



## Understanding Textiles through Active Learning: The Wardrobe Project

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### Introduction

Introductory textiles courses are a common staple in fashion and textiles programs. This course is frequently taught as a lecture class. In courses without an associated lab, students may not have the opportunity to experience interactive activities with their instructor or peers. In classes where the size of the student population is large, active learning models can be a challenge and faculty often revert to passive learning methods (Paulins & Moeller, 2017; Power, 2010). The purpose of this research is to determine whether active learning has a positive impact on students' understanding of fiber categories and their use in apparel products as well as assess students' perceptions of active learning in a group setting.

### Background

Active learning requires more student involvement in the class as well as more extensive interaction between students, their peers, and the instructor (Paulins & Moeller, 2017). According to Kadolph, "active learning involves students with application, analysis, synthesis, and evaluation – all concepts at higher cognitive levels that promote development of critical thinking skills" (2005, p. 369). One approach to applied learning is to provide students with a framework on which to build as part of their inquiry (Power, 2010). Active learning styles can include activities such as group work, projects, discussions, hands-on activities, in-class exercises or games, and short writing assignments (Kadolph, 2005; Paulins & Moeller, 2017). Although active learning is better suited to smaller class cohorts, this teaching method has the potential to work for larger classroom populations (Power, 2010).

Previous research indicates that active learning techniques have been found to reduce failure rates and increase achievement over lecture-based classes (Freeman et al., 2014; Paulins & Moeller, 2017). Furthermore, active learning courses assist with student understanding of course content, improves student retention, and sometimes satisfaction (Paulins & Moeller, 2017). Active learning has also been successfully incorporated in a variety of fashion and textiles courses including both lecture and lab-based courses (Kadolph, 2005; Paulins & Moeller, 2017; Power, 2010)

### Methods

This project took place in an introductory textiles course in which the population consisted primarily of first-year students enrolled in a fashion program. The class is designated as a lecture class (with no lab) consisting of 57 students. Students were given instruction in class about different fibers, their characteristics, and potential uses. In addition, students were assigned several readings and provided resources to review outside of class. A group project was designed to engage students in active learning to apply their knowledge about fibers and their use in apparel. The project required students to analyze the clothing in their wardrobes by examining fiber content labels on their garments and generating a tally of the types of fibers identified

during this process. Each group was instructed to meet as a group to discuss and analyze their findings. As part of their analysis, each group generated a report which provided a summary of their analysis in addition to at least one table and imagery that represented their study.

To analyze the student experience, students were given a questionnaire before and after the completion of their project. The questionnaires consisted of ten questions using a Likert scale (strongly agree, agree, neither agree or disagree, disagree, and strongly disagree) and two open-ended questions. The purpose of the questionnaire was to ascertain students' understanding of the project, their perceptions related to working in groups, and their expectations related to learning outcomes. The first ten questions were analyzed using frequency whereas, the responses to the open-ended questions were coded to identify emerging themes.

### Findings

*Pre-project questionnaire.* Most of the responses in the pre-project questionnaire were positive. The item "I plan to contribute to group work in a timely manner" received the most positive responses with 97.9% of students responding with "strongly agree" or "agree." Conversely, the question with the largest number of negative responses (35.4% Disagree or Strongly disagree) was "I generally enjoy working in a group." The first open-ended question made inquiries about group responsibilities and strategies to work effectively. Analysis resulted in the following five themes: "doing my part," holding others accountable, working as a team, good communication, and completing tasks in a timely manner. Analysis of the second open-ended question which inquired about past experiences with group work and lingering concerns resulted in the following three themes: positive experiences, negative experiences, and concern about participation from others in the group.

*Post-project questionnaire.* The post-project questionnaire was given in a similar format. Once again, most of the responses were positive. The item with the highest positive response was "Completing [the project] helped me better understand fibers as they are used in clothing" with 84.8% selecting "strongly agree" or "agree." The item with the most negative responses was "Everyone in the group contributed equally to the project" which resulted in 30.4% of the responses being "disagree" or "strongly disagree." The first open-ended question asked students to discuss three things they learned which resulted in the following three themes: recognition of fiber preferences, a better understanding of fiber blends and fiber identification, and an expression to learn more about garment production. The second open-ended question asked students to identify any issues experienced during the project and how those issues were resolved. These responses resulted in the following three themes: poor communication, lack of responsiveness or attendance at meetings, and frustration with tardy work.

### Conclusions

Overall, the active learning project positively contributed to students' understanding of fibers and their use in apparel garments. In general, students had a positive attitude about the active learning project. Key factors that posed the greatest concern were related to communication and equality of participation. This supports previous research which indicated that while results may be positive, students' attitudes toward active learning may not (Paulins & Moeller, 2017). Future research will focus on further exploring and expanding the role of active learning the classroom.

References

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