Dressing Dolls: Utilizing Lectra in the Product Development Lifecycle of a Specific Target Market

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Introduction

A computer aided design (CAD) course for apparel with Lectra Designer (Lectra, 2015) software utilizes groups in design applications by connecting classroom education to required fundamental skills needed in the apparel production, merchandising and retail business. Many students have difficulty relating textbook theory to "real life" problems and applying critical thinking skills in the process. This course exposes students to Lectra industry based software (Lectra, 2015) in the product development process while partnering with a major discount retailer for an experiential group project. Problem-Based Learning (PBL) methods were executed in this course along with integration of an industry-based group project helping to increase students' employability through stronger analytical skills, critical thinking, and problem-solving skills.

Theoretical framework and rationale

Design to production in the fashion lifecycle is critical to implementing creativity, restructuring response time to market and managing costs (Lectra, 2015). College students practice using technology in the classroom which shortens the timeline of production, and creates an understanding of the timing of the product development process in a real world environment. PBL is a student centered approach that is not lecture-based, but incorporates project-based experiential learning (Hmelo-Silver, 2004). PBL helps students become active and responsible learners by developing their own strategies and constructing knowledge in collaborative groups (Hmelo-Silver, 2004). The PBL method has been shown to be effective in helping apparel students achieve the key soft skills valued by industry professionals: critical thinking; problem-solving; teamwork; written and verbal communication skills; and self-directed, life-long learning skills (Carpenter and Fairhurst, 2005).

Course design

This course utilizes apparel specific computer software by Lectra (Lectra, 2015) enabling college students to understand the apparel production process. Industry based group projects are integrated into the course and are designed to promote leadership and teamwork skills. For this project five to six students were assigned to a group. Each group was given a task of creating a line within a specific category of apparel (Casual Daywear, Easter dresses, Swimwear and Activewear) for a 15" doll sold in the toy department of a large discount retailer. Students collaborated as a group to avoid repetition of designs within their group's category, then proceeded to develop their own strategy to create a unique design for the doll. The design

process began with students researching current trends for the specified target market, in this case young girls ages 8 – 12, then interpreting those trends into the doll clothing designs. All groups presented their digital designs on style boards created in the Lectra Designer (Lectra, 2015) software to the retail store executive team made up of buyers, product development directors and key suppliers for the doll product line sold in retail stores. This formal presentation was held at the home office of the major discount retailer during the early phase of company's product development process. For this project, six designs were selected by the buyer to go forward for production as part of the spring 2015 doll clothing assortment for the company, which was delivered to stores nationwide in January 2015. Hang tags designed by the students were also attached to each packaged doll design with the university logo, a picture of the design and text stating "Outfit designed by apparel student at University of ….".

Learning outcomes
The doll clothing design project in this course enabled students to practice and gain an understanding of industry-based apparel technology used in the product development process for a specific target market. Utilizing problem-based learning allowed students to apply their knowledge and skills while collaborating in a group setting. Students learned the importance of soft skills necessary to succeed in the workplace, gaining professional perspectives and becoming more aware of the careers available to them upon graduation. Potential employers benefit from their impact on the apparel program through direct interaction with students and faculty. Utilization of CAD technology and problem-based learning in the product development lifecycle of a specific target market illustrates how the apparel industry and higher education can collaborate beyond classroom walls resulting in a positive experience for all involved.

Research Implications
Students' employability potential increases with the integration of stronger analytical skills, critical thinking, and problem-solving skills along with the fundamental skills necessary in the apparel industry. The concept of including innovative technology design within a problem-based group project could lead to the use of deeper critical thinking and other soft skills. Future applications of this project will be measured to determine the type of skills utilized and synthesized by students before and after completion of an experiential project. The information from future projects will be used in a larger study for both fundamental skills and soft skills assessment.

References
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