Chapter 8
Computer Technology: An Essential Component for Teaching a Fashion Production Management Course

Shu-Hwa Lin
University of Hawaii, USA

ABSTRACT
This paper describes an innovative course wherein students and faculty collaborate to design, manufacture, manage, and sell organic cotton tote bags. Students remained responsible for the project from start to finish. Responsibilities included all aspects of product development from market research and design conceptualization to producing, promoting and selling the finished tote bag embellished with a heat transfer printed department logo. Moreover, the project required students to develop proficiency in multiple specific computer software programs to facilitate the product development process and ongoing management of promoting, distributing and selling the goods. With the development of fashion design and management skills and applications of computer technology, student projects were successfully executed. Based on positive student evaluations and profitable sales, the course was highly rated.

INTRODUCTION
This article describes an innovative course, Product Data Management (PDM) wherein students and faculty collaborated in an enterprise that allowed students to follow a single product through all aspects of production from design and manufacturing to management and sales. Students remained responsible for the project from the beginning to the end. These responsibilities of product lifecycle management included: conducting market research to define the target consumer, gathering photographs to generate inspiration graphics, forecasting fashion trends and color tables, creating graphic prototypes and test marketing, producing their unique designs, working with commercial heat transfer printing, producing advertising and retail plans, distributing tote bags, and keeping track of orders, expenses, and revenues. Moreover, the project required students to develop the technical knowledge and management skills needed for running meetings,
providing leadership, fostering teamwork and communication, delivering presentations, and otherwise managing a project.

In order to complete their academic assignments, students used up-to-date technology and popular computer applications including Microsoft Excel, PowerPoint, Adobe Photoshop, Adobe Illustrator, Paint, Fireworks and Windows Movie Maker and familiarized themselves with new computer technology, Gerber Garment Technology (GGT) and Web Product Data Management (Web PDM), specifically developed for the fashion industry.

From this exercise, students recognized the importance of production management as well as both the necessity and difficulty of coordinating information from different departments in the fashion industry. Once students possess this appreciation, they begin to comprehend the impact of production lifecycle management in the fashion industry. Given this fact, the teaching goals were to: (a) give students essential knowledge of apparel, drawing skills, and computer usage; (b) translate students’ imaginations and creativity into projects involving drawing and computer skills; and (c) teach students to transfer information into digital data, thereby preparing students for a professional career for current industry needs.

BACKGROUND

The fashion industry is guided by many complex information technologies and a constantly changing business climate. Industry products can vary anywhere between handcrafted originals and high-tech mass productions, and executive management can range anywhere from family–style businesses to large corporations. This increasingly sophisticated, diverse and technology-driven business environment requires a new kind of professional and, therefore, a new kind of academic training. Instructors must develop new approaches including computer technologies to prepare students to meet the new challenges of the evolving industry.

For example, Logan (2006) indicated that teaching approaches that combine desktop publishing with design could help to produce quality work in the areas of communication project design, support, and management.

Fashion design courses have seen more and more students utilizing technology to complete their academic assignments. Students are becoming increasingly familiar with the applications of computer programs like Windows Movie Maker, Microsoft Excel, PowerPoint, Paint, Adobe Photoshop, and Fireworks. At the same time, the global fashion business has become increasingly technology-dependent. Since general computer laboratories are accessible today, using productivity software, such as Product Data Management (PDM) or Product Lifecycle Management (PLM) as a teaching tool has greatly increased in popularity. These courses assist students in mastering both popular computer software and new computer technologies specifically developed for the fashion industry.

The course, Product Data Management, is a mix of production, fashion illustration, and apparel Computer-Aided-Design (CAD) courses that are taught in fall and summer. Instructors have the challenging job of training students to become professional product developers in one semester. The challenge is increased when students have very little drawing experience and limited computer skills. To overcome these challenges, instruction aims at two goals: (1) developing students’ basic drawing skill, knowledge, and computer skills and (2) training students in digital data management in preparation for students’ professional careers.

Traditional drawing is covered in the Fashion Illustration course, where assignments of body figure drawing include hands, feet, and faces. The methodology of Fernandez (2008) is introduced through tutorials developed by the instructor that explain how a lined grid system can be utilized for drawing fashion figures. In this course, students...