

The STEM Education Research Exchange (SERE)

Information as of May 2022

At UBC, we have a number of educational groups in STEM disciplines that hold regular meetings. While it is quite useful to discuss undergraduate educational research and literature in the context of each discipline, it is also beneficial to have broader discussions that cross disciplinary boundaries. We are therefore organizing a monthly cross-disciplinary meeting with a focus on discipline-based education research (DBER), Scholarship of Teaching and Learning (SoTL) research, and pedagogical practices in STEM.

What is the focus of this group and what need does it address?

Despite UBC having a large, active community of people doing research in undergraduate STEM education, there is currently no forum where someone can present and discuss related works in progress and receive feedback, advice or suggestions on research methodologies or theoretical frameworks, coding open answers, statistical modelling, formulating questions for surveys or focus groups, or dissemination of results.

Such a multi-disciplinary STEM forum would be useful because most core groups doing this kind of work in each department/discipline are relatively small, which limits the readily available network of people that could help with specific problems, such as identifying the best way to evaluate learning in project labs. Some disciplines may also have more experience with certain approaches than others, which would add value to the multidisciplinary nature of this group. For example, it might be useful to hear about project labs from colleagues in engineering or about case-based pedagogy from colleagues in medicine.

What will happen in the group?

This group will have a regular monthly meeting with a focus on research and evidence-based innovation and teaching practices in STEM.

- The total time will be 90 min, broken up into ~30 min scheduled presentation, ~30 min open discussion, ~30 min flexible time. The delivery will be in a hybrid format: in-person and streamed online (e.g., Zoom). Our meetings will target works in progress and the exchange of ideas—not polished presentations of published research. Therefore, presentations are generally not recorded unless presenters explicitly request them to be.
- Your contribution should be about your work in progress, such as a new idea that you want to implement, an approach you have implemented and for which you are seeking advice on how to document and evaluate it, or questions on how to analyze or interpret your data. You could also have finished a study and use this venue to request feedback on a draft or conference presentation.
- Individuals and groups can also present on recent published work: why they think the work is exciting for innovating education, and their plans and ideas for implementation and follow-up research.
- We may offer slots that can be shared by 2–3 presentations on work in early stages or on upcoming talks in DBER or SoTL conferences.

How can I sign up for a presentation?

- Generally, individuals or groups will submit their proposals as a short, structured abstract on Google Forms along with the range of dates during which they would prefer to present.
- The current SERE committee will select presenters based on criteria like broad interest and diversity in disciplines, methods, and contexts. (We will revise the committee with regular attendees at some point in 2022.)
- Depending on the number of proposals we receive, we may not be able to offer a slot to everyone at the desired time, but we will do our best to accommodate all interested presenters.

Why would this be useful? What would be the outcome?

- Faculty in the EL stream, interested research faculty, postdocs, and grad students will have a regular time and place to meet and hear about new evidence-based educational research and pedagogy at UBC.
- You could learn who has what expertise in which methods at UBC, and in which context certain approaches have been implemented. This has the potential to foster interdisciplinary collaborations.
- You could familiarize yourself with relevant literature for specific approaches, problems, research areas, etc., including some outside of your direct area of study.
- You could learn about sub-groups that exist in STEM at UBC with a specific focus or social-media type channels with a focus on educational research, such as the DBER/SoTL Slack channel.
- In short: SERE will create an informal network at UBC (and beyond) with a strong focus on STEM research and with a low barrier to entry.

How can I become part of this group?

For upcoming meeting information, a list of previous meetings, and to access the sign-up form to present your research in progress, please visit the main website for SERE:

<https://skylight.science.ubc.ca/stem-education-research-exchange>

If you have any questions, please feel free to contact one of the committee members if you know them, or if you aren't sure whom to contact please email Warren Code at Skylight (warcode@science.ubc.ca).

Thanks!

The SERE Committee:

Trish Schulte (Biology), Jackie Stewart (Chemistry), Gabriel Potvin (Chemical & Biological Engineering), Georg Rieger (Physics & Astronomy), and Warren Code (Skylight)