

## Teaching Innovation Fund 2019 Recipient Teamwork and Interpersonal Skills Assessment Tool

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Teamwork and other interpersonal skills are key to job-readiness and employment success. FBIT offers numerous courses designed to develop our students' teamwork/interpersonal skills, including HR, Collaborative Leadership, Managing Team Dynamics, Developing Management Skills.

Unfortunately, currently, there is no effective method/tool for effectively assessing such skills, which is necessary for conducting training needs analysis and evaluating the degree of skill acquisition - elements of effective teaching. Existing assessment methods (e.g., self-assessment, peer-assessment, written tests) are not very effective at accurately assessing teamwork/interpersonal skills.

Last year, Prof Kotlyar designed a virtual high-fidelity simulation specifically for evaluating teamwork skills (which include conflict management, communication skills, collaborative problem solving, etc.) and developed a working prototype.

For this project, we propose to (a) complete the prototype, (b) test its applicability/usability in a classroom setting, and (c) develop teaching strategies that leverage teamwork assessment.

The tool simulates a common team-based environment using chatbot Artificial Intelligence. Students are "assigned" to a team of four members (the other three "teammates" are represented by chatbots) and instructed to work together to solve a series of short questions/problems. Students interact with their "teammates" (chatbots) via open-text messages, which are automatically evaluated in terms of teamwork skills.



## Teaching Innovation Fund 2019 Recipient Student Experiences in Writing Online Exams

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User-friendly technology has increased the ability of educators in higher education to tailor information to the needs of the learner. Web-based learning support, informed by multimedia theory, comprises short narrated power point presentations, digitized video clips, and interactive quizzes. Given the increase in on-line course offerings, it is imperative to be able to provide a testing environment that allows students to write exams in an on-line forum.

More specifically, students enrolled in Collaborative Nursing (BScN) programs and Medical Laboratory Science (MLSc) programs need to be exposed to on-line examinations since their licensure examination is fully on-line. A central concern to online examinations is maintaining the integrity of the exam. Software such as Respondus LockDown Browser prevents students from visiting website while taking an exam; however, students can use cameras to make copies of the exam or utilize a smartphone to access information, therefore compromising the integrity of the exam. Furthermore, it is impossible to know whether the student or a substitute has taken the examination. Respondus Monitor software integrates webcam technology to allow for proctoring student assessments. Our project seeks to pilot this software to determine its usability and to assess students' experience in writing on-line exams.

By piloting Respondus Monitor we will gain valuable information on student experiences and allow us to assess student preparedness in the methodology of writing an on-line exam that mimics their professional licensure examinations (e.g., no backtracking, questions are presented one at a time). Student learning is central to our programs, however, this project also has the potential for faculty learning and development. Information from this project will allow us to ensure that faculty are educated in online pedagogy, best practice models, as well as understanding student experience with on-line exams, therefore preparing students for entry-to practice.



## Teaching Innovation Fund 2019 Recipient **Project Lord Ridgeback Disaster Simulation**

#### Milly Ryan-Harshman, Faculty of Health Sciences

Project Lord Ridgeback (PLRB), an emergency response exercise involving both Durham College and Ontario Tech, was the first attempt at conducting a large scale exercise to provide experiential learning for students. Experiential learning, the process of learning through experience, is more formal than what was attempted by the PLRB team. A simulated explosion and fire with a wall collapse allowed the team to provide hands on instruction to students re: mass casualty incidents. Both practical nursing students from DC and collaborative nursing students from Ontario Tech had opportunities to provide emergency medical treatment in a "real feel" situation. At the end of the day, we held a debriefing session where the nursing students and their instructors (emergency physicians, registered nurses) were able to provide feedback on the experience. Although a debriefing session is somewhat like reflective observation, the second stage of experiential learning, the proposed project will formalize this aspect of the experiential learning process by enhancing the collection of data through survey tools that evaluate the goals and objectives for the event.

Not all nursing students have an opportunity to complete a rotation in emergency medicine; yet, emergency medicine is an excellent environment in which to learn how to think about and solve problems quickly. In particular, the collaborative nursing students (Y1 to Y4) and the practical nursing students can develop Crisis Resource Management (CRM) skills, the non-technical skills required for effective teamwork during a crisis. CRM training reduces errors and enhances performance.



# Teaching Innovation Fund 2019 Recipient Case Study Development

### Mehdi Hossein Nejad, Pejman Mirza-Babaei, Faculty of Business and Information Technology

The proposed project aims to develop 3 interrelated technology-focused teaching cases for use in courses at Ontario Tech and other institutions. Case-based teaching is an effective learning tool used globally in various disciplines and contexts. Cases allow us to tackle a real-life issue or opportunity and to offer insights on how to deal with the given situation. Case-based classes usually involve lively discussions as students exchange their ideas and suggestions regarding the issue at hand. Cases are currently used as a teaching tool in many of our BCom classes at FBIT. These cases are focused on issues that are at the heart of Ontario Tech's teaching and learning goals. In-line with Ontario Tech's emphasis on tech-for-good, FBIT is uniquely situated to use this TIF opportunity to develop cases that capture the technological, managerial, political, and legal aspects of a real issue faced by a partner organization.

Producing teaching cases (the focus of this application) gives us the opportunity to collaborate with our industry partners. Moreover, there is also an opportunity to involve our upper year students in writing cases so that the creation of these powerful teaching and learning tools becomes a learning opportunity in itself.



# Teaching Innovation Fund 2019 Recipient Jumpstart Teaching Model

#### Nasim Moallemi, Namdar Saniei, Faculty of Engineering and Applied Science

Electric Circuits (ELEE2790) and Electrical Engineering Fundamentals (ELEE2200) are core 2nd-year courses for all students registered in Automotive, Manufacturing, Mechanical, Software, Nuclear, Electrical and Mechatronics Engineering. As the course covers a broad range of topics in Electrical Engineering to all engineering programs, student engagement is typically low.

The Jumpstart model is a structured lesson planning model that aims at increasing student engagement (1). Using this model, lectures consists of four distinct components: Connect, Content, Practice, and Summary. The goal of the Connect phase is to essentially "hook" students into the lesson. In the Content and Practice phases, the instructor delivers the subject matter, then provides students with the opportunity to practice what they have learned. In the Summary stage, students are then required to demonstrate what they have learned. The focus of this project is to develop resources for the Connect and Summary phases of the lesson plan.

The objectives of this study are: 1) to develop engaging educational animation videos to "hook" students at the onset of lecture; 2) to develop online quizzes which will be taken by students during the Summary stage; and 3) to assess the effect of these resources on student engagement, learning, and performance.