TEACHx

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Course & Discipline: Physical Therapy 533-0: Electrophysical Agents, Doctor of Physical Therapy

Students: 92

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AFFORDANCE

Assessing the Feasibility of Online Rotational Delivery of a Northwestern Course in Electrotherapeutics

Context

In Electrophysical Agents for second-year Doctor of Physical Therapy students, our traditional format has been a two-hour lecture in preparation for a two-hour practical skills laboratory. It is essential that students understand the lecture materials in advance of the lab session to facilitate optimal application of the content to the practical patient scenarios in lab. We believed that employing a hybrid, rotational approach that allowed students to complete lecture materials independently through online instruction would allow for greater understanding of course principles, facilitating stronger application of principles into patient cases in lab and leading to improved learning outcomes and, ultimately, enhanced patient care.

Project

For the Educational Technology Teaching Fellows program, we developed a rotational course delivery model using Articulate Storyline software whereby lecture materials were delivered in an online format and practical laboratory sessions were conducted in person such that students rotated between instructional formats. We developed course units following this model and investigated the feasibility of this method in a Physical Therapy curriculum by exploring student reports on ability to integrate course content materials into practical lab patient cases; student satisfaction; impact on time management; and rates of course engagement.

Objectives & Outcomes

Students identified four major themes regarding the positive benefits of online learning. Students noted that an online format provided advantages over traditional lecture content instruction in the student's ability to repeat information and to complete learning activities at their own pace within their own schedule, along with the formative assessment that the interactive learning activities provided. Of the 92 students completing the course, 69 completed the course evaluation, accounting for a 75% response rate. Students (n=53 or 58%) stated that each module required between 31 and 120 minutes to complete. In previous years, the Electrotherapy course was offered on Tuesday and Thursday from 1 p.m. to 3 p.m. We asked students when modules were typically completed: 24 students completed the modules at varied times; six on the weekend; 19 in the evening; 19 in the afternoon; and one in the morning before 8 a.m. class. However, students did note that online instruction posed some challenges not

faced in the traditional lecture environment centered around two major themes: accessibility of faculty and technology difficulties.

Results

Overall, these results showed the feasibility of this innovative model in the Electrotherapy course at Northwestern University. Students reported positive benefits to participation in the ability to complete content at their own time and at their own pace. Students encountered technological difficulties that provided vital information for improving the Articulate Storyline content and formatting for the next academic year.

Lessons Learned

While the up-front time for faculty to construct online modules was greater than the traditional lecture format, the online instruction did provide greater freedom in scheduling for both students and faculty. In the future, meeting with students in person prior to the online course beginning would be helpful to establish course objectives and set expectations for the online environment. Interestingly, students reported limited access to faculty to answer questions as a barrier to online learning. Our student handbook instructs students to contact faculty as needed via email and this message was reiterated to students in the online modules. We believe that stating this information in person and recording this and posting on an introductory module in the future may assist students in feeling empowered to contact faculty as needed.