

Designing an SDG STEM Club to Educate University Students about Sustainable Development Goals (SDGs)

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Problem Statement

Canada's SDG Achievement: 79.16%

Only → 2.69% ↑
(2000-2021)

4.18% 5.73% 5.27%
UK France Germany

2030 Agenda of Sustainable Development

(SDG Index, 2021; Sachs et al., 2021)



"Public"

(Global Affairs Canada, 2018)

Research Focus & Questions

- Researchers working on Education for SDGs suggest that young people are key drivers of achieving SDGs, but there is lack of knowledge about the sustainable development and SDGs among the university students (Zamora-Polo, 2019).
- This study explicitly focuses on the university students among Canadian public.
- If provided with required skills and knowledge, they cannot only mobilize general public but also become global assets for Canada's SDGs achievement (Wals, 2015).

RQ. How can we design a learning intervention to increase Canadian university students' SDG awareness and understanding?

RQ1. What is the current level of awareness and understanding of university students about SDGs?



RQ2. How can participation in an informal learning space help university students improve their awareness and understanding of SDGs?



RQ3. What are the intervention characteristics that help university students improve their awareness and understanding of SDGs?



Research Context & Background

Why Education?

- Goal 4 (Quality Education) mentioned thrice within other goals (UNESCO, 2018) → Critical to SDG achievement & 2030 Agenda (Leicht, 2018)

Why Informal Learning Environment?

- Fosters sustainability culture within & beyond the universities (Kemmis and Mutton, 2012) → Opportunity to cross strict disciplinary boundaries (Lipscombe et al., 2008)

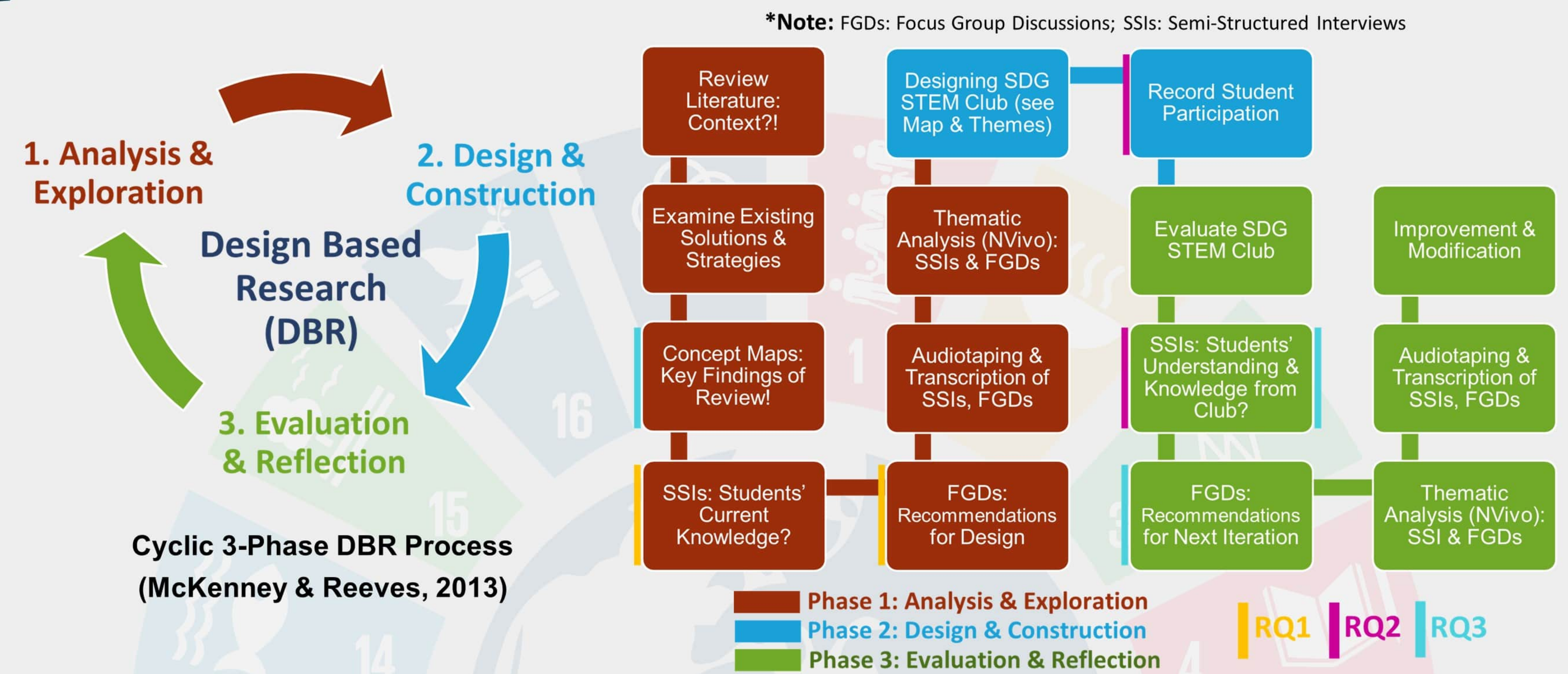
Why STEM Education?

- Vital to SDGs achievement (Tikly et al., 2018) → Creates new opportunities for interdisciplinary SDGs education (Pitt, 2009)

Why Design Based Research (DBR)?

- 'How' questions: characteristic research questions effectively inquired by DBR "to know how particular learning goals can be achieved" (Bakker, 2018)

Research Methodology & Methods



Contributions to Knowledge

Contributes to the nascent field → Only a few studies use the context of educating university students about SDGs (Gómez-Martin et al., 2021; Pallant et al., 2020; Velázquez & Rivas, 2020), and in particular, close to none in Canada.

Dearth of literature that informs researchers, policymakers, and universities about the innovative interventions and methodologies that lead to an increased SDG awareness and understanding, especially amongst Canadian university students.

Proposed research is timely as we need to advance SDG awareness and achievement among youth, now that the COVID-19 pandemic has negatively impacted the sustainable development of Canada and rest of world.

Findings will inform higher education institutions (not only McGill but all Canadian institutions and beyond) in preparing students to become the agents of global change and sustainable development.

Key References

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Next Steps to Move Forward

For more details, please scan the QR code on the right.

This is an early-stage research. Moving forward, our next steps will be to:

- Obtain ethics approval from the research ethics board (REB) of our university.
- Recruit 10-12 participants from the undergraduate and graduate disciplines of the McGill University in this study.
- Follow the cyclic DBR process to design & re-design the interventions that help university students improve their SDGs awareness & understanding.



Feedback & Questions

Please reach out to us at midhat.kiyani@mail.mcgill.ca if you have any feedback, questions or suggestions to help us with the following questions for this study:

- What approach should we adopt to recruit the participants for this study?
- Would you like to suggest any alternative data collection tools for this study?
- How can we improve the DBR process that we intend to follow in this study?
- Do you know of any resources that would help us design the SDG STEM club?
- Currently, we plan to organize SDG participatory visual workshops and round-table discussions in SDG STEM Club. Do you have any additional propositions?