



The State of Denim project

Dr. Kate Annett-Hitchcock, Dr. Cynthia Istook, Dr. Andre West; College of Textiles, North Carolina State University, Raleigh NC, USA

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This paper describes an innovative year-long teaching project designed to engage both graduate and undergraduate students in products made from denim fabric – both real and simulated – through industry engagement; lectures from denim experts at all stages of the product development and supply chain; workshops; field trips, and a design and research competition and exhibit. The purpose of this paper is to share strategies on how to engage diverse populations of students through a common theme, such as this on-trend and ubiquitous fabric, so that they learn, engage, collaborate and move their design and research agendas forward, while at the same time boosting their hiring value as discerning and analytical industry professionals.

In the large state university system, the curriculum is packed with core and general education classes at the undergraduate level, and with research classes at the graduate level. Neither degree program can afford the time or resources to spend an extended period focusing intensely on one theme. The investigators received funding from Cotton Incorporated to prepare a year-long study to focus on a discernibly American staple fabric – denim - and to lead students on a path of exploration and discovery while learning about fundamental textile processes from fiber to consumer in the process.

In order to engage students who learn through a variety of methods, the research/teaching team planned several core events in which students engaged throughout the year. During the spring semester, academic professionals gave lectures which focused on an overview of the denim industry; indigo dyeing and yarn processing, and denim trends. Students were taken on two field trips; one to Cotton Incorporated's headquarters in Cary, NC, where students learned about cotton fiber processing and economics; plus research and development trends for denim fabrics and denim simulants (knits, non-woven with denim appearance). The second field trip was a two-day experience covering fiber to finished fabric, beginning at a spinning mill, where the students saw large scale open-end spinning, then to the traditional home of denim weaving and indigo yarn dyeing, Cone Mills' White Oak plant in Greensboro, NC, then to a jeans innovation center, and finally to denim retail stores. Students were given a series of reflective questions about the trip and asked to respond. The questions were available online so that students could upload their responses using cellphones or tablets as they walked around the facilities. Photographs were immediately made available via the social media sites for the project. Taking students into the field is important in engaging students on a deeper level. Kozar and Marcketti (2008) found field-based instruction to be an effective tool in active learning, deeper understanding of subject matter and for facilitating student retention. The following student comments, collected from the social media site, appear to validate the effectiveness of the two-day field trip:

“I thoroughly enjoyed VF because it was the culmination of the past two factories we had seen.” “We were able to view actual product being made, and the technology used to sew the back pockets was impressive.” “My favorite part was touring the factories and industries with the company representatives because it was so fascinating to be on site.” “It was fascinating to see how high quality denim was made, especially the selvedge denim. It definitely gave me a new appreciation for top quality jeans and why they are so expensive.”

During the summer session, the team is holding Denim Daze workshop week, in which both college and high school students can enroll and take classes together on a number of topics, such as denim upcycling, denim embellishment, denim distressing, and denim construction processes. The mix of both levels of students provides both a learning and recruitment experiences for the high school students, and a mentoring experience for the undergraduates. At the end of the week, all students will be encouraged to participate in a short fashion show and exhibit of their work.

The year-long project will culminate in a fashion show, mounted exhibit and research/poster exhibition in December. Students from across multiple textile-based disciplines, such as polymer chemistry, engineering, non-woven, industry sustainability, and fashion design, will be encouraged to work collaboratively to show creative original ideas in product and poster format. A jurying process will take place to select the most appropriate and innovative work, and judging will take place at the show to reward students at many levels for design and research innovation. In addition, high school students will be invited to participate and a second show will be scheduled to accommodate these students and their families.

The team feels that this large-scale collaborative project, while an immense undertaking, is already proving to be invaluable to student learning. Students in different curricula who typically never get a chance to cross-fertilize their experiences are bonding together over a common theme, and realizing how they can work together to strengthen a final product and increase collective learning. The project utilizes current communication methods, such as a website, social media and video upload to ensure real-time availability of information to students and which allows students to participate actively in all aspects of the program.

With the addition of measurable goals for student learning in place, plans are underway to survey students during all three semesters, in order to determine effectiveness of the program on learning. Plans are being made to continue for the next year, with a few additions. The project has provided collaborative opportunities across majors and has challenged product developers and designers to approach denim in unique ways. We anticipate that students will serve as mentors to new students during next year's project.

Kozar, J.M. & Marcketti, S.B. (2008). Utilizing field-based instruction as an effective teaching strategy. *College Student Journal*, 42(2).