

Learn on the GO

Within Southern Ontario, UOIT students have the longest commutes ('long commutes' is given as main reason prospective students decline offers of acceptance). Methods of learning vary by student; however, increasingly students obtain much of their information online and through videos. Starting with FESNS and FBIT, courses will include a component of 'Learn on the GO'. Students will be able to access content during commuting (and other blocks of times in 15 minute sessions). Similar to labs and tutorials (timetables and course descriptions will reflect this additional time). To start, a few courses in FESNS and FBIT will be re-designed to have video and online work completed by students in transit.

This proposal is for Part 1 of a four-part program. We anticipate that upon completion of all four parts, UOIT students will have an effective learning tool and methodology in all Faculties. UOIT's location and commuting requirements will be seen as an attractive aspect of the school within two-to-three years. Within five years, we envisage a revised mobility service involving all Southern Ontario universities and key businesses. The proposal provides immediate benefits to students (regardless of completion of the next three parts).

Daniel Hoornweg, Associate Professor, FESNS

Khalil El-Khatib, Associate Professor, Associate Dean, FBIT

Meghan Miller, Reference/Instruction Librarian

Akira Tokuhiro, Dean, FESNS



Student Success Innovation Fund 2018 Recipient

Enhancing Learning, Well-Being, and Reducing Attrition with Physical Activity Cohorts: A One-Year Pilot Project

The objective of this project is to provide a novel physical activity program to a subset of UOIT students and subsequently assess the impact of the program on learning outcomes, attrition, cohesion, belonging, and anxiety. There is a vast amount of research supporting the psychosocial and cognitive benefits of physical activity. Self-esteem, reduced depression and anxiety, social cohesion, and belonging are improved through physical activity. Research looking specifically at learning indicates that physical activity positively affects outcomes such as standardized tests, memory, executive functioning, and on-task behaviour.

In a post-secondary setting these benefits are captured by certain students who utilize campus recreation programming or are independently active. However, this subset of students is often unique in that they have the knowledge of the benefits of exercise, and the confidence and competence to engage in these activities. They are also typically students who are managing the challenges of post-secondary education well. This project will engage 30 students in three separate physical activity cohorts led by a coach. The cohorts of 10 will take part in 2-3 hours of exercise a week, for an academic year. Multiple measures of student success will be tracked.

Serene Kerpan, Assistant Professor, FHS

Scott Barker, Director, Athletics

Monica Jain, Director, Careers, Counselling and Accessibility



Student Life Digital Community

The university lacks a centralized space for current students to engage with each other and build community. By creating a digital space where students can engage in authentic storytelling, we can meet the needs of students that have difficulty connecting and finding information. We have struggled to communicate effectively with students, and the result is a community that is uninformed about opportunities, activities, and important information. This adds to their feeling of disconnection.

Creating a virtual space for the purpose of building community is an exciting response to this problem, and is being widely adopted across institutions. We propose building a website and concentric social media campaigns to provide space for students to tell their own stories. A simple way to think of this is a BuzzFeed-style community of practice for students.

Lesley D'Souza, Manager, Communication and Assessment,
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Megan Weales, Digital Community Coordinator, Office of
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Student Success Innovation Fund 2018 Recipient

Mastery Modules to Enhance Student Learning in Engineering Courses

Students registered in problem solving courses (either in FEAS or other faculties) are typically given a number of assignments and quizzes to complete independently in order to demonstrate and refine their problem solving skills. It is common for these assignments to be paper-based, and questions are often taken directly from course text books. Oftentimes, students rely heavily on their peers as well as on online resources such as solution manuals, Chegg, and Course Hero to complete these assignments. As a result, assignment grades are typically high, but do not correlate with test or exam performance. With rapid and uncontrolled development of online resources, this issue increasingly challenges the validity of the course assessments. The goal of this project is to enhance student learning by creating a comprehensive web-centric database of pedagogically sound concept questions and problems along with their step-by-step solutions. This large bank of problems will allow us to emphasize a mastery approach to problem solving, in which students are required to attain a certain level of success in a concept area before moving on. Mastery modules created for first year physics courses at UOIT have been shown to have a positive affect on student learning. We propose this pilot project for FEAS; however, upon its successful completion, it can be expanded throughout all other faculties at UOIT.

Sayyed Ali Hosseini, Assistant Professor, FEAS

Hossam Kishawy, Professor, Associate Dean, FEAS

Joseph MacMillan, Associate Teaching Professor, FSci

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Student Success Innovation Fund 2018 Recipient

Using Video to Support Student Understanding of Rational Numbers and Linear Algebra

Teacher understanding and confidence with mathematics are important factors contributing to students' success in mathematics. The challenge facing many Ontario elementary mathematics teacher educators is finding the time, within the Bachelor of Education program, to provide sufficient opportunities for elementary teacher candidates (TCs) to re-learn foundational mathematics concepts in ways they are required to teach.

In an effort to address the mathematical knowledge gap common among elementary TCs, I began creating web-based video clips in 2011 as an accessible learning resource to support the needs of TCs in our Bachelor of Education program. The video clips focus on developing conceptual understanding of rational numbers through exploring how to represent and compare fractions and decimals, as well as how to connect their understanding of whole number operations (+, -, x, /) to operations with rational numbers. With the availability of more advanced video software, I would like to revise and update my current collection of 35 videos and create a new collection of videos to support student conceptual understanding of introductory algebraic concepts.

Ann LeSage, Associate Professor, FEEd

