Designing Inclusive Research Studies in Engineering Education

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As a result of this workshop, you will leave with…

- An increased awareness of the ways your approaches to research (e.g., recruitment, data collection, data analysis, etc.) may be excluding particular groups; and

- Strategies for overcoming this challenge.

Our decisions shape structures of power and privilege in research

By choosing when and how a particular topic is researched, discussed, and disseminated, we prioritize particular voices and perspectives as contributors to our field.

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- **Power:** affects the amount and type of influence that particular individuals have on others.

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Utilizing frameworks and approaches that reinforce systems of power & privilege.

Repeatedly hearing from the same groups of individuals across research studies.

Conducting research in areas that are not accessible to diverse groups of people.

Aggregating groups consisting of small Ns or using approaches that encourage you to do so.

These are decisions that we make throughout the research design process
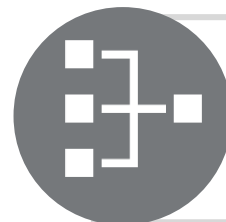
RESEARCH DESIGN

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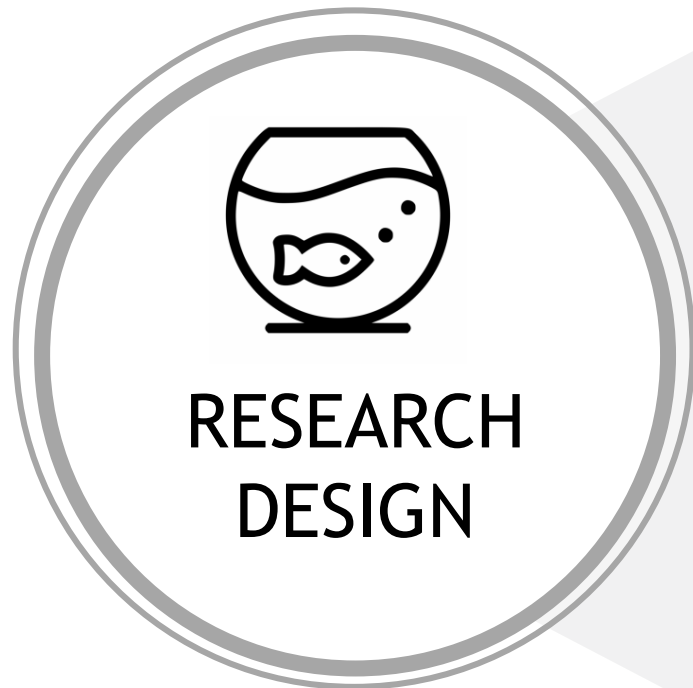Repeatedly hearing from the same groups of individuals across research studies.

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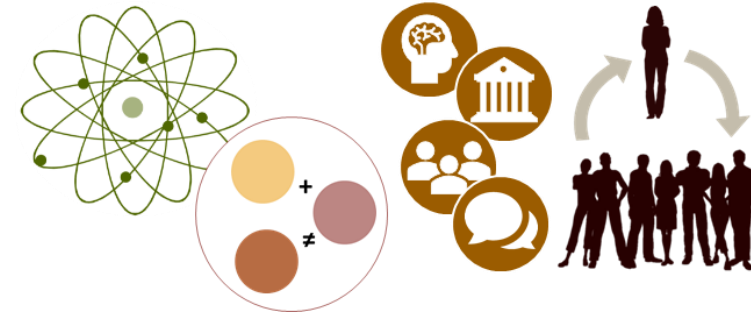
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Bringing to the fore the voices of students with disabilities as they develop as civil engineers

RQ1. How do students with cognitive, developmental, or physical disabilities **form identities** as civil engineers **during their undergraduate programs**?

RQ2. How do students with cognitive, developmental, or physical disabilities **form identities** as civil engineers **during their first year of work**?

GROUNDED THEORY RESEARCH DESIGN

Identity Constructs as Sensitizing Concepts

Methodological Procedures

memo-writing

participant interviews

CONSTANT COMPARATIVE PROCESS

Identify & question themes

GT coding phases
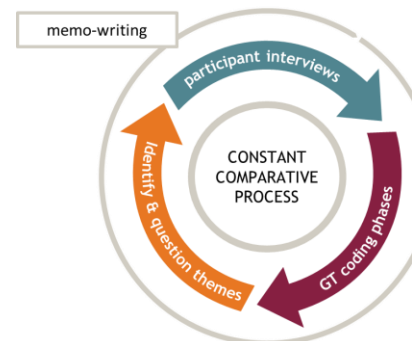
Nationwide Data Collection
- 40 UG CE students
- 60 to 90 minute semi-structured interviews

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Dilemma 1: Recruitment

Challenge: Difficulty finding, accessing, and reaching out to this group

Groen, C. J., & McNair, L. D., & Paretti, M. C., & Simmons, D. R., & Shew, A. (2018). Exploring professional identity development in undergraduate civil engineering students who experience disabilities. *Paper presented at 2018 ASEE Annual Conference & Exposition*, Salt Lake City, UT.

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Strategy 2: Developed numerous accessible recruitment materials and strategies that enable potential participants to get to know the researchers (e.g., web pages, in person).

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Strategy 1: Developed data collection options for participants based on their needs.

Example: Using Google Chat to interview a participant with severe social anxiety that allowed the researcher to respond to the participant in real-time.

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What dilemmas do you experience related to inclusion? (10 minutes)

- In your groups, identify any barriers/challenges or questions that you experience for making your research more inclusive.

Recruitment	Data Collection	Data Analysis	Other
Accessing participants			Miscellaneous challenges, barriers, or questions.

Write down barriers, challenges, and questions on the orange post-it notes

How can we overcome these challenges and barriers? (15 minutes)

- In your groups, identify any strategies to overcome the barriers you posed. Feel free to walk around and brainstorm strategies for other identified barriers.

Recruitment	Data Collection	Data Analysis	Other
Accessing participants Scheduling meetings with gatekeepers to introduce project.			Miscellaneous challenges, barriers, or questions.

Write down strategies on the pink post-it notes

Look outside of the fishbowl: Intentionally consider inclusivity throughout your research design as it aligns with your study aims

RESEARCH DESIGN

participants

analysis approaches

location

accessibility

power & privilege
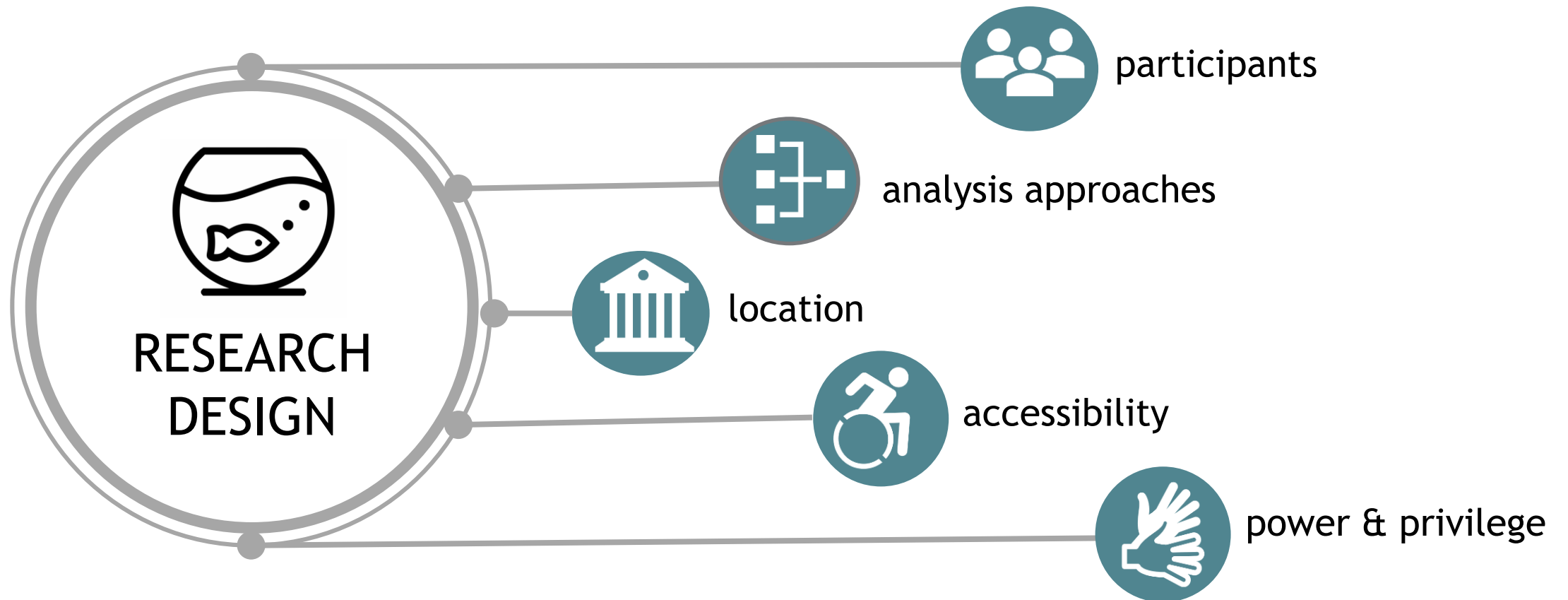
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NOTHING ABOUT US WITHOUT US!