



## Integrating Creative Problem Solving into the Clothing and Textile Classrooms

Keunyoung Oh, SUNY Buffalo State, USA

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Changes in the fashion business are essential and creativity is always highly valued as a genuine source for generating new ideas in fashion products as well as fashion business practices. Students in the clothing and textile programs most likely pursue their careers in the fashion industry. People working in the fashion industry face problems of which solutions do not exist or need innovative solutions for brand or product differentiation in fast-paced environments. Given considerable interest in creativity and creative problem solving in the field, it would be beneficial to integrate creative problem solving into clothing and textile classrooms.

The creative problem solving process involves multiple ways of thinking deliberately and intuitively applied to the three conceptual stages – Clarification, Transformation, and Implementation (Puccio, Murdock, & Mance, 2005). Often consumer buying behavior or decision-making process is explained as a problem solving process by identifying consumers' unmet needs (problem identification), searching for information, evaluating and prioritizing alternatives, purchasing, and reviewing the purchase. When this well-known consumer behavior theory is applied to fashion marketing, the “creativity” issue weighs heavily on fashion business practitioners as consumers always expect to see new products and to have new experiences both in brick-and-mortar stores and online stores these days. In this study, previous research on the use of creative problem solving in various classrooms including clothing and textile classrooms is reviewed.

### Teaching Creative Problem Solving in Various Disciplines

Contrary to the previous research findings between the 1960s and 1980s wherein significant differences were found in the thinking styles of science and art students, Williamson (2011) found no statistical difference on convergent thinking, divergent thinking, preferred learning style, and creative problem solving between arts and science students concluding that whereas the differences do exist in the disciplines of arts and sciences, creative thinking including convergent and divergent thinking skills is needed for problem solving in both disciplines. Similarly, the value of promoting creative problem solving in the integrated and vocational disciplines such as fashion business needs to be thoroughly examined. Business consultants and innovation specialists have said that people all have a great deal of potential to be creative and it is a matter of fact whether they can rediscover their creative potential (Kelley & Kelley, 2013). Generating new ideas and refining them to make useful and valuable changes to products and services are not a natural thinking skill, rather a set of cognitive skills purposely applied to different stages in the creative problem solving process. Therefore, teaching creativity as a problem solving process is often mentioned to be important as the key to successful innovation in products, processes, and services. Lee and Hoffman (2014) developed an active learning technique called the “Iron Inventor” using the creative problem-solving approach to teach students the step-by-step processes of creating a new product that are composed of problem identification, problem delineation, gathering information, idea generation, and idea evaluation and refinement. Students who participated in this activity reported that the Iron Inventor activity helped them increase their creativity, enhance their knowledge covered in the class, encourage class participation, foster interaction with the instructor and peer students, and build enthusiasm for the course. This research suggests the possible use of the creative problem solving process as an instructional tool to teach subject knowledge that is conventionally delivered using traditional teaching methods.

### Teaching Creativity in Fashion Classrooms

Researchers in the field of clothing and textile have explored the concept of creativity as related to fashion design and development (Ruppert-Stroescu & Hawley, 2014), to consumer motivation for reusing and repairing apparel (Lapolla & Sander, 2015), and to sustainable apparel consumption (Ruppert-Stroescu, LeHew, Connell, & Armstrong, 2015). Creativity has been seen as a source of fashion apparel consumers' need for novelty and change. Karpova, Marcketti, and Barker (2011) reported that students' creative thinking skills were improved through the creativity training exercises. Similarly, Im, Hokanson, and Johnson (2015)'s longitudinal study also found that students in the fashion merchandising program improved their creativity after completing the creative problem-solving class and students retained their problem-solving skills in the long term.

Engaging students in the excitement of fashion products and business, helping them utilize high-order cognitive skills, and teaching them to become creative problem solvers to deliver useful and valuable products and services to fashion consumers have been highly valued in the field of clothing and textile. However, the means to promote creative problem solving in clothing and textile classrooms have not been widely explored. The creative problem solving process is a well-structured, integrated process involving various high-order cognitive skills that can be adopted as an instructional tool. To teach creativity as a thinking process in fashion business classrooms to solve 'real business' problems consumers or businesses face in the marketplace, further discussion should be done on developing fashion-specific instructional strategies and methods for enhancing creative problem solving among fashion students. It would be more effective to implement creative problem solving into the clothing and textile curriculum through learner-centered, active leaning approaches. This "creative problem solving" effort should not only go beyond teaching creative problem solving at a conceptual level but also adapt the entire problem solving process for specific courses in the clothing and textile discipline. Creative problem solving is not the same as divergent thinking or idea generation skills. Further efforts should be made to emphasize the clarification stage and the implementation stage (see Puccio, Mance, Switalski, & Reali, 2012) that have been somewhat overlooked in the previous research in the field of clothing and textile. Fashion students should learn how to identify problems in existing products, business practices, and services from the end user's perspective. In the problem solving process, the problem that is first noticed is rarely the true or real problem. To identify a real problem, a significant amount of efforts should be devoted to develop some level of empathy with end users. Some observation tools and questioning techniques can be utilized to help students to identify important issues and challenges consumers experience and to refine them into a vision statement. Similar efforts should be made to identify appropriate tools and techniques that can be applied to the implementation stage to turn new possible ideas into workable solutions to the problem identified at the beginning of the creative problem solving process. In addition, students' positive "can do" attitude should be nurtured throughout the process as positive feelings do facilitate creative problem solving (Isen, Daubman, & Nowicki, 1987).

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