight standards derived from current research [3]. The framework is based on the assumption that quality online education is represented by institutional commitment to quality. Two instructional designers trained in the QM framework work with faculty to help them meet the criteria incorporated in the QM rubric [4]. The rubric is used to examine eight general standards for course design. The rubric also incorporates the concept of alignment, which refers to several essential course components working together to achieve desired outcomes.

Results

Staffing

Five technology support people were at VUSN when the Senior Associate Dean for Informatics was hired in 2000. Implementing her vision for comprehensive support, the team has now grown to 28. Positions include classroom support, computer lab coordinator, network manager, web developer, graphic artists, general IT support, instructional designers, program coordinator, videographers, materials coordinator, videographers, media services, programmers, simulation staff, and informatics faculty. Enrollments have more than tripled, reaching as high as 1000 students in the MSN, DNP, and PhD programs.

Technology Tool Set

In order to effectively manage on-site delivery of the technology, the network infrastructure was strengthened with all classrooms and offices having wired and wireless connections. Electronic classrooms have been updated to include the Crestron control system [5]. Hardware guidelines are agreed upon annually and communicated to students along with the software.

Software solutions include:

- digital video streaming via Mediasite,
- web conferencing via BlueJeans,
- clinical log via Medatrax,
- secure large file exchange via Box, s
- ecure testing via Remote Proctor,
- video case studies via ReelDx ,
- simulation software via B-Line Medical,
- instructional design software via Lectora,
- plagiarism checker via Turn-It-In,
- digital signatures via Adobe Acrobat,
- remote support via Team Viewer,
- course management via Brightspace, and
- Microsoft Office Productivity suite.

Student and Faculty Orientation

VUSN teaches courses year-round so that the August orientation starts the beginning of all classes. During this time, each program has week-long orientation activities. Reviewing technology standards is important to all programs, along with the configuration of all their devices to connect back to VUSN from anywhere in the world. New faculty are oriented online via technology support and solutions, and returning faculty are updated at the annual Fall Faculty meeting. Further support is provided online including a Tech Tools section of the VUSN website along with a Knowledge Base.

Quality Standards

The Institute of Medicine defines a learning healthcare system as a system in which "science, informatics, incentives, and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience [6]." The Learning Health System Cycle is further described by Friedman as being cyclical in nature with the steps of "assemble, analyze, feedback, and change [7]." This same process has been used by VUSN through course evaluations at the end of each course, curriculum evaluations through course portfolio reviews across all programs, and surveys regarding distance learning support completed by faculty and staff every two years.

All MSN and DNP courses have introduced an interactive course template that guides them through the appropriate planning stages that maps the objectives with outcomes. Current efforts are on increasing course interactivity, and the QM rubric is being used internally to help all faculty improve the quality of their courses. Feedback from students is received via standardized course evaluations along with a survey sent out to students every other year about the technology support. All evaluations have been extremely positive (4.95 on a 5 point scale) with minor suggestions for improvement.

Program rankings have all risen during the 23 years of online learning. Rankings in 2019 for VUSN were eight for the MSN program, and five for the DNP program, marking the first time that both programs have been in the top 10 [8]. In addition, throughout the 23-year period all VUSN programs have maintained accreditation by national nursing bodies, demonstrating that by offering education in an online fashion quality was at least equal to, if not higher than, face-to-face delivery of programs.

Conclusions: Lessons Learned

The lessons learned from over twenty years of experience can be summarized by the following important considerations. Quality (from an organizational commitment and framework), comprehensive support team, leadership at the Senior Associate Dean level, a strong network infrastructure, standardized hardware and software, student and faculty orientation activities followed by web tools, and feedback from users including both faculty and students followed by revision of activities. Late lessons included the need for a remote proctor tool with browser lockdown, the addition of a searchable knowledgebase, and the need to be active participants at the university level for campus-wide selection of online tools. Maintaining faculty engagement continues to be a challenge due to a number of off-site classes rather than being taught from faculty offices.

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