Interview protocol for understanding experiences of students from underrepresented groups in undergraduate engineering education

E.R. Chan (RA) and J. Miller-Young (PI)
University of Alberta
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Introductory points to touch on:

· Thank participant for participating in study

· Introduce self and pronouns

· Land Acknowledgement

Before we begin, I want to do a Land Acknowledgement, this is something that is incredibly important to me. Deconstructing my relationship to the land as a settler, as a man, as an extremely privileged individual in a multitude of different ways. This conversation that we are having today is being conducted on treaty 6 territory, the traditional homeland, and meeting place for the Cree, Blackfoot, Saulteaux, Metis, Dene, and Nakota Sioux. What is now called Edmonton in Cree is called amiskwacîwâskahikan and the land that we are on is sacred. To build and model good relations with this land and the Indigenous people who live on it, I pay my respects to traditional Cree Natural Laws like Wahkohtowin that stress the interconnectedness of all living and non-living things.

• Review relevant information related to the research study and ask for verbal consent to commence the interview.

• Acknowledge reciprocity as an important part of your values – offer to share insights derived from conversation + completed final assignment with participant for their review.

Intro Script:

At any point, if you would like me to turn off the recording or to keep something off the record, please let me know. I will take notes throughout our conversation and time together today, and the recording of our conversation will be transcribed.

Do you have any questions before we begin? Feel free to ask me anything if something comes up and I am more than happy to answer.

Primary Research Questions to explore:

1. How do students who self-identify as being from multiple underrepresented groups describe their engineering experience, design team experience, and feelings of belongingness?
2. How do their perceived experiences influence their engineering identity, self-efficacy, and institutional integration?

Long Term goals:

1. Inform further longitudinal research to evaluate initiatives designed to effectively integrate diversity into engineering education
2. Lay essential groundwork for developing programming and other initiatives to support diverse students' success in engineering.

Positionality Statement:

I begin my positionality statement by outlining the three key guiding principles that inform my positionality as a growing feminist scholar: reciprocity, interconnectedness, and collaborative story telling/the co-creation of knowledge. I draw inspiration from indigenous feminist scholars like Dr. Lana Whiskeyjack, who integrates "the core principles of nêhiyaw Natural law – Wahkohtowin…[which] means everything…is related" (Gesink et al., 2016, p. 13) into the way that she approaches her work. With Wahkohtowin's focus on the interconnectedness of all things as a guiding force, my three key values of reciprocity, interconnectedness and collaborative storytelling/the co-creation of knowledge follow close behind.

My commitment to reciprocity is embodied in my work when I share my thoughts, interpretations, or findings with my research participant to give them a chance to participate in the interpretation of knowledge that was created during the interview. In the process of practicing reciprocity, I not only increase fidelity, but also share with my feminist scholar the fruits of our labor together. Ensuring that both myself as the researcher and the feminist scholar who has acted as a research participant are both benefiting from the co-creation of knowledge.

I also utilize a Matrix of Meaning-Making as characterized by Rita Kaur Dhamoon (2011) in her piece Considerations of Mainstreaming Intersectionality to help guide my reflexivity (pp. 238-239). For me, it is important to interrogate how I construct difference as a feminist scholar. Not only approaching difference as it relates to subject formation, but also as difference relates to my engagement with other opinions, epistemologies, and ontologies. Dhamoon writes "the matrix of meaning-making foregrounds the relational character of difference and subject formation. It serves to capture the idea that it is not possible to radically critique and therefore disrupt one process and system without simultaneously disrupting other processes and systems precisely because they are enmeshed" (Dhamoon, 2011, p. 239). I draw on this relational approach to difference in the context of this interview assignment to maintain an awareness of how my

own research paradigm is enmeshed with my research participants own epistemology, ontology, positionality, and reflexivity. Recognizing both the similarities and differences between researcher and research participant is a key piece of my positionality and reflexive practices.

Research Q #1: How do students who self-identify as being from multiple underrepresented groups	Describe their engineering experience	Describe Design Team experience	Describe Feelings of Belongingness
Tell me some more about your engineering experiences?	X		
What is your experience with team based design projects?		X	
How do you manage conflict or disagreements in your design team projects?		X	
When you think of the word "belonging", what comes to mind?			X
Based on your thoughts about belonging, do you feel that you belonged in your design team? Why or why not?			X

Research Q #2: How do their perceived experiences influence their	Engineering identity	Self-efficacy	Institutional integration
In your opinion, what does it mean to be a successful engineer?	X		
How closely do you personally align with your vision of what a successful engineer is?	X	X	
Do you feel like you fit in with the engineering culture in your department/faculty? Why or why not?			X
To what extent do faculty members, professors, or academic staff influence your idea of what it means to be an engineer?	X		X
What pushes you to keep going and to believe in yourself when things get difficult?		X	
Before we wrap up the interview, is there anything else that you feel we should elaborate on with respect to your engineering experiences, identity, design team, or feelings of belongingness?			

Legend:

Introductory Questions =

Transition Questions =

Key Questions =

Closing Questions =   ; these questions have no "X" marked in any of the boxes because it is an opportunity for the participant to share anything that they would like

Notes:

- Protocol has been influenced and based on Milagros Castillo-Montoya's (2016) "Preparing for Interview Research: The Interview Protocol Refinement Framework".
- Questions do not have a specific order that I will ask them in. Nor will the questions be explicitly worded verbatim for how they are worded here. Certain questions such as closing and intro questions will be more structured as they are meant to be asked at certain points in the interview.
- I have created a chart where I have broken up the two research questions that I want to explore into the pieces. The questions that I plan on asking on the far left of the chart have corresponding "X" marks in the boxes that correspond to which parts and which research question they are intended to explore.
- The main purpose of the chart is to create alignment between the research questions I aim to explore and the questions that I ask in the interview to ensure that I will ask questions that will prompt relevant responses from the participant in terms of understanding their story and life experiences (Patton, 2015, 471).
- The number of questions I have selected thus far is also purposeful given the time constraint that we are working within. I want to leave room for potentially spontaneous lines of questioning should the conversation move in a direction that I had not anticipated.

References

Castillo-Montoya, M. (2016). Preparing for Interview Research: The Interview Protocol Refinement Framework. The Qualitative Report, 21(5), 811-831. https://doi.org/10.46743/2160-3715/2016.2337

Dhamoon, R. K. (2011). Considerations on Mainstreaming Intersectionality. Political Research Quarterly, 64(1), 230–243. https://doi.org/10.1177/1065912910379227

Gesink D, **Whiskeyjack L,** Suntjens T**, Mihic A*, McGilvery P**. (2016) Abuse of Power in Relationships and Sexual Health. *Child Abuse and Neglect.* Vol. 58:12-23

Patton, M. Q. (2015). Qualitative research & evaluation methods (4th ed.). Thousand Oaks, CA: Sage