

## Can Creativity be Taught?: Exploring the Impact of Creative Thinking Challenges

Jennifer Harmon, University of Wyoming, USA

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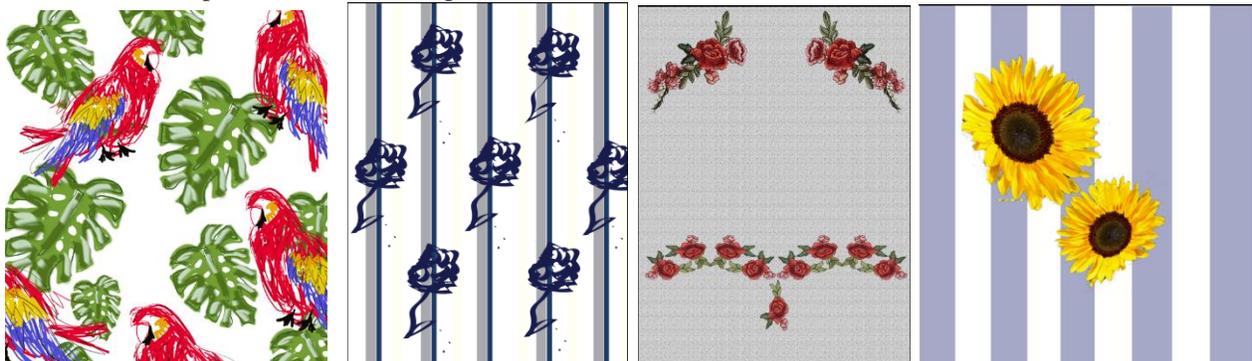
**Literature Review.** Creativity is an essential skill for modern college graduates. As we move toward the fourth era of industrial revolution, we enter an era where an increasing number of jobs comprised of largely repetitive tasks are at risk of being automated. According to the World Economic Forum, key skills for college graduates in 2015 will change substantially by 2020 (Gray, 2016). One of the skills forecasted to jump into the top three essential skills for college graduates by 2020 is creativity (Gray, 2016). The World Economic Forum defines creativity as “The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem” (World Economic Forum, p. 52, 2016). According to the investment theory of creativity, there are 6 necessary, interrelated resources for creativity; intellectual abilities, knowledge, styles of thinking, personality, motivation, and environment (Sternberg, 2006). Not all creative works display the same amount or type of creativity (Sternberg, 2006). The Association of American Colleges and Universities (AACU) creative thinking rubric outlines the growth of creative competency from the benchmark (reproduction) level to the capstone (creation and reflection a new object) level (2018). With this process as a guide, the creative thinking challenges were formulated. The overall purpose of this research was to look at outcomes of students engaging in creative thinking challenges in a Western University’s Design, Merchandising and Textiles program. In these two courses, focus was placed on knowledge aspects of creativity. Each course completed pre and post course measures, as well as in class challenges to execute creative works. Based on previous research, the following hypotheses were formulated:

**Hypotheses.** 1) Creativity, as measured by creative achievement, will increase.  
2) Creativity, as measured by performance on creative uses activities, will increase.

**Methodology.** *Study Design.* Two courses participated in this study, a junior level visual merchandising and promotion course and a sophomore level product development course. A total of 19 students participated in the study, with 4 students taking both courses. In each of the courses, students completed a pre course survey to assess their creative achievement up to that point. At the end of the course, students repeated the creative achievement questionnaire and answered several open-ended questions about the creative thinking activities. Each student completed informed consents and intellectual property release forms. *Course Design.* In each course, the concept of creativity and the creative process were addressed through lectures and activities. Additionally, students completed creative thinking challenges. In these challenges, students were given a small scale creative task to complete, using the creative process, within the 75 minute class period. There were two of these challenges in the product development class, designing a textile print based on a selected trend forecast and generating new, innovative product ideas. In the visual merchandising and promotion class there were three challenges,

designing an advertisement based on a given example, designing a window display and developing a product for a niche market with a brief marketing plan. These activities followed lessons and projects in class that discussed each content area of the challenges. *Measures.* Creativity was measured with a creative uses activity (naming as many uses as possible for the displayed item) and creative achievement questionnaire at the beginning and end of term (Silvia et. al, 2008; Carson, Peterson & Higgins, 2005). Open ended questions measured perceptions. **Results. Quantitative.** The average for the first creative uses activity was 12.05 while the average for the second was 10.21. Therefore, hypothesis 1 was not confirmed. The average for creative achievement before term was 15.95, while the end of term average was 19.89. Therefore, hypothesis 2 was confirmed. *Qualitative.* Students reported various sentiments regarding what they liked about the challenges including, “What I liked the most was that we learned how to think and work quickly to be creative like we might in the real world.” For the least, several students touched on the difficulty of navigating group dynamics, ie “Some of the larger group challenges were difficult just because of clashing personalities, which is expected.”

*Product Development CTCI Examples:*



**Conclusion.** From the results of this study, it appears creativity specific curriculum benefits students in the area of creative achievement, but not generating novel ideas for product uses.

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