



## Case Study: Assessing Student Learning in an Online Apparel Patternmaking Course

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As higher-education institutions move courses online in an effort to reach a broader population, three-dimensional (3D) design domains struggle to teach and assess learning in online environments. Scholars have shared their experiences teaching Apparel and Textiles courses online (Shin, 2012 and Yurchisin, Chang, Cho, & Gupta, 2011); however, none have shared their experience in assessing student learning as demonstrated through 3D artifacts, such as those in apparel patternmaking courses. Thus, the purpose of this case study was to understand the requirements and limitations of assessing online apparel patternmaking in a manner comparable to the on-campus course.

### Strategy Implementation and Best Practice Findings

Two assignments were selected: a full-scale front and back bodice pattern, and a pattern manipulation assignment. The pattern manipulation assignment included: (1) four half-scale bodice paper patterns designs, (2) three relevant pictorial examples of garments, and (3) a half-scale original design including a pattern, fit muslin, and technical package (pattern card, pattern drafting instructions, and construction instructions). These assignments were selected because they included many of the artifact types typically assessed in a patternmaking course.

Explicit written directions regarding submission using Blackboard Learn (BBL) were provided for students, including specific preparation and formatting directions. The submitted assignments were assessed using an online rubric. After examination of the student submissions, we determined best practices for successful online submission and assessment of the studied types of patternmaking artifacts, these findings are explained hereafter.

Artifact documentation. Students were instructed to either scan or take a photo of each individual component. They were instructed that each image should be clear (all writing and markings are visible and legible) and include the entire required content within the boundaries of the image. It was determined that the most effective method of documentation varied based on artifact dimensionality. Scanning was determined to be the most effective method of documenting two-dimensional (2D) components such as pattern pieces, fashion illustrations, and technical package documents. Meanwhile, 3D components should be documented using a high resolution camera, under a good light source, with a straight on/level view.

File format. Students were instructed to save each image as a JPG file, no larger than 1MB, with each file named as specified in a provided table, following the format (First Initial Last Name \_ Assignment Title \_ Part # \_ Content). This was done so the files would be small enough to easily download, as well as be easily identified when downloaded and saved. However, because BBL requires .jpg or other image files to be downloaded, this turned out to be a time and data consuming task. We concluded that a better approach in the future would be submission of a single PDF file containing all parts of the assignment in order. Because BBL

provides preview capabilities of PDF files within the web browser, this would provide simplicity for assessment as it maintains the order of the assignment parts.

Layout and format of 2D components. Paper patterns and related documents required for a single assignment submission can easily become unmanageable in terms of quantity, organization, and ability to see required detail; thus numerous best practices are suggested for 2D components. The assignment should be completed neatly in bold lines using fine tipped sharpies or black pen in order to be seen more easily when photographed or scanned. Pattern pieces should be documented against a contrasting background surface to provide clear and distinct pattern edges. Components should be clearly labeled in the image (either on the pattern piece or an adjoined label). For the purpose of precise assessment, students should draw or include a one inch reference scale within the image. Layout of paper pattern pieces should be aligned by the most relevant seams for the particular pattern style. The image should be cropped in a way that the entire pattern piece is clearly visible within the image perimeter, while also filling the majority of the image area, to allow it to be viewed as large as possible in the previewed PDF file in the BBL web browser.

Layout and format of 3D components. Students were instructed to submit the following images of the original design fit muslin on the ½ scale dress form: (1) front view, (2) back view, (3) side view, and (4) one image of the garment turned inside out laid flat. We found that these images worked well for the assignment we were assessing; however, when dictated by the assignment, additional detail images might become necessary. Instructors must consider what aspects of the 3D component they want to assess, such as garment fit, garment completion, creativity, or workmanship and require photographs accordingly. We found that the most effective method of assessing a fit muslins was on a dress form, allowing assessment of fit, completion, and workmanship simultaneously. The inside out image was also important for assessing completion and workmanship inside the garment. Marking and labeling, closure mechanisms and seam finishes are all important aspects of garment completion; while cutting and sewing are aspects of workmanship. Assessment of these components involved viewing the sample on the form, and also turned inside out and laid flat.

#### Plans for Continuation

With our new understanding of the requirements of online patternmaking assignment submission and assessment, the researchers will continue to develop other areas of the online patternmaking course. The best practice strategies will be implemented in future assignment submission and assessment across the entire course, allowing assessment of a 3D apparel design course in a manner comparable to on-campus classroom interaction.

#### References

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