



## **Textiles literacy: Implementing inquiry-based learning in a basic textiles class**

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### Introduction

As more higher education institutions seek to integrate 21<sup>st</sup> century skills, such as higher-order thinking, problem solving, and teamwork, it is important to integrate these skills into textiles classes through inquiry-based instruction (Shirley & Kohler, 2012). Furthermore, group inquiry contributes toward greater ideation, creativity, and team-based skills (McKinney, 2014). Students who have mastered the pillars of 21<sup>st</sup> century skills – learning (e.g. critical thinking, creativity, collaboration), literacy (e.g. information, media, technology), and life (e.g. flexibility, leadership, initiative, productivity, social) – better meet the needs of 21<sup>st</sup> century careers (Stauffer, 2020).

Textiles is an essential class within most fashion curriculum and yet students increasingly express that they struggle to comprehend the course content. (Marcketti et al., 2013). Several studies have examined teaching and learning strategies in textiles classes, including problem-based learning, team-based learning, and active learning (Farr et al., 2005; Kadolph, 2005); however, more research is needed to help students with comprehension and application of knowledge, or textiles literacy. The purpose of this study is to examine the impact of IBL on student learning in a basic textiles course.

### Framework

IBL is a versatile pedagogical strategy that promotes student-driven research or inquiry (McKinney, 2014). The framework for this study was based on the five phases of IBL as proposed by Pedaste et al. (2015): orientation, conceptualization, investigation, conclusion, and discussion. These phases provide structure and guidance for students when working through the inquiry process.

The IBL project titled “Textiles Literacy” was developed to promote understanding and application of knowledge over memorization. Through group-led inquiry, students learned about textiles by applying creativity, critical thinking, literacy, communication and teamwork skills. The project was designed to facilitate the phases of IBL as students worked to create a touch-and-feel storybook and supplementary teaching materials (e.g. fabric sample guide/swatch kit, learning activity, discussion questions, and information resources) targeted toward primary school students and teachers, as this was deemed an appropriate age group for this type of book/activity (see Table 1).

At the conclusion of the project, students responded to five open-ended questions about their project experience. The questions were developed based on the objectives of the IBL project and adapted from Gam & Banning (2011). The objectives of the project were generated to evaluate the use of IBL 1) to promote an understanding of textiles through the application of knowledge; 2) to reinforce the role of textiles within the fashion program/industry; 3) to facilitate

engagement in the learning process; 4) to enhance skills and knowledge; and 5) to foster future interest learning about and using textiles.

### Results

The project yielded 18 usable responses that were analyzed to identify themes and preliminary data-driven codes resulting in a codebook containing 43 codes (Decuir-Gunby et al., 2011). Two independent raters assisted with data coding. Once a satisfactory level of agreement was reached, final coding resulted in 91.2% interrater reliability for the total data. Interrater reliability of 90% or better is considered appropriate for consistency in coding (Decuir-Gunby et al., 2011).

**Table 1.** Application of IBL to the Textiles Literacy Project.

IBL Phase	<i>Orientation</i>	<i>Conceptualization</i>	<i>Investigation</i>	<i>Conclusion</i>	<i>Discussion</i>
<b>Definition</b>	Evoking curiosity and enthusiasm for the project	Generating problem statements, strategies, or ideas	Involves information gathering and exploration of ideas and concepts	Synthesizing the results of the inquiry	Communicating results to others and reflecting on completed work
<b>Project</b>	Students were introduced to the project and the concept of IBL. They engaged in class activities designed to feel like play which has been found to support adult literacy (Walsh, 2015).	Groups were provided with structured class time to work on objectives, story creation, and examine fabric swatches available for the project.	Groups developed an outline of their story and supplementary materials. They met with the instructor to discuss feedback on the progress of their project.	Groups submitted the completed storybook and supplementary materials.	Groups presented their book and supplementary materials to the class.

The resulting thematic categories aligned with the objectives of the project and consisted of 3-4 sub themes each. The first category, *impact on understanding textiles*, had four sub-themes (experience, understand textiles, apply knowledge, and negative impact). Students most frequently mentioned that the project helped them gain content-specific knowledge (e.g. fiber/construction/fabric identification). Students also indicated that they were excited about the project and it helped them to engage better with the class. Negative responses focused on group experiences. The second category, *role of textiles in fashion*, focused on the following themes: importance, experience, and role within major/profession. Students expressed that the project exposed them to a greater variety of fabrics and helped them to better understand the role of textiles within their major and appreciate the importance of being able to apply their knowledge. In the third category, *attitude toward project*, students expressed a positive attitude overall about the project due to the hands-on and creative nature of the project. The fourth category, *skills and knowledge*, resulted in the themes of textiles knowledge, teamwork, and application. Students

overwhelmingly cited that they gained a deeper understanding of fiber and fabric identification during the project. Students also mentioned that working in a group helped them to hone skills of communication, leadership, and working with others. In the fifth category, *likelihood to seek further knowledge*, most students expressed that they were likely and/or excited to learn more about textiles and their application in the future. Students who were unlikely to seek further knowledge cited a bad group experience or a realization that they were in the wrong major.

### Conclusions

Overall, the IBL Textiles Literacy project had a positive impact on student appreciation, and attitude toward learning about textiles. Students frequently mentioned how the project helped improve their knowledge and engagement in the learning process. To address negative responses, which were primarily related to group experience, future IBL projects should incorporate more activities during the orientation phase to help provide guidance and tools to assist with working in a team. In addition, the collaborative nature of the project developed for this course could be expanded to include cross-disciplinary (e.g. elementary education majors) or service-learning activities (e.g. working with local primary schools). The results of this teaching and learning scholarship reinforces the value of using IBL to integrate 21<sup>st</sup> century skills into the classroom (Shirley & Kohler, 2012).

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