

## **Collaborative teaching for creative possibility: The combination of technology and construction**

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The fashion industry has evolved with the use of various technologies in recent years. As suggested by Power (2010), curriculum design in apparel programs needs to be actively redesigned to incorporate new technologies and ensure that graduates are well-prepared for the rapidly changing profession. The use of new technology such as digital textile printing “opens up a constantly expanding range of creative possibilities and can create a complex and multifaceted set of decision points for designers” (Parsons & Campbell, 2004, p. 88). Digital textile printing also promotes the practice of sustainable design through an efficient use of fabric, saves water during the printing process, and provides flexibility for customization (Hahn, 2013; Parsons, 2015; Savastano, 2016). On the other hand, Romeo and Lee (2013) argued that in addition to teaching students about advanced technology skills such as digital printing, fundamental skills such as sewing, patterning, and construction are equally important for fashion design students. They also indicated that lack of construction skills was the leading factor preventing entry-level designers translating creative ideas into a viable product. Therefore, investing in effective ways to incorporate technology-based courses into construction courses in the apparel design curriculum is necessary.

This research proposes a collaborative teaching method to effectively teach technology-based courses by combining them with construction courses, thereby enhancing the learning experiences of fashion design students. Instructors from two different design courses collaborated to develop projects that allowed students to learn, apply new knowledge, and gain further insight into the course content. The focus of this research was on a collaborative teaching project aimed at understanding the experiences of both instructors and undergraduate students. The research questions are 1) how do apparel educators perceive the technique of teaching digital textile printing in undergraduate curriculum and 2) what impact does collaborative teaching have on students’ experiences of learning digital textile printing?

After receiving IRB approval, the collaborative teaching project was introduced simultaneously to college juniors in two fashion design courses. One course focused on introducing students to advanced industry practical techniques such as digital printing while the other course taught

students techniques of fashion draping and completing three-dimensional design using the taught principles. Both courses, Fashion Industry Techniques and Fashion Drawing are essential to prepare students for careers in the fashion industry.

Junior level fashion design students (N= 27) were enrolled in two courses in the same semester. The collaborative project lasted a total of five weeks. Though both courses occurred simultaneously in the same semester, the computer course started first on the digital textile printing project to allow students to create their textile designs and order fabrics to be used in the second course, thus enabling collaboration between the two courses. After being taught the collaborative project, student participants completed online survey questionnaires. Of 27 students enrolled in two courses, 16 students (59%) participated in the post survey. Questionnaires were developed to obtain reflection about learning from the projects assigned in both classes (Olmsted & Ruediger, 2013). Most of the questions were open-ended feedback on their learning experiences. Additionally, an in-depth, one-on-one interview with one of the instructors from the collaborative teaching team was conducted to provide a diverse perspective for this study.

The data analysis revealed several insights on the students' learning experience of this collaborative teaching project. Positive experiences included working in an environment that mimics industry practice and the opportunity to work on the entire process of designing a product. For example, one student commented, "it almost feels like working in the industry. Like you get to see every step of the way rather than just like buying the fabric and making it or just sewing it... So, you get to design the fabric and the print, like by your own hands and then get it printed for yourself and then drape it and like do everything is like the whole process." When asked about the improvement of the collaborative teaching method, some students addressed the difficulties of working with certain types of fabrics and suggested giving students freedom to select their own fabrics. Finally, all student participants (100%) responded that they would use digitally printed textile design as inspiration and a medium for future apparel design projects. Specifically, one student mentioned that "It was challenging to learn to use illustrator, but the usage of print opened up a lot of ideas for future projects."

In the interview with the instructor who taught the collaborative teaching project, comprehensive apparel design skills were identified as one of the key benefits for students indicated which aligns with the feedback from the student online surveys. The instructor described in the interview that "students really learn the skills, and knowledge and then, when they go out, they will apply their knowledge, but this way they can see how they can apply the skills they learned in one course setting in one semester. So, they get to do the whole entire process." According to

Lamb and Kallal (1992), clothing function acknowledges a range of aspects such as fit, mobility, protection when designing a garment. Through collaborative teaching, students can experience the whole lifecycle of the product and learn skills while conveying their expressions of value. However, the instructor also shared a few concerns, including restricted course outlines from both the projects, the cost of digital printing, and support for the technological equipment when implementing the collaborative project.

Limitations for this study include a small sample size given the expedited timeline for completion of the study. Despite the limitation, the findings provide valuable insights into the instructors and students involved in the collaborative teaching project. As fashion technology becomes more advanced, educators have been diligently working to ensure that students develop the skills necessary to use this technology effectively in the industry. The study concluded that collaborative teaching could enhance students' learning experiences by providing a holistic approach to introducing new technologies. This teaching strategy enables students to observe how techniques learned in one course can be applied in another course, while stimulating a real-world environment. Despite the benefits of this approach, it also presented some challenges. Instructors needed to pre-plan and test details such as fabric selection in advance and collaborate with the institution to gain technological support and resources. The significance of this study lies in its potential to improve future course planning and document the value of collaborative teaching strategies.

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