Self unAPPENDIX A – COVER PAGE AND ATTESTATION: Research and Innovation Grants

Project Title	Foundations for Academic Success: Innovative Mobile Learning to Enhance Academic Integrity
Project Description	Development and implementation of an open access academic integrity mobile learning tool that explores the best strategies, from a student user perspective, for accessing, delivering, assessing, and learning this information via mobile technology (m-learning). Employing this innovative pedagogical approach, project objectives are to develop academic integrity content and strategies focused on the values of academic integrity that can be uniformly adopted provincially, nationally and internationally.
Project Type	Research project
Theme Area	Pedagogical approaches
Lead Institution	University of Waterloo
Lead Contact	Name: Dr. Alice Schmidt Hanbidge Position & Department: Assistant Professor, School of Social Work Email: ashanbidge@uwaterloo.ca Phone Number: 519-884-4400 ext. 28682
Collaborators	Amanda McKenzie Director, Quality Assurance (Academic Programs) Quality Assurance Office | Office of Academic Integrity 519-888-4567 ext. 38562 Email: Amanda.mckenzie@uwaterloo.ca
	Dr. Kyle Scholz Faculty of Arts and University Colleges Liaison Centre for Teaching Excellence University of Waterloo 519-888-4567 ext. 33851 Email:kwscholz@uwaterloo.ca www.cte.uwaterloo.ca
	Dr. Steven Furino Associate Dean, Undergraduate Studies Faculty of Mathematics, University of Waterloo 519-888-4567 ext. 33475 Email: scfurino@uwaterloo.ca
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	Ena Devedzija Project Coordinator Quality Assurance (Academic Programs) Quality Assurance Office|Office of Academic Integrity 519-888-4567 ext. 38562 Email: edevedzi@uwaterloo.ca
	Caitlin Carter Pharmacy Liaison Librarian Library Liaison to the Office of Academic Integrity University of Waterloo School of Pharmacy, PHR 4009 519-888-4567 ext.21313 Email: c8carter@uwaterloo.ca
	Sacha Forstner Student, Federation of Students Academic Affairs Commissioner University of Waterloo Email: sforstner@uwaterloo.ca
Total Budget Request	**$89,015**

I attest that this proposal adheres to the requirements as set out in the Request for Proposals for Research and Innovation Grants.

☑ This is a proposal to conduct a research project or an innovation project related to online or technology-enabled learning.

☑ The results of this research or innovation project will be provided to eCampusOntario by the due date specified, and eCampusOntario is free to publish and share the results openly, with clear attribution. eCampusOntario will not have any intellectual property rights respecting any materials or products developed using Research and Innovation Grant funds.

☑ A final Project Report in a machine-readable AODA-compliant format will be submitted no later than one month after conclusion of project (no later than 30 April 2018) and will include a one-page summary of the research or project results and their general significance to online and/or technology-enabled learning, as well as a description of how knowledge mobilization/dissemination activities were—or will be—achieved.

☑ All necessary ethics approvals have been, or will be, obtained, as appropriate.

_____

Signature

Mario Coniglio
Name (please print)

Associate Vice-President, Academic
Title

_____

Date

eCampus Ontario Research Proposal

1. Project Title

Foundations for Academic Success: Innovative Mobile Learning to Enhance Academic Integrity

Brief Project Description:

The *Foundations for Academic Success* (FAS) project aspires to improve student engagement with academic material by exploring mobile learning so that it better resonates with the current student population. Our project objectives are to develop strategies for enhancing student academic integrity (AI) knowledge and understanding by employing open access mobile technology with an innovative pedagogical approach. This research project will support the development, administration and assessment of the *Foundations for Academic Success* academic integrity mobile learning tool (FAS) that explores the best strategies, from a student user perspective, for accessing, delivering, assessing, and learning this information with mobile technology (m-learning). Moreover, the academic integrity content in this mobile application will transcend its utility to University of Waterloo students, as it focuses on the values of academic integrity that can be uniformly adopted provincially, nationally and internationally. Hence, this open access, mobile application has the potential to be adopted and used at all post-secondary colleges and universities.

2. Lead institution and Collaborators.

The proposed diverse project team has relevant technical, content and research expertise to carry out all elements of the research project.

University of Waterloo	Lead Institution
Dr. Alice Schmidt Hanbidge Assistant Professor, School of Social Work Renison University College, affiliated with University of Waterloo, Waterloo, ON N2L 3G4 519-884-4400 ext. 28682 Email: ashanbidge@uwaterloo.ca	Lead Researcher
Amanda McKenzie Director, Quality Assurance (Academic Programs) Quality Assurance Office|Office of Academic Integrity 519-888-4567 ext. 38562 Email: Amanda.mckenzie@uwaterloo.ca	Lead Subject Matter Expert
Dr. Kyle Scholz Faculty of Arts and University Colleges Liaison – Centre for Teaching Excellence University of Waterloo 519-888-4567 ext. 33851 www.cte.uwaterloo.ca Email: kwscholz@uwaterloo.ca	Instructional Design & Developer

Dr. Steven Furino , Associate Dean, Undergraduate Studies, Faculty of Mathematics University of Waterloo 519-888-4567 ext. 33475 Email: scfurino@uwaterloo.ca	Researcher
Dr. Nicole Sanderson, Lecturer Social Development Studies Renison University College Affiliated with the University of Waterloo 905-512-7185 Email: nbsander@uwaterloo.ca	Researcher
Tony Tin Director, Library and Information Services Lusi Wong Library Renison University College Affiliated with the University of Waterloo 519-884-4404, ext. 28687 Email: tony.tin@uwaterloo.ca	Librarian; Technical Lead
Ena Devedzija Project Coordinator Quality Assurance (Academic Programs) Quality Assurance Office|Office of Academic Integrity 519-888-4567 ext. 38562 Email: edevedzi@uwaterloo.ca	Project Coordinator/Content Specialist
Caitlin Carter Pharmacy Liaison Librarian/Library Liaison to the Office of Academic Integrity University of Waterloo School of Pharmacy, PHR 4009 519-888-4567 ext.21313 Email: c8carter@uwaterloo.ca	Library Liaison
Sacha Forstner, Federation of Students Academic Affairs Commissioner University of Waterloo Email: sforstner@uwaterloo.ca	Student Advisor

3. Description of Research Proposal Project (maximum 6 pages).

a. The problem, question, issue, or objective to be addressed

Work in the area of academic integrity (AI) is critical to support students while post-secondary institutions often struggle to identify what is the best pedagogical approach to engaging students with AI content. Most universities rely on instructors to cover this information with students; however, the consistency and quality of the delivery of this information varies. Academic integrity resources and policies are widely posted across post-secondary institution websites, but tend to be static non-interactive; despite these efforts, academic misconduct is still occurring and may even be rising (Gillis, 2015), thus supporting our intention to develop a solution that can benefit and support today's learner.

Compounding these issues is the discernible lack of resources and research addressing AI in higher education, as will be explained below. Specifically with regards to student resources, the means by which to help students better understand AI are limited and need to be further researched so as to determine what the best approach is to target the current generation of learners.

b. Context and Literature Review

Academic Integrity

According to the International Center for Academic Integrity (ICAI), academic integrity is defined "as a commitment, even in the face of adversity, to six fundamental values: **honesty, trust, fairness, respect, responsibility**, **and courage"** ("Fundamental Values Project", 2014). Over the past 20 years, institutional approaches to academic integrity have shifted from being punitive or rules-focused to being educative (e.g. teachable moments) and values-based (Cole, & Kiss, 2000; Bertram Gallant, 2008; 2011), as can be observed in the six fundamental values outlined above. Bertram Gallant (2011) emphasize that "schools should aim to infuse the value of integrity into structures, processes and cultures of the organization" (p. 13). Therefore, to embrace the concept of academic integrity, students need to have scholarship and integrity role modeled and nurtured within an educational institution (Batane, 2010; Glendinning, 2014; Rolfe, 2011; Stappenbelt & Rowles 2009).

Traditionally, scholarly rules to maintain academic integrity have been passed onto students directly from their instructors. While a focused and interactive discussion about AI remains the most effective way to encourage students to embrace academic integrity, this practice not only varies between instructors, but there is vast inconsistency in both the AI content shared and the depth of the discussion. MacLeod, studying faculty attitudes on students' academic integrity at 17 Canadian universities, concluded that "[every university] mentions the importance of academic integrity and affirms that they expect students to act ethically… regrettably, there are often no follow-up provisions for actually teaching students to do so" (2014, p. 11). It is therefore imperative that students receive this foundational information in a consistent manner that will augment any other instruction (or lack of) they have received about AI.

Boehm, Justice and Weeks (2009) provide numerous best practices to adhere to when inspiring academic integrity in higher education. After surveying instructors in three higher education institutions in the United States to determine what were considered the best initiatives to promote academic integrity, it was determined that providing training for instructors, adhering to classroom management strategies to reduce the chance of cheating, and providing clear examples of what academic integrity constitutes, were all perceived by the instructors to be the most beneficial means to support academic integrity initiatives. Aside from the last strategy, however, these are all firmly situated as instructor-led initiatives, and the student is still considered a passive recipient of knowledge pertaining to academic integrity, rather than taking ownership over the understanding and application of this pertinent information. To inspire this, the ultimate goal of educating students about the fundamentals of academic integrity should be to recognize the importance of these values and how they transcend their academic life and may apply to their personal lives and future careers (cf. Pfeiffer and Goodstein, 1983).

Furthermore, East states that "the challenge is not only to inform students about academic integrity, but also to engage students in this education and to provide them with opportunities to develop their scholarship capabilities" (2016, p. 482). She also suggests that any AI module should include the following key elements: be engaging (e.g., use a progression of challenges and decision-making activities); use more images than text to convey meaning; incorporate games to immerse students in the content and provide them with immediate and memorable feedback; and provide opportunities to apply their learning and practice these concepts. Mobile learning may be one such approach to empowering students to better learn and understand the values of academic integrity, but as of now, there is currently only one other mobile application that offers similar content (uomfair.info), but this information is not contextualized to the Canadian higher education landscape.

Mobile learning (m-learning)

M-learning involves using mobile devices to deliver learning materials with integrated strategies to allow access to knowledge from anywhere at any time (Ally, 2004). M-learning or "education on the go," through devices such as phones and tablets, expands the boundaries of anytime, anywhere learning (Keegan, 2002; Wu et al., 2012). M-Learning technologies are a perfect complement to Open and Distance Learning while providing direct communication beyond traditional places of learning. As this is an emerging field, its full potential is still untapped and best-practice guidelines for m-learning are still unknown and require formulation (Schmidt Hanbidge, Sanderson & Tin, 2015).

Released in August 2016, McGraw-Hill Education's report, _The Impact of Technology on College Student Study Habits_, surveyed 2,657 higher education students across the United States and they found that two-thirds (61%) of college students reported using their smartphones to study. This represents a 20% increase since 2014 and a 69% increase since 2013 in smartphone studying. Although mobile learning applications exist that are developed for monetization purposes through advertising revenue, and largely succeed by gamifying the experience (see _Duolingo_ or _Khan Academy_), few institutions explicitly support the use of mobile learning to address specific learning outcomes. Indeed, as Herrington and Herrington state, "few universities have adopted widespread [mobile] learning technologies, and in those that have, it is not clear that they are being used in pedagogically appropriate ways" (2007, p. 3).

Mobile technology has many affordances which help substantiate their use for learning in contexts outside of the classroom, such as the ability to personalize the learning experience due to the provision of immediate and targeted feedback on assessments and other completed content (Traxler, 2007). Lai, Yang, Chen, Ho and Chan (2007) suggest other primary affordances of mobile technology for learning, such as the availability of information whenever needed, and the ability to capture information by taking notes, videos, or through other means. Pachler, Bachmair and Cook (2009) list a number of opportunities, including collaborative knowledge building afforded by mobile learning, which expand upon the previously mentioned affordances by including improving interaction in the 21st century and the very utility of smartphones as better fitting today's dynamic learning environments.

The New Media Consortium's *Horizon Report: 2016 Higher Education Edition* suggests that mobile learning has great potential in addressing and assisting in many of the trends in higher education which they perceive as emerging in the near future, such as a growing focus on measuring learning and a stronger focus on blended learning. To this end, the report argues that "Bring Your Own Device (BYOD), along with learning analytics and adaptive learning, are expected to be increasingly adopted by higher education institutions in one year's time or less to make use of mobile learning and student data that can be gathered through online learning environments" (p.1).

Efforts that support mobile learning in Canada are increasing, including in Ontario, where the use of assistive technology to support learning for students with identified special needs is legislated (AODA, 2015). Mobile initiatives have the potential to transform learning in Canada by bridging the digital divide with improved features that support student learning, such as text-to-speech synthesis, personalized learning, and tools to organize information visually through augmented learning.

Summary

Given that technology is rapidly changing the way information is delivered and processed, the transfer of knowledge concerning academic integrity needs to keep pace with the best and most innovative ways to educate students. As mentioned previously, the *Horizon Report: 2016 Higher Education Edition* suggests mobile learning applications on student's personal devices as one of the "drivers of innovation and change" to be used by higher educational institutions (p.1). By providing visually stimulating and interactive content as well as gamification in our mobile application, we will appeal to students' desire to engage with content rather than just be passive recipients of it while also making this information readily available without being confined to a classroom or a learning management system. As East states, "all students take time and practice to become versed in academic codes and to understand academic culture" (2016, p. 485), and this research project will provide students with the opportunity to practice and learn from their mistakes in a simulated environment without fear of actual repercussion.

c. Contributions of this Project:

More research, from a user perspective, is needed to discover the best strategies for maximizing m-learning (Schmidt Hanbidge, Sanderson & Tin, 2015), including the FAS tool we plan to develop, and what form the content needs to embody to contribute to effective m-learning. As advocates of mobile learning, our intention is to enhance learning experiences rather than replacing educational

interactions. The passion to help student learners enhance their knowledge about academic integrity using mobile technology is a unique opportunity to shape the research framework for this project.

Prior to students arriving on our university campus, we cannot offer AI modules in an online format or as a mobile application due to the limitations of our learning management system. Having a mobile application would allow us to provide this information to students well before they arrive on campus, hence giving them an acculturation to the values at Waterloo and how they can succeed in their academics *before* they begin classes.

Currently, the University of Waterloo has a mandatory tutorial for all incoming graduate students - the Graduate Academic Integrity module (Grad AIM, 2013); students however cannot access this material until the first day of class due to the aforementioned technological restrictions. In addition, this platform does not easily track completion, making monitoring and following-up a manual and arduous process. The proposed FAS tool tracks which students have completed the module and has the capacity to immediately recognize their efforts by issuing a certificate and badge that signifies completion.

It is along these lines that we position our proposal, envisioning a mobile learning experience that embraces the affordances offered by mobile learning, while ensuring that the academic integrity platform we design meets the needs of the emergent trends in higher education. Our team recognizes the importance of focusing on a common vision and having institutional leadership to support this type of initiative. The University of Waterloo is recognized as a leader in innovative practices that will enable effective and successful implementation and dissemination of the FAS initiative. In support of this project, the Office of Academic Integrity has directly committed $15,000 to this project in addition to the over $100,000 of in-kind supports from the University.

d. Benefits of this Research Project

We firstly aim to contribute to scholarly discourse on m-learning and its place in higher education, adding a unique Canadian context through the design and testing of the FAS tool to support and enhance m-learning pedagogy at the University of Waterloo. The outcomes of this project will make significant contributions to the emerging knowledge in this field. We also propose benefits to students, instructors, and the University of Waterloo as a whole:

Benefits to students:
- Development of a clear understanding of academic integrity and be able to identify its key aspects and values
- Translation of students' understanding of academic integrity into their post-secondary behaviours, course work, and fieldwork, and ultimately, their workplace
- Open access resource available to students for anytime, anywhere learning
- Badge and certification of successful completion to demonstrate acquired credentials

Benefits to instructors:
- Instructors have a clear awareness of institutions' academic integrity expectations
- Instructional resource for instructors to use in their courses; Instructors can make this a mandatory component in their course (e.g. allotment of 5% grade weighting) before completing course assignments

● Reduces the necessity for instructors to be largely responsible for the delivery of AI information

Benefits to University of Waterloo:

Our project is purposefully aligned with the priority digital media research agenda for the University of Waterloo. Reflective of the [Waterloo's 2013 Strategic Plan](#) of Transformational Research, this project integrates the stated objectives of:

● Championing innovation in education, research, and scholarship
● Identifying and seizing opportunities to lead in new and emerging areas
● Strengthening the relationship between research and teaching at the undergraduate level
● Increasing interdisciplinary and transdisciplinary research at the global, national and local scales
● FAS will fulfill a second objective of the Strategic Plan by enhancing the online academic integrity module (p. 37)

e. Proposed Methodology, strategies, or approach to be employed and key activities and procedures for data collection and analysis to achieve the stated objectives.

Our proposed research study is a mixed-method (quantitative and qualitative) non-experimental approach, including both pre- and post- academic integrity tests, student questionnaires and tool testing. The proposed FAS tool will meet stated project objectives and will connect learners to timely, relevant multimedia of various mediums through interactive modules which will comply with all Canadian AODA standards of accessibility. All data will be tracked to better assist learners in their understanding of academic integrity. The project will utilize ProProfs (http://www.proprofs.com/quiz-school/), a web–based service which allows trainers to create and deliver online modules and assessments to learners.

Each of the modules (corresponding to the six AI values) in the FAS tool will be comprised of the following instructional sequences:

- A definition of each value
- Examples that demonstrate each value
- Explanations of how each value interconnects with others in the FAS tool
- Scenarios involving diverse aspects of student life (cultural difference and expectations, physical stress, peer pressure, time constraints etc.)

(See Scenario Samples in Appendix B)
- Multimodal tasks such as drag and drop, ordering of materials, videos, and games
- Quizzes on each of the 6 modules (multiple choice, fill in the blanks)
- Final test on all the content and tests integration of knowledge (true or false, multiple choice, fill in the blanks

FAS tool testing will be scheduled at multiple points during the development phase of the project for quality assurance purposes and to enhance reliability of the tool. See Appendix C for Table of Research Activities. Undergraduate students will be recruited for the study and range in year of schooling from first year to fifth year students, majoring in various disciplines. Participants will use their personal smartphones to access and complete the exercises. The contributing research activities and progression of steps are as follows:

1. During the lesson and quiz content development phase of the project, two focus groups (*N=20*).of 10 students each will provide recorded verbal feedback about the content of the lessons, the case scenarios, and the quiz content and format, including the type of questions (Group A). Once the lessons and quizzes have been tested and adapted to include the two group's feedback, the next stage of testing will commence.
2. Five classes of undergraduate student learners (*N*= 150) will be recruited from both campuses of Renison University College and the University of Waterloo. Test Group B of students will participate in the initial online testing of the prototype FAS Tool lessons and quizzes.
3. Once the FAS tool has been translated into French and Mandarin languages, three classes (*N*= 100) of undergraduate learners taking French and Mandarin language classes (Pilot Test Group C Language) will test the French and Mandarin translated versions of the FAS Tool.
4. Another group of five classes of undergraduate learner participants (*N*= 150) recruited from both Renison University College and University of Waterloo (Test Group D) will complete a pre-test of the six online interactive, mobile academic integrity lessons and quizzes before completing the post-test and questionnaire.
5. Finally, learners (Pilot Group E) in the comparison group (*N*= 50) will complete an online version of the AI quizzes, but they will not receive the intervention of the AI lessons. In total, five hundred learners will be involved in testing the tool for quality control purposes prior to its release to the general campus.

Learners will be asked to complete an online Pre-test survey questionnaire (using Survey Monkey) before beginning the FAS lessons to test their academic integrity knowledge. Once they complete the pre-test questionnaire, participants will proceed to the six academic integrity lessons and quizzes. The quizzes will be scored through the ProProf software quiz maker function. Learners will need to pass the final test that explores the learner's AI knowledge in order to achieve a virtual badge and a certificate of completion. The Post-test questionnaire compares learner's academic integrity knowledge to their pre-test. A final usability questionnaire explores students experience about their perception with the FAS tool. To ensure inclusivity in the developmental phase and during implementation, an online desktop version of the FAS tool will be available to project participants.

Both quantitative and qualitative descriptive and outcome data will be collected through Survey Monkey and extracted from the software, coded and analyzed through SPSS software and a final report will be generated. Open ended survey questions will be coded through the software NVivo and thematically examined while usage of the FAS tool and will be explored through Google Analytics. The data will be analyzed for program improvement, FAS tool enhancement and expansion, and as basic research in the emerging field of mobile academic integrity instruction. This project will measure the demonstrated benefits for the learning community while investigating the experience of the mobile technology user.

4. Roles and Responsibilities of Project Collaborators

Research Project Roles and Responsibilities: <mark>**See Curriculum Vitae in APPENDIX D**</mark>

Project Role	Responsibilities	Expertise/Experience
Alice Schmidt-Hanbidge *Lead Researcher*	• research methodology and design • ethics application • focus group coordination • testing of platform • data collection • analysis • reporting • dissemination	Principal researcher for past 3 years in open-access mobile information literacy tool development and usability studies. Key research areas of interest include advancing technology in the teaching of social work, innovative learning with technology, program evaluation and SoTL. Published in mobile learning journals and international conference presenter on mobile learning.
Tony Tin *Technical Lead*	• design and develop learning objects for AI including audio, video, text, games, and interactive exercises and lessons • conduct usability testing for PC and mobile users • ensure online interactivity in modular and holistic formats • design and develop infrastructure and project site • set up Analytics to track usage and information seeking behavior	Director of Library and Information Services at University of Waterloo Renison University College. Leader of many mobile learning projects which won the International E-Learning Association's E-learning Award (2011) for Athabasca University Mobile Learning Project. Mobile Library project received the Canadian Library Association Library Research and Development Grant Award (2006). Published articles and book chapters and presented at conferences on topics such as library technology, digital libraries, and mobile information literacy.
Amanda McKenzie *Lead Subject Matter Expert*	• Academic integrity content development • fulfilling AI mandates	As Director, she is responsible for cyclical program reviews, new program proposals and handling major modifications under the mandate of the Ontario Universities Council on Quality Assurance (Quality Council), and upholding Waterloo's Institutional Quality Assurance Process. Current Chair of the Academic Integrity Council of Ontario (AICO). Co-founder and Executive Board Member of the Canadian branch of the International Center for Academic Integrity (ICAI).
Kyle Scholz	• curriculum development consultant	Arts Liaison with the Centre for Teaching Excellence at UWaterloo. He works primarily with instructors

Instructional Design & Developer	• mobile learning technical consultant	assisting them in instructional design, implementation of blended learning, and conducting research in higher education. He is passionate about student learning and exploring new and innovative means by which learning can occur outside of the classroom.
Nicole Sanderson Steve Furino *Researcher*	• data collection, analysis and report writing • conduct usability studies of project • knowledge dissemination	Researcher for the past 3 years in open-access mobile information literacy tool development and usability studies. Key research interests include mobile learning, curriculum development, teaching and learning in higher education and equity issues in education. Areas of teaching expertise include Sociology, Curriculum Studies, and Information Technology. Certified with the Ontario College of Teachers (OTC).
Caitlin Carter *Library Liaison*	• consultant on learning object subject matter (academic integrity) • make recommendations for content interactivity	Positioned as UWaterloo Library Liaison to the Office of Academic Integrity. Provides instruction on citation best practices and academic integrity in undergraduate and graduate courses at the School of Pharmacy. Has experience with designing online tutorials.
Ena Devedzija *Project Coordinator/ Academic Integrity Specialist*	• timetabling the project • accountable for task completion • report writing • research support	Extensive experience working with students to identify and remedy knowledge gaps related to UW policies, academic integrity and other areas where they may struggle. Experience working in the field of Academic Integrity allows me to invent the types of academic integrity questions that would resonate most with our students.
Sacha Forstner *Student Rep*	• advise on tool development, lesson plans, quiz questions and methodology • consult with students about usability of FAS tool	As the Academic Affairs Commissioner for the Federation of Students, responsibility is to advocate for the furtherance of a superior academic environment at the UWaterloo. As a "superior" environment is also one that respects and practices integrity, my role entails membership on the Academic Integrity Communication Working Group. As both a student and a policy specialist, I understand how ideas spawned within the University will

		translate into practical application, and so I can offer a real-world perspective to this project that understands the project's particular needs.
Research Assistant	• meeting and coordinating study participants, collecting data, transcribing, data entry and analysis, assist in report writing	Work study university student
Technical Assistant	• develop user statistical reporting system • research user authentication and security access tools and processes, ensuring that testing data and user information are safe and uncompromised • technical support for interactive mobile learning content using a variety of tools and applications	Work study university student

5. Research Ethics

The research team agrees to apply for a research ethics clearance upon acceptance of this project. Information provided by Sacha Geer, PhD, Manager, Office of Research Ethics at University of Waterloo indicated that:

"When researchers are at the proposal development stage, they are not able to provide all of the required information to a Research Ethics Committee in order to make an assessment of the materials or even to describe the study in a meaningful way. **As UW researchers, via our [Under the Auspices](#) guideline, you are required to seek and secure research ethics clearance in advance of beginning a research project.** Most funders find this assurance to be sufficient that clearance will be secured."

6. Knowledge Dissemination plans

Multiple dissemination methods provincially, nationally and internationally will ensure maximum visibility, utility and sustainability.

The design and development protocol, describing the project process, challenges and lessons will be presented at several conferences focused on innovative m-Technology teaching and learning, including:

- *Focus on Learning* http://www.elearningguild.com/focuson/content/4210/focuson-2016--mobile-learning
- *Society for Teaching and Learning in Higher Education* (STLHE) https://www.stlhe.ca/conferences-events/stlhe-annual-conference/

- *International Center for Academic Integrity* (ICAI)
  http://www.academicintegrity.org/icai/canada.php#schedule
- the annual meeting of the Canadian Consortium branch of the ICAI, and
- the Provincial group, Academic Integrity Council of Ontario (AICO).

Project findings will be publicly available through Waterloo's Academic Integrity website and on the Canadian webpage under the ICAI website, thus affording the opportunity to widely share with students and colleagues. Journal articles will be submitted to the *International Review of Research in Open and Distributed Learning* (www.irrodl.org) and the *International Journal of Mobile and Blended Learning* (IJMBL) http://www.igi-global.com/journal/international-journal-mobile-blended-learning/1115. The project principals will also share the project findings at internal Waterloo events, such at an "Academic Integrity Day" and an internal research colloquium at our *Opportunities and New Directions* (OND) https://uwaterloo.ca/centre-for-teaching-excellence/university-waterloo-teaching-and-learning-conference-ond-2016 teaching and learning conference. A final report, including a one-page summary of the general significance of the FAS research results will be shared with eCampus Ontario, will be posted on the project site, and shared at conferences.

7. Budget and Work Plan

See attached Appendix D

APPENDIX A

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APPENDIX B

Project Learning Outcomes:

After completing the *Foundations for Academic Success* learning modules, a student will be able to:
- Understand and demonstrate each of the six core values of integrity (Honesty, Trust, Fairness, Respect, Responsibility and Courage)[1]
- Recognize and demonstrate the importance of originality in their academic work
- Assess their sources of information and include references that support his/her work
- Recognize that rules for group work can vary by instructor(s) and course(s)
- Acknowledge responsibility to uphold academic integrity[2]

SAMPLE SCENARIOS

The following are sample scenarios addressing the six academic integrity core values and will be brought to life through videos and games in the FAS application, thus fully engaging the student in the learning activity.

VALUE 1: Honesty

1. Emily and Kamaljit have an online quiz for ARBUS 102. They decide to meet at Emily's and do the quiz together. They also invite Yvonne and figure the more people there are, the better their chances at getting a good grade. Yvonne initially accepts but is now having second thoughts. Why?

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[1] International Center for Academic Integrity: "The Fundamentals of Academic Integrity"

[2] Read Policy 71

a. Yvonne doesn't want to meet at Emily's. It's too far of a commute and she has to take the bus.
b. It's dishonest.
c. It's unauthorized collaboration and cheating. The quiz is intended to be done individually.
d. Both b and c.
e. It's plagiarism.

2. Lin is having difficulties finding credible sources for his paper. The deadline is two days away and he starts to panic. What should Lin do?
   a. Hand in whatever he has. Better than getting a 0.
   b. Make up data to support his findings. Still better than a 0.
   c. Offer someone money to write his essay or look for one in an essay bank.
   d. Contact a Liaison Library for help. They are subject matter experts after all!
   e. Contact his instructor for help. They should be able to tell him where to find information or suggest another topic.
   f. Both d and e.

VALUE 2: Trust

1. Linden is working on a group assignment with four other students. They decide to split the group assignment among the five members and the task that Linden is responsible for is identical to a part of an assignment she had done in a previous course. Linden is deciding whether to re-submit her assignment again. Should she?
   a. Yes! She has already done that assignment. She doesn't need to do it again.
   b. Yes! But she needs to ask her group members if they are ok with her re-submitting the work.
   c. Yes! But she first needs to ask permission not only from her group members but from current and past instructors.
   d. No. If caught, the entire group will be penalized for her mistake.
   e. It depends. If she receives permission from her instructors and group members then yes. If she doesn't and she still submits the work, she will be breaking the group and instructor's trust and will be penalized accordingly.
   f. d and e are both correct.

2. Sarah, Charlotte and Omar are roommates who are also in the same class together. While Charlotte has already completed her essay, Omar and Sarah are having a difficult time writing their essays. They ask Charlotte to take a look at her essay for ideas and Charlotte, wanting to help her roommates, agrees. Should Charlotte have done that?
   a. Yes, she should help her roommates.
   b. Yes, but she needs to ensure that they don't actually copy her essay.
   c. Yes, who cares if they copy, she had the initial idea.
   d. No. They can solicit Charlotte for advice but giving them her essay might entice them to copy. If they get caught for plagiarizing, they will all be in trouble.

VALUE 3: Respect

1. Greg, Bin and Fran are working on an individual assignment. It is worth 35% of their final grade and it's taking each of them a long time to finish. Greg suggests that each person take some of the questions and then meet up to exchange answers and get the assignment done quickly. Bin and Fran are unsure if they should accept the proposal. What should they do?
   a. Agree to divide up the work! It will save each of them so much time!
   b. Agree to divide up the work but make each person explain how they got the answer to ensure that each person understands the assignment. This way they are showing their instructor what they know.
   c. Turn down Greg's proposal. Their instructor explicitly said not to work together. They should respect their instructor and his wishes and know that they will get most out of the assignment by working individually on each question. This will ensure that they completely understand what they've learned in the course.

VALUE 4: Fairness

1. Sarah and Kim are third year Math students who have been struggling in their PMATH 332 class. One day while studying for their midterm, they are approached by Tim who offered to sell his PMATH 332 midterm for $50. What should they do?
   a. Buy the midterm! It will ensure they get a good grade!
   b. Don't buy the midterm but ask Tim to just take a peek at the type of questions asked. $50 is a lot of money to spend!
   c. Don't buy the midterm because it would give them an unfair advantage over their peers. They should do their best and show their instructors what they know.

2. Brian is a new international math student who has been doing exceptionally well in his classes. A couple of peers in his Faculty approached him and asked him to join their business. It's a great way to make money. All he would need to do is to sell his exams to fee-paying students. Brian is tempted with the prospect of earning some extra money but is unsure if this would be ethical. What would you do if you were Brian?
   a. Sell the exam! Make some extra money.
   b. Agree to sell the exams. If the students get caught, it would be their problem, not yours.
   c. Don't sell the exam. It's illegal and if the administrators found out the exam belonged to you, you would face severe academic penalties.
   d. Don't sell the exam. It would give students with money an unfair advantage. And they wouldn't even be demonstrating what they really know!
   e. Both c and d.

VALUE 5: Responsibility

1. John has been feeling very overwhelmed with the amount of coursework that has piled up this semester. He realizes that he will not be able to meet his essay deadline which is tomorrow at 5pm. What should John do?

a. Contact his instructor, plead his case and ask for an extension. Don't do anything until he hears back from the instructor. He might have a few extra days to work on the essay.
b. Ask his roommate Mark (who had taken the course in the previous semester) to use his essay.
c. Look online in an essay bank to see if someone has written on a similar topic.
d. Continue working on his essay. Although he might not be able to meet the deadline tomorrow, he will be able to meet it the day after. Having minor marks deducted off the essay is better than plagiarizing and risking getting a 0.
e. Realize that he needs to implement better study practices to avoid procrastination and prevent feeling overwhelmed. He decides to contact the Student Success Office for help.
f. Both d and e are correct.

2. Dwayne is a first year History major. He considers himself a history buff and doesn't bother to read the syllabus or attend class. However, a couple of days after submitting his first essay, his professor informs him that he has broken Policy 71 as he has failed to properly cite his essay. As a result, he will need to report him for academic misconduct. Dwayne argues that he did not know he was breaking any academic rules and should not be penalized. Is Dwayne at fault?
    a. Yes
    b. No

APPENDIX C

Research Activities Table

Focus Groups	Research Activities						
	Discussion Group	**Pre-Test**	**AI Lessons**	**AI Quizzes**	**Final Quiz**	**Post Test**	**Questionnaire**
Focus Group A Content (N= 50)	X	O	X	X	X	O	O
Test Group B Pilot Tool (N =150)	O	X	X	X	X	X	X
Test Group C Language Tool (N = 100)	O	X	X	X	X	X	X

(reserved)

Test Group D Tool (N = 150)	O	X	X	X	X	X	X
Control Group E (N = 50)	0	X	0	X	X	X	X