

# Fostering Student Engagement: Participatory and Experiential Pedagogy for 3D Technology Integration

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## Abstract

Finding new ways of engagement for students with course material is a reoccurring goal among educators. Technological advancement and innovation in the apparel industry provides students with the opportunity to conduct contemporary research while allowing experimentation. The purpose of this paper is to examine the outcome of a student directed 3D body-scanning project – the focus of which was to conduct scan sessions with participants from the Faculty of Communication and Design at Ryerson University. Additionally, this paper examines how the successful integration of technology in the classroom is dependent on the pedagogical principles applied in the creation, development and implementation of course content.

## Method

The scan project was designed and managed by 8 students enrolled in a special topics course on Fit: Body Mapping and Fashion Technologies. The students collaborated and decided upon the scope and parameters of the project. They submitted an extensive ethics application to the Research Ethics Board, and were given approval to conduct the research. 35 students and 2 faculty members volunteered to participate in the scanning project. The volunteers were asked to sit through an information session, fill out a questionnaire and have their body scanned. The questionnaire contained 7 questions regarding their interest in body scanning, comfort levels with the technology, and clothing related fit issues. The data gathered from the scan sessions was used to create independent and collaborative projects for the student's final assessment.

To provide real life application, the students visited the Toronto research centre, a branch of Defense Research and Development Canada. The tour of facilities provided operational context for the 3D scanning and body shape analysis work that is conducted at the research centre.

## Results

An experiential approach to the course allowed students to take an active role in directing their learning outcomes and enriching the course material while the guidance and assistance of the instructor maintained pedagogical goals. Findings indicate that the appeal and intrigue of cutting- edge technology alone does not sustain a learning environment where students are consistently engaged. Additionally, the project fostered a broad range of competencies and increased aptitude in preparation for both future scholarly inquiry and employment capability.

## Keywords:

Course Development, 3D Body scanning, Technology Integration, Pedagogy, Student Engagement