

## Plan Overview

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*A Data Management Plan created using DMP Tool*

**Title:** Teachers as Learners of Equitable Discussion Practices

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**Funding opportunity number:** 41805

**Template:** NSF-AGS: Atmospheric and Geospace Sciences for College of Engineering

### **Project abstract:**

Research has shown that leading a discussion, a key way that teachers facilitate communication in the classroom, is a lever for improving student outcomes. However, little is known about teachers as learners of discussion-leading practice including the ways in which they are able to transfer their learning to other school subjects. Additionally, some argue that teacher learning of discussion-leading practice without attention to patterns in classrooms can exacerbate inequities. Our project investigates how professional development can build elementary teachers' skill with and willingness to engage in equitable discussion-leading practice, as well as teachers' perception of which factors lead to their learning, and the transferability of this learning across subject matter teaching. The professional development includes in-person sessions with opportunities to practice teaching, video clubs where teachers share and discuss short videos of their teaching, and quarterly coaching meetings where teachers examine classroom data related to equitable teaching practice. Each of these components focuses on the daily work that teachers do when leading discussions and the specific teaching moves that teachers can use to disrupt inequitable classroom patterns. The project will collect a rich data set including video of classroom practice, teacher journals, focus group interviews, and surveys. The project will utilize established tools to track changes in teachers' skills, perceptions, and adoption of these evidence-based teaching practices. Additionally, interviews will be conducted with school leaders to better understand selection criteria for teachers' participation and the impact of selection processes and communications on teachers' perception of and participation in professional development.

**Last modified:** 07-08-2024

**Copyright information:**

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## **Teachers as Learners of Equitable Discussion Practices**

### **Products of research**

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**Describe the types of data and products that will be generated in the research, such as physical samples, space and/or time-dependent information on chemical and physical processes, images, spectra, final or intermediate numerical results, theoretical formalisms, computational strategies, software, and curriculum materials.**

We will gather several types of data including

- Weekly electronic journal entries, both structured and unstructured
- Focus group interview notes and audio recordings
- Electronic survey measures
- Video records of discussion leading practice including six 15-minute segments and 4 full-length discussion videos
- Practical Measures, Routines, and Representations surveys (<https://www.pmr2.org/measures>)
- Video of Mursion discussion-leading simulation twice per year
- Video records of coaching meetings at 4 points across the year to examine equity and discussion data,
- Video records of video-based interviews focused on challenging inequity in the classroom in the context of leading discussions
- Principal surveys focused on selection criteria used to select and their perceptions of teachers' skill
- Video records of the professional development

### **Data format**

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**Describe the format in which the data or products are stored (e.g. hardcopy logs and/or instrument outputs, ASCII, XML files, HDF5, CDF, etc). What metadata will be part of the data sets produced?**

Products will be stored as follows:

- Video and audio files will be stored as compressed video files on a secure server
- Journal entries will be stored as XML files and PDF files
- Survey data will be stored as XML files and instrument outputs including PDF files
- Notes from focus group interviews will be stored as scanned PDF files and hard copies of any written files will be stored.

### **Access to data, and data sharing practices and policies**

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**Describe your plans for providing access to data, including websites maintained by your research group and contributions to public databases. If maintenance of a web site or database is the direct responsibility of your group, provide information about the period of time the web site or database is expected to be maintained. Also describe your**

**practice or policies regarding the release of data—for example whether data are available before or after formal publication and the approximate duration of time that the data will be kept private. Describe your policies (where applicable) for protection of propriety data, privacy and confidentiality, intellectual property, or other rights or requirements.**

Data will be stored on a secure server system approved by the University of Michigan for sensitive data storage. Access the data will only be granted to research team members unless approval is granted for de-identified data by an IRB. The study team will use the following measures to protect research records and data against inappropriate use or disclosure, or malicious or accidental loss or destruction:

- Locked office
- Restricted access
- Restrictions on copying study related materials
- Access rights terminated when authorized users leave the project
- Secure laptop
- Individual ID plus password protection
- Routine electronic backup
- Encryption of digital data
- Security software is installed and regularly updated on all devices used on the project
- Safe disposition/destruction of data and devices as appropriate

## **Policies and provisions for re-use, re-distribution and production of derivatives**

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**Describe your policies regarding the use of data provided via general access or sharing. If you plan to provide data on a website, will the site contain disclaimers, or conditions regarding the use of the data in other publications or products? If the data or products are copyrighted, how will this be noted on the website?**

Due to the sensitive nature of the data, the collected data will not be available for re-use, re-distribution, and production of derivatives.

## **Archiving of data**

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**Describe whether and how data will be archived and how preservation of access will be handled. For example, will hardcopy logs, instrument outputs, and physical samples be stored in a location where there are safeguards against fire or water damage? Is there a plan to transfer digitized information to new storage media or devices as technological standards or practices change? Will there be an easily accessible index that documents where all archived data are stored and how they can be accessed? If the data will be archived by a third party, please refer to their preservation plans (if available).**

For the proposed research, Meghan Shaughnessy will take the lead and responsibility for coordinating and ensuring data storage and access. However, Nicole Garcia will also be involved in managing, storing, and disseminating the results of the project. Both PIs will be responsible for checking that the plan is being followed.

Data will be archived on a secure server (mBOX) provided by the University of Michigan. The server is automatically backed up daily. Hard copies will all be digitized and stored in this way as well. We will regularly seek the guidance of the University of Michigan IT professionals regarding best practices. Data will be transferred to new storage media if we are advised to do so.

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