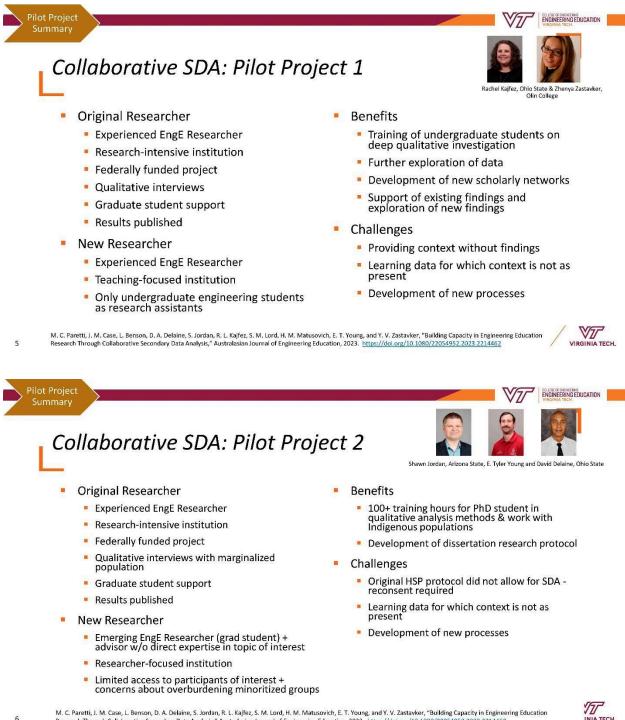# Sustaining Engineering Education Research: Sharing Qualitative Research Data for Secondary Analysis

Jenni Case, Holly Matusovich, Marie Paretti, and Susan Lord
Workshop presented at SEFI 2023, Dublin, 11 September, 2023

Pilot Project Summary

Collaborative SDA: Pilot Project 1

Rachel Kajfez, Ohio State & Zhenya Zastavker, Olin College

- **Original Researcher**
  - Experienced EngE Researcher
  - Research-intensive institution
  - Federally funded project
  - Qualitative interviews
  - Graduate student support
  - Results published
- **New Researcher**
  - Experienced EngE Researcher
  - Teaching-focused institution
  - Only undergraduate engineering students as research assistants

- **Benefits**
  - Training of undergraduate students on deep qualitative investigation
  - Further exploration of data
  - Development of new scholarly networks
  - Support of existing findings and exploration of new findings
- **Challenges**
  - Providing context without findings
  - Learning data for which context is not as present
  - Development of new processes

M. C. Paretti, J. M. Case, L. Benson, D. A. Delaine, S. Jordan, R. L. Kajfez, S. M. Lord, H. M. Matusovich, E. T. Young, and Y. V. Zastavker, "Building Capacity in Engineering Education Research Through Collaborative Secondary Data Analysis," Australasian Journal of Engineering Education, 2023. https://doi.org/10.1080/22054952.2023.2214462

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Pilot Project Summary

Collaborative SDA: Pilot Project 2

Shawn Jordan, Arizona State, E. Tyler Young and David Delaine, Ohio State

- **Original Researcher**
  - Experienced EngE Researcher
  - Research-intensive institution
  - Federally funded project
  - Qualitative interviews with marginalized population
  - Graduate student support
  - Results published
- **New Researcher**
  - Emerging EngE Researcher (grad student) + advisor w/o direct expertise in topic of interest
  - Researcher-focused institution
  - Limited access to participants of interest + concerns about overburdening minoritized groups

- **Benefits**
  - 100+ training hours for PhD student in qualitative analysis methods & work with Indigenous populations
  - Development of dissertation research protocol
- **Challenges**
  - Original HSP protocol did not allow for SDA - reconsent required
  - Learning data for which context is not as present
  - Development of new processes

M. C. Paretti, J. M. Case, L. Benson, D. A. Delaine, S. Jordan, R. L. Kajfez, S. M. Lord, H. M. Matusovich, E. T. Young, and Y. V. Zastavker, "Building Capacity in Engineering Education Research Through Collaborative Secondary Data Analysis," Australasian Journal of Engineering Education, 2023. https://doi.org/10.1080/22054952.2023.2214462

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The SHARE Framework

Stewarding collaborative relationships	The deeply contextualized nature of qualitative data often requires data stewards to facilitate collaborations between researchers originating and seeking to use data, ensuring that data are anonymized. Data originators could potentially serve as collaborators on projects or co-authors on publications to ensure that the original context is preserved and recognized.
Honoring context of data	Those originating and analyzing the data need to consider where, how, when, and by whom data are collected while maintaining necessary anonymity of participants.
Aligning questions and data	As with all research studies, research questions should be aligned with data collection and analysis methods. SDA can be approached collaboratively where a researcher with specific research questions works with a data steward to determine whether a dataset is rich enough to help answer their questions, or approached inductively where secondary analyzers review samples of the data in search of potential research questions that could be answered, seeking to fill gaps in existing literature.
Responsibly reusing data	Ethics and trust are critical to any data sharing and analysis project. It is imperative to protect the identities of participants, respect their lived experiences and conduct research that has the potential to benefit the original participants or the population they represent. In sharing data, it is also important to develop a trusting relationship between the data originator and secondary analyzer that acknowledges the vulnerability involved with sharing a data set.
Expanding capacity and ownership	Sharing data can fulfill the need to acknowledge diverse approaches to capability development and build capacity of the research community by bringing new researchers into the process without requiring them to collect their own data. SDA can also broaden ownership of data so that others can own and shepherd it as well.

For more information, check out our AJEE article here:

SCAN ME

Paretti, M. C., Case, J. M., Benson, L., Delaine, D. A., Jordan, S., Kajfez, R. L., ... & Zastavker, Y. V. (2023). Building capacity in engineering education research through collaborative secondary data analysis. *Australasian Journal of Engineering Education*, 1-9.