**Research Overview**

- CBL as a platform for empathy in engineering as a learnable skill.
- CBL provides a critically reflected-upon practice orientation and a professional way of being.

**Empathy**

- The ability to understand and share the feelings of another (by Oxford Dictionaries, 2019).

**Empathy in Engineering**

- Affective
- Cognitive
- Interpersonal

---

**Methodology**

- Convergent Mixed Methods Design
  - Quantitative and qualitative (emphasis) approaches parallel in data collection and analysis.
  - Intent is to obtain better understanding of the CBL contexts for the development of empathy in engineering.

---

**Future Work**

- Phase 3 data collection full data analysis
- “Mixing” the data
- Develop toolkit and mechanisms to support empathy modules adaptation for engineering CBL educators.
- Our goal is to support the propagation of CBL modules that support the empathy in engineering as an explicit learning outcome.

---

**Acknowledgements**

- This research is funded by National Science Foundation (Award Number: 1821866).
- This collaborative research is based on the empathy in engineering research and empathy modules credited to the team from University of Georgia Engineering Education Transformations Institute program.
- Thanks to all CBL program leaders who provide diverse context and expertise.

---

**Empathy in Engineering**

- Decety & Moriguchi, 2007
- Walther et al., 2017

---

**What is Self Awareness**

- Being cognizant of the “Self”
- Intentional use of body language
- Awareness and regulation of own emotions
- A focus on and interest in the other person
OVERARCHING

Empathy in Engineering

• Affective
• Cognitive
• Interpersonal

Stakeholders

Future self

• Skill
• Orientation
• Being

Decety & Moriguchi, 2007; Walther et al., 2017

Davis, 1994; Hess, et al., 2018