

## Methods for increasing student learning in an online undergraduate analysis of apparel and production course

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**Significance and research problem.** Teaching strictly online presents new challenges for educators. Some of the challenges observed included: (a) the inability to assess student thinking and learning of material in a face-to-face environment and (b) the majority of undergraduate students enrolled in the online history of fashion course were taking 16 – 18 credit hours and working 20 – 30 hours per week, creating challenges for paired and group assignments. The following questions needed to be addressed for the online course:

1. How do the teaching methods and assignments need to be *developed* or *adapted* for an online undergraduate analysis of apparel and production course? If so, how?
2. What technologies can be *used successfully* to teach an online undergraduate analysis of apparel and production course?

**Contextual review.** A focus on quality online higher education is important given the increasing expansion of online courses (Kim & Bonk, 2006). Kim and Bonk (2006, p. 27) found “planning and moderating skills are perhaps more important than actual ‘teaching’ or lecturing skills in online courses.” Therefore, multiple methods were considered for creating a successful learning environment for the online analysis of apparel and production course, including appropriate utilization of technology (Kim & Bonk, 2006). Existing literature shows critical thinking skills are required when higher-level questions are asked of students (Pagliaro, 2011). Quality questions involve students in “purposeful speaking, engaged listening, and deep thinking” (Walsh & Sattes, 2015, p. 13). Evidence of learning and reasoning are demonstrated through follow-up comments or questions to encourage in-depth thinking skills (Walsh & Sattes, 2015). Bloom’s Taxonomy of the Cognitive Domain (Bloom, Engelhart, Furst, & Krathwohl, 1956) and the taxonomy of Gallagher and Ascher (1963) were considered for developing critical thinking skills in online assignments. Other learning tools and techniques were also considered for use in the online course: Venn diagrams, hypothesis generation, comparison matrices, and the “Windows To” learning tool from Project LEA/RN™.

**Methods.** Available *technology* was used to convey the lectures, assignments, and supplementary documents to students: PowerPoints, Zoom video conferencing technology for creating lecture videos, YouTube, Dropbox, and the iLearn educational system. A new type of assignment was developed. This was referred to as *Lecture Accountability assignment*, which was developed as an assessment of students’ thinking and learning and to also ensure students’ responsibility of learning the course concepts. These assignments developed open-ended questioning and prompts based on the taxonomies of Bloom et al. (1956) and Gallagher and Ascher (1963). The Lecture Accountability assignment was rewritten for each lecture as it was based on the chapter material. To address students’

questions and misconceptions, a *brief review* was given at the beginning of the following lecture along with follow-up questions. *New exercises* were developed. A few examples include students (a) analyzing and documenting apparel from their own closets, (b) accessing information, i.e. tariffs and quotas, and (c) generating hypotheses for apparel care methods. *Other learning tools and techniques* were adapted for the analysis of apparel and furnishings course. Additional images, video clips, and supplementary short articles were added to the course to improve student learning. An *adaption of the Plus Delta* was given to students halfway through the semester to obtain feedback from students, examine the success class materials and methods, and consider potential adaptations for the course.

**Results and Implications.** In utilization of the technology, the authors discovered that iLearn has space limitations and YouTube limits on time length, resulting in restrictions on lecture videos. Thus, the videos were created as voice-over PowerPoints, recorded with Zoom video conferencing technology, and uploaded to a Dropbox. The videos were linked to the iLearn system to be more accessible to students. Supplementary videos via YouTube and other websites were implemented within the lecture videos since the computer screen can be shared during Zoom recordings. Due to the lack of face-to-face interaction, the class assignments provided the assessment of student thinking and learning of the course material. Rather than giving multiple choice quizzes, the Lecture Accountability assignments demonstrated students' critical thinking skills and learning of the course material. The development of this higher-thinking assignment had four benefits: (a) students were required to think critically about their learning, (b) students communicated their learning of the materials, (3) students were provided with a self-assessment of their thinking and learning, and (4) the instructors had an assessment of students' thinking and learning. It was found that teaching methods and assignments must be adapted and new exercises developed to create an improved online course environment and assessment of students' learning. The adapted Plus Deltas revealed students felt the assignments were important and beneficial for their learning but too lengthy. Therefore, the Lecture Accountability and class assignments were condensed and the amount of points reduced. The adapted Plus Deltas also showed students felt the videos, images, and analysis of apparel exercises were most beneficial for learning. Future implications include considerations for implementing new methods of teaching for other online apparel courses that improve the online student learning experience.

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