Impact of an advisory role students as partners model in a field-based science learning curriculum development initiative

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Background

Students-as-partners (SaP) models are one way to amplify student voices in meaningful and equitable ways in science curriculum development efforts. The model applied in this project was part of Earth Science Experiential and Indigenous Learning (EaSEIL), a large, multidisciplinary faculty/curriculum development initiative centered on field-based science learning experiences at a research-intensive institute in Canada. SaP models are collaborative processes in which students and faculty work in equal partnership to improve teaching and learning, though not necessarily in the same ways (Mercer-Mapstone et al. 2017). While SaP models are becoming more common, less is known about participating students' perceptions of the SaP principles in the programming they participated in (Lexis et al, 2023). This case study aimed to fill this gap by characterizing student participants' reported experiences and perceptions in an advisory role SaP model.

SaP principles:

- Engage in ethical partnerships
- Foster inclusivity
- Nurture power-sharing
- Enact partnership for transformation
- Accept that partnership is a process with uncertain outcomes

Guiding Questions

Did students report SaP principles in describing their experiences?

How has participation impacted students?

Study Population & Context

17 students (14 UG and 3 Grad in geology, environmental sciences, and geological engineering programs) partnered as advisors with initiative leaders who facilitated 8 focus groups (Oct. 2022 - Mar. 2023) sharing their insights on topics identified by a community of instructors, (e.g., inclusion in field settings, accessibility, incorporation of Indigenous-related content). Focus groups included individual written reflection and guided discussion. Participants had access to review summative notes after to strengthen trustworthiness of data.

Methods

Students' perceptions of program experience and impact was determined from student responses to a 33-question survey at the program's end. The survey, developed for this initiative, adapted a SaP principles framework (Cook-Sather et al. 2014) and included several question types: multiple choice with single (15) or multiple answers (2); open-ended (6); and Likert-type matrices (10).

Preliminary Data Results

Survey response rate was 41% (n=7; only UG) and answers were categorized in 7 different aspects for better understanding of participants experience on the model: Understanding of program goals (1), What did participation look like? (2), Quality of Program Design(3), Program Experience(4), Perceptions of Value of Participating(5), Evidence of SaP Principles in Program Experience(6), Program Impact(7).

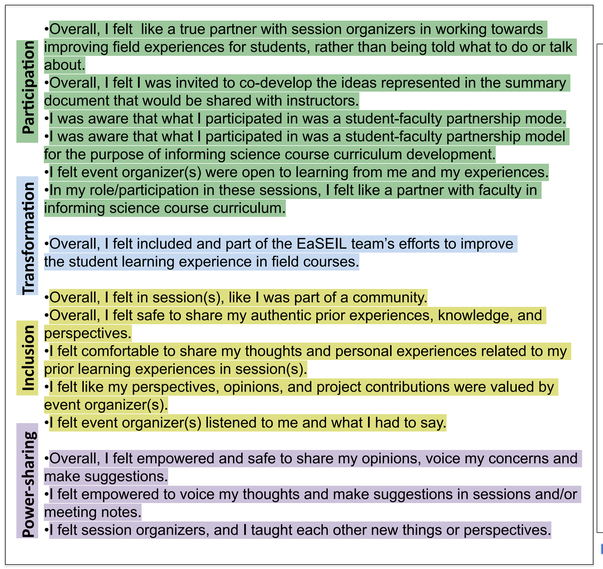


Figure 1. Evidence of SaP Principles in Program Experience

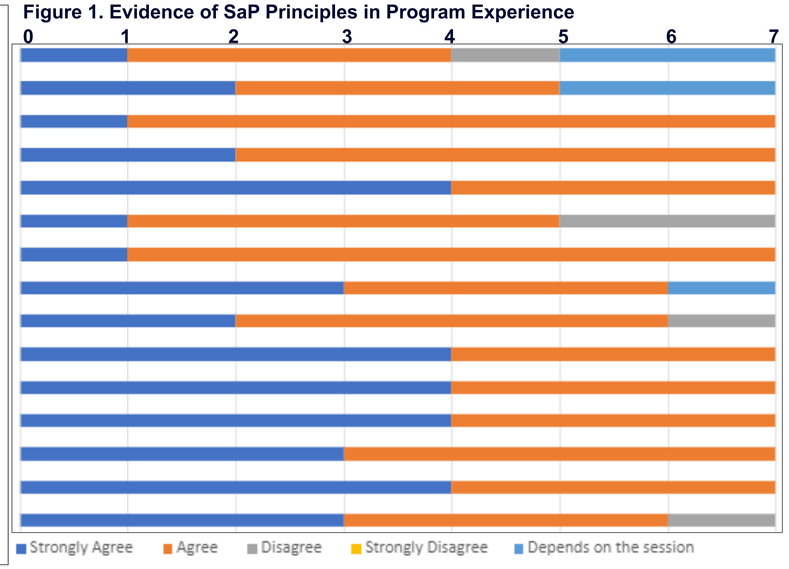
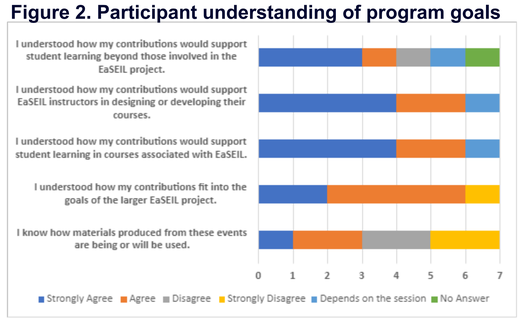


Figure 2. Participant understanding of program goals



How did students describe their experience?

Students reported a positive experience in the SaP focus groups and valuable to their time. They would also recommend it to friends for various reasons, including:

- It gave one person insight into their own teaching practices as a TA
- All felt like they made a positive difference in future student experiences by participating
- All feel like their voice, experiences and perspectives were heard and valued.
- Two have gained something from it and 2 valued it being a paid position

Key take-aways

Results indicate the majority of students report positive experiences across a range of program elements, and evidence of experiencing principles of a SaP framework, suggesting it is an effective model. However, half of the respondents report a lack of understanding how their will specifically support the curriculum development activities of the broader EaSEIL initiative, suggesting an advisory role SaP model may not be enough to support their identity development as equal contributors in curriculum design. This study yielded a new SaP assessment tool for researchers and instructors working in partnership with students, and provided evidence for an advisory SaP model that could be adapted by others.

Limitations

Students completed surveys before the final co-created open-access resources were fully shared with the students, EaSEIL instructors or the general public, which could have contributed to the lower levels of understanding the purpose of the SaP model and how their input would be used beyond the EaSEIL project.

Implications for Instructors and Curriculum Developers

Important to include regular direct communication about value of student contributions and specifics of how work informs the larger project outcomes and curriculum change specifically.

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Land and Peoples Acknowledgment
We would like to acknowledge that this project was conducted in the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) People.

Statements of ethics and funding
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Citations

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