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Using Multimedia Resources to Enhance Learning During Office Hours

Lorretta C. Krautscheid

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Nursing students attend office hours for a variety of reasons, such as clarifying information about challenging topics and requesting additional instruction. According to Acitelli, Black, and Axelson (2016), instructional methods used during office hours should incorporate active learning strategies that improve the quality of learning. The literature recommends asking students to verbalize what they know and actively draw out what they are thinking, so faculty may optimally assess baseline understanding, gain insights about problem solving capacities, and offer supplemental instruction (Acitelli et al., 2016; Griffin, et al., 2014). Multimedia resources such as Explain Everything™ (an interactive white-board application), may be used during office hours to digitally record narratives alongside insightful illustrations. The goal is to create personal digital recordings that may be archived by students and subsequently used for self-paced, personalized learning, offering unlimited opportunities to review and rehearse desired segments while working toward understanding.

Activity

Multimedia resources are optimal for assisting active learning during office hours. According to the cognitive theory of multimedia instruction (Mayer, 2008), multimedia resources reduce cognitive load and optimize learning when narrations simultaneously accompany corresponding illustrations (temporal contiguity), when essential text is written next to corresponding graphics (spatial contiguity), and when signaling is used to emphasize essential information (signaling principle). The following case example demonstrates how multimedia resources were utilized during office hours instruction to promote active learning, enhance cognitive understanding, and create reusable learning products.

Pathological processes associated with chronically elevated afterload and left ventricular remodeling are frequently discussed during office hours. When students ask to review complex processes, the faculty handed them a University-owned tablet, and they opened the Explain Everything application, and created a new project. Students provide verbal permission to synchronously record audio narratives and student-drawn illustrations. Faculty may contribute both narration and illustrations within the project, drawing attention to essential points (signaling principle) or remediating misunderstandings as needed. The office hours project is saved as a digital media source on the tablet, uploaded via wireless connection to a university media website (Kaltura™), processed as a media source, and saved as private to prevent public access. Faculty e-mail a private URL to the specific student's university e-mail account that provides access to their personal office hours project. Student access is available while enrolled at the university.

Student Reactions

Anecdotal student comments endorsed multimedia resources as an active learning strategy, enhancing learning both during and after office hours. Students reported that Explain Everything was easy to use and the technology helped them demonstrate baseline understanding, while also

receiving faculty input that was recorded within their personal project. Students were enthusiastic about opportunities for self-paced review via a media source that integrated narration with corresponding illustrations (temporal contiguity). A student commented:

Even though I thought I knew it during office hours, I needed to listen and watch several times until I really got it.

Watching specific video segments helped fill in gaps. Kaltura viewing data revealed students watched their personal office hours media project two to six times. The promising findings raise implications for future study. For example, multimedia instruction during office hours may have additional benefits for non-Native English-speaking students.

Lorretta Krautscheid, PhD, RN, CNE krautsch@up.edu *School of Nursing* **Samuel B. Williams, MSEd** *Academic Technology Services and Innovation University of Portland*
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AuthorAffiliation