

Proposal for a U of S SoTL Cluster Charter

Title: Improving student mental wellbeing and academic performance through First Year Research Experiences (FYRE)

Date of application: September 2019

GMCTL contact person: Ryan Banow

Description/Background: *What is the context and need for the study?*

Universities across Canada are increasingly aiding and attending to student mental health and wellness. At the University of Saskatchewan, the number of students accessing campus mental health and counselling services rose from 470 students in the 2010-11 academic year to 1121 in the 2015-16 academic year. Generally, universities have implemented supports for student mental health by improving access to mental health services and creating wellness programs that teach life skills that improve mental wellbeing (yoga, mindfulness, exercise, diet, sleep). However, these strategies ignore the academic environment which is a major contributor to stress and mental illness (Larcombe et al., 2015). The opportunity to address the academic environment as an aspect of supporting mental health has only recently become an area of research and practice.

Identifying and understanding how instructional approaches, activities and resources may facilitate and promote student well mental health is highly desirable. One of the top-ten strategies for student learning and retention is to integrate course-based research experiences. At the University of Saskatchewan, this course-based research learning strategy is FYRE: First Year Research Experience. Three different faculty working with students in three unique science courses using FYRE as a course-based research experience have noted a possible link between FYRE and student well-being. Student FYRE surveys have indicated greater professional skills such as autonomous motivation and feelings of competence, while faculty have noted a defined sense of belonging and positive relationships built through the FYRE component. Three FYRE course professors are interested in exploring if and how the FYRE course experience, as undertaken by each professor, may support student mental health. The group wishes to investigate specifically how FYRE provides opportunities for autonomous motivation, a sense of belonging, positive relationships, experiences of autonomy and feelings of competence (M-BRAC - <http://unistudentwellbeing.edu.au/>).

We have been meeting regularly since January 2019 with a total of 4 meetings to date, to discuss and outline a plan to research student wellness and FYRE.

Connection to the *Learning Charter's* educator commitment to engage in lifelong learning and continuous enhancement of teaching practice. "Honouring this commitment requires that educators seek out and participate in opportunities to build their knowledge of teaching within their discipline, learn about advances in effective pedagogies/andragogies and engage in meaningful conversations about their practices with others."

Please describe how this will occur in your Cluster:

The interactions of our cluster have been ongoing since January of 2019. We have acted on the opportunity the FYRE experience has provided as a shared experience across our disciplines which also informs our practice within our disciplines. Our conversations and sharing concerning programming resources, educator practice and student experience related to FYRE has broadened and extended our perspectives as educators. This has prompted the desire to undertake research that will help us better understand the experience of our students as well as improve our practice generally but also specifically relating to student mental well being.

Cluster Lead:

Name: Tim Molnar	Murray Drew
Title: Assistant Professor	Professor
Department: Curriculum Instruction	Department of Animal and Poultry Science
Contact information: tim.molnar@usask.ca	murray.drew@usask.ca

Members of the Cluster: (minimum of 4, including Cluster Lead)

Murray Drew
Daryl Janzen
Merle Massie
Tim Molnar
Vicki Squires

Goals, and Estimated timeline: *Identify 1-3 goals for the study and describe a process and timeline*

Investigate Student Experience by addressing the following questions:

- a. Does participation in a First Year Research Experiences (FYRE) decrease anxiety and/or depression in students?
- b. Does FYRE improve academic performance and student retention in first-year students?
- c. Are there instructional and peer experiences students find beneficial? What are these? What are students' understandings of the benefits of these experiences for themselves and others?

(Year 1) Fall 2019 September to December:

- a) Clarify processes for investigating the questions, establishing an initial protocol for investigation (initial review literature relating to instructional practice and student mental health, craft initial description/documentation of FYRE implementation in each instructor's course).
- b) Hire Research Assistant
- c) Establish work plan for RA
Intended RA duties and roll out:

1. Review existing Literature that connect undergraduate research and undergrad student well-being (with special attention to the relationship of instructional approaches and effects on student mental health)

Deliverable: 10-15 page literature review (excluding references)

2. Review course feedback from previous course work (SEEQ, SLEQ, course comments) with attention to indicators of student well being/mental health. i.e. Comfort, anxious, deadlines, confirming your professional aspirations, general feelings post course, skill development.

Deliverable: (Short paper 5-10 pages) Highlight themes and the strengths of those theme (Craft 5 follow up questions to current course queries)
Cluster Team will review deliverables during November, (meet during reading week)

3. RA working with Cluster will construct a broader research plan by attending to Previous work (from deliverables 1 and 2) to craft an approach/methodology focusing on:

Participant Questions to be asked:

How we will ask them (how we will proceed) i.e.

Survey

Determine what surveys are suitable? Use List of TLARC surveys

Edit current survey with addition of questions

Focus Group Interviews (what questions)

Individual Interviews (What questions)

Possible use of interviewing to shape methodology

Relying upon an “Explanatory Sequential Mixed Methods Approach”

4. Develop the Pilot Protocol

Deliverable: (5-10 pages)

- d) Prepare Ethics Application for Pilot (Submitting in January, 2020)
- e) Identify possible publication venues (journals) relating to SoTL
- f) Meet periodically during this period to review progress in research

(Year 1) Winter 2020 January to June

- a) Pilot the protocol in Winter (ASTR 113 and Spring ASTR 104, ECUR 164)
 - RA administers survey to participants
 - RA undertake Interviews with participants (individual/group as determined)
- b) Transcription and/or summaries of interviews
- c) Analyze information and data (RA and Cluster)
- d) Craft preliminary research findings document (possible submission)
- e) Prepare for Fall 2020 full research Implementation

(Year 2) Fall 2020 September to December

- a) Engage study participants in survey and interviews (as developed through pilot) in appropriate FYRE courses

- b) RA administers survey to participants
- c) RA undertake Interviews with participants (individual/group as determined)
- d) Analyze information and data (RA and Cluster)

(Year 2) Winter 2021 January to May

- a) Transcription and/or summaries of interviews
- b) Analyze information and data (RA and Cluster)
- c) Craft research document (either the first or second publication)
- d) Submission for publication/conference presentations

Over the next two years this research team will: *Articulate the specific actions you'll want your midterm funding and final sharing to be based on. Focus on what you anticipate doing and how. Please include how you will share your findings, including at GMCTL SoTL celebrations/events.*
Sharing venues include:

- GMCTL events, particularly the FYRE/STEM related gatherings
- The American Educational Research Association (AERA) Conference
- Canadian Society for the Study of Education (CSSE) Conference & CSSHE (Higher Ed)
- Canadian Journal of Science Mathematics and Technology Education
- Prevention Science (Official Journal of the Society for Prevention Research)

Financial: *Specifically describe what you'll spend your grant on.*

Funding: \$10, 000 SoTL Cluster funding requested for 2019/2020 and 2020/2021 (\$ 5,000 per academic /fiscal year).

Expenses: \$4,500 per year research assistant

(transcription and/or summary of interviews by RA, will scale with time/relevancy and funds)

\$ 500 per year software licensing (e.g., nVIVO), survey, focus group/interview incentives

Scope:

In Scope: (what is the intended focus of the Cluster)

Two areas of focus will be pursued:

1. *Analysis of student perceptions of student mental health/well being in relation to their First Year Research Experience (FYRE) and if/how experiences of autonomous motivation, a sense of belonging, positive relationships(i.e. peer to peer/ peer to instructor relationship), experiences of autonomy, feelings of competence, perceptions of their academic success, assessment practice, and course pacing aid student mental health.*
2. *Comparing and exploring three different instances offered by instructors and how these experiences may affect student mental health, developing recommendations and opportunities for future course work and determining what may be best practice*

Not In Scope: (what will NOT be included in the focus of the Cluster; limits on expenditures may be included here or in the Finances section.):

- Conference presentation support
- Hospitality for meetings

Constraints, Assumptions, Risks, and Dependencies of Note:

Constraints:

Not all professors will have taught using FYRE in 100-level classes the same number of times; FYRE approaches exist in different science courses with different course sizes and logistical challenges ; research coaches are utilized differently; different organizational culture across colleges and departments.

Assumptions:

Projected continuance of FYRE funding and inclusion in courses; utilizing similar data collection tools/processes will allow meaningful comparisons to be made. Full ethics approval will be given to our questions and methodology.

Risks and Dependencies:

Our working group has met several times to determine common interests with the use of FYRE in our courses. We have agreed upon our basic focus but the intricacies of how we will investigate (which survey tools to be used, when to use, nature of individual and group interviews and extent) will need some further refinement.

The first year will allow us to gather information and adjust our process, with the second year giving us a clearer run on gathering and making sense of information we establish. It may be an initial publication concerns what each FYRE experience attempts with some initial reporting on student mental health, while the second year provides a publication that fully elucidates on FYRE experience and student mental health.