

Evidence Quality and Reach Hub: Community of Practice on Developing a Conceptual Framework Centered on DEI

Session 2

February 15, 2023



Introduce Yourself!

- In the Chat, share your name and institution.
- Which Llama do you feel like today?



Virtual Meeting/Conference Recording Notice

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AIR Inclusive Meeting Guidelines

Hosting and Participating in Meetings



ENGAGE EVERYONE



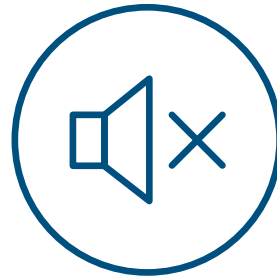
BE HEARD AND SEEN



ACKNOWLEDGE SPEAKER



MAXIMIZE MICROPHONES



MINIMIZE NOISE



MAXIMIZE VISUAL DISPLAYS

These guidelines are intended to improve the meeting experience for virtual participants, as well as people with hearing loss, visual impairment, and those for whom English is an additional language.

Developed by the Access AIR and AIR CREW employee resource groups with support from the AIR Office of Diversity, Equity, and Inclusion.

Agenda

1. Share and Reflect on Homework
2. Specific Strategies to Integrate Diversity, Equity, and Inclusion (DEI) Into Conceptual Frameworks: Research Design, Methodology, and Data Collection
3. DEI in Research Continuum
4. Examples of DEI in K–12 Science, Technology, Engineering, and Mathematics (STEM) Research
5. Case Study Breakout Activity and Debrief
6. Homework
7. Next Steps

Introduction to Conceptual Frameworks

Varsha Ranjit

Working Assumptions



You are important to this change.



Everyone has wisdom; **we need your voice!**



Assume positive intent. **This is a safe space of mutual learning.** It also is a continual process.



These may be sensitive topics; patience and empathy are important.

Norms



Active listening and engagement.
Participate and share your ideas!



Questions/comments? Use the raise hand feature.



Cameras: Encouraged!



Audio: Mute and unmute. Be mindful of background noise.

Activity: Poll Pulse Check

Time: 2 minutes

Instructions:

Please respond to the following Zoom poll question by selecting a response and clicking “Submit.”

1. How was your experience applying the Community Engagement Continuum to your conceptual framework?
 - Very challenging
 - Challenging
 - Neutral
 - No issues

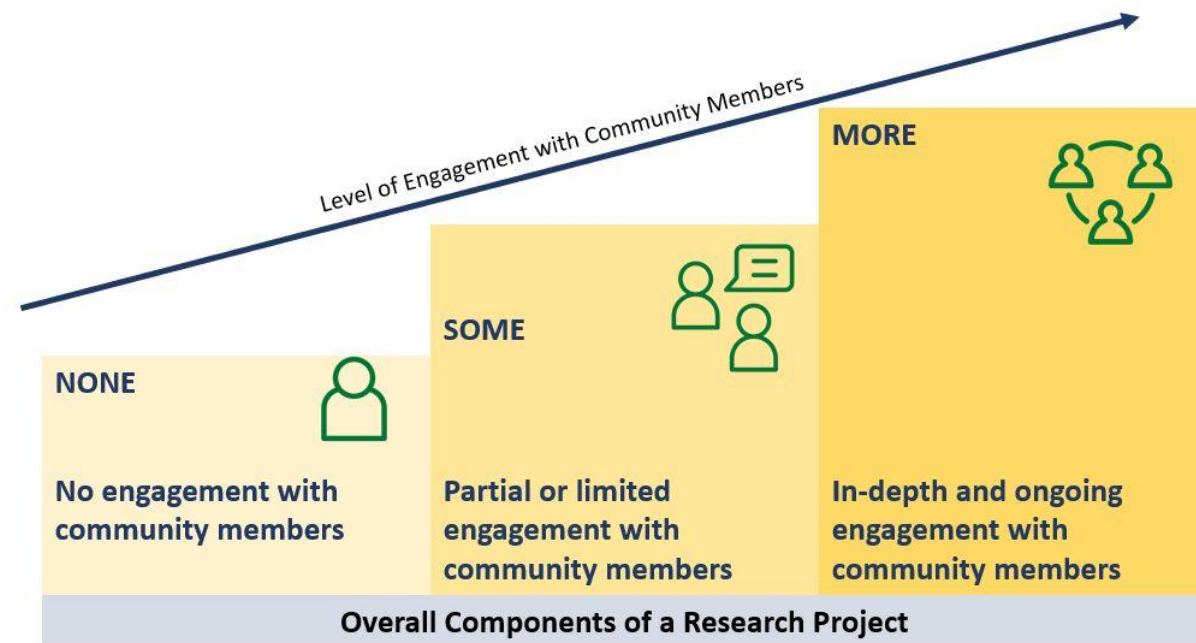
Take Home Assignment 1: Recap

1. Think of a past or current research project and **review your conceptual framework**. If you don't have a past or current framework, please create one with a research topic in mind.
2. Reflect on where your overall conceptual framework falls on the **Continuum for Improved Community Engagement** (choose from none, some, or more community engagement).
3. **Identify and focus on at least two component(s) of your conceptual framework** in terms of improving community engagement. (***Note:** We understand that DEI is holistic and that all components of the conceptual framework should be considered. For the purposes of this assignment, we are focusing on two components of the framework.*)

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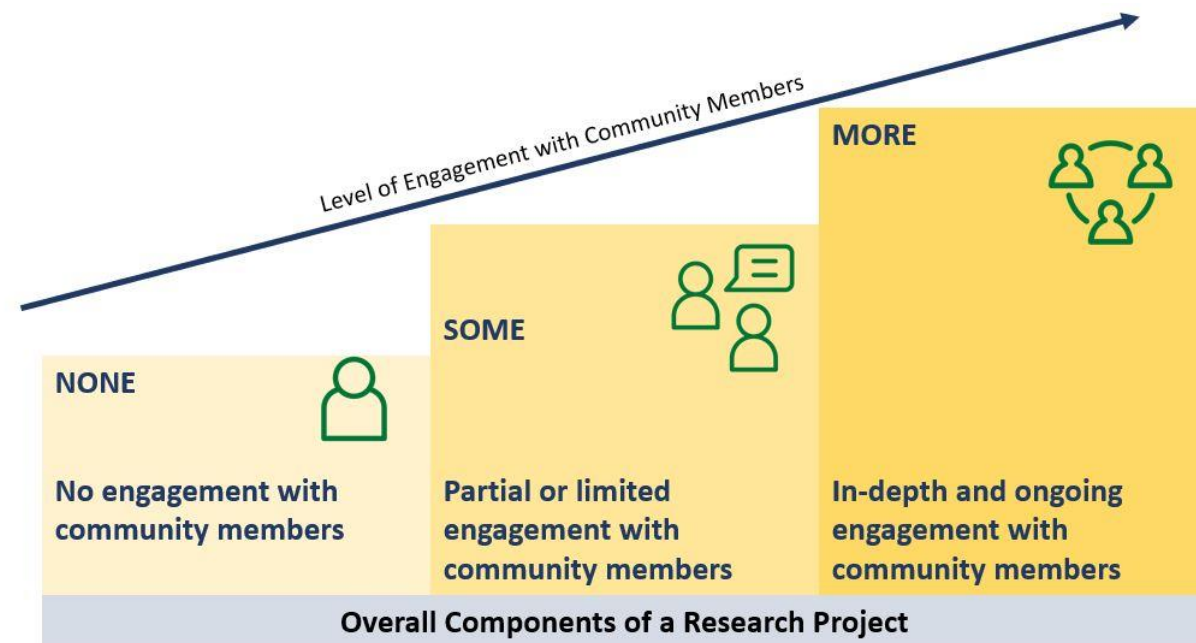
Take Home Assignment 1: Recap

4. Answer the following questions:
- Which components of your conceptual framework did you select?
 - Why did you choose these two components?
 - Looking at each selected component, where do you think **each selected component** falls on the Continuum for Improved Community Engagement?
 - Where do you think your **overall conceptual framework** falls on the Continuum for Improved Community Engagement in research?



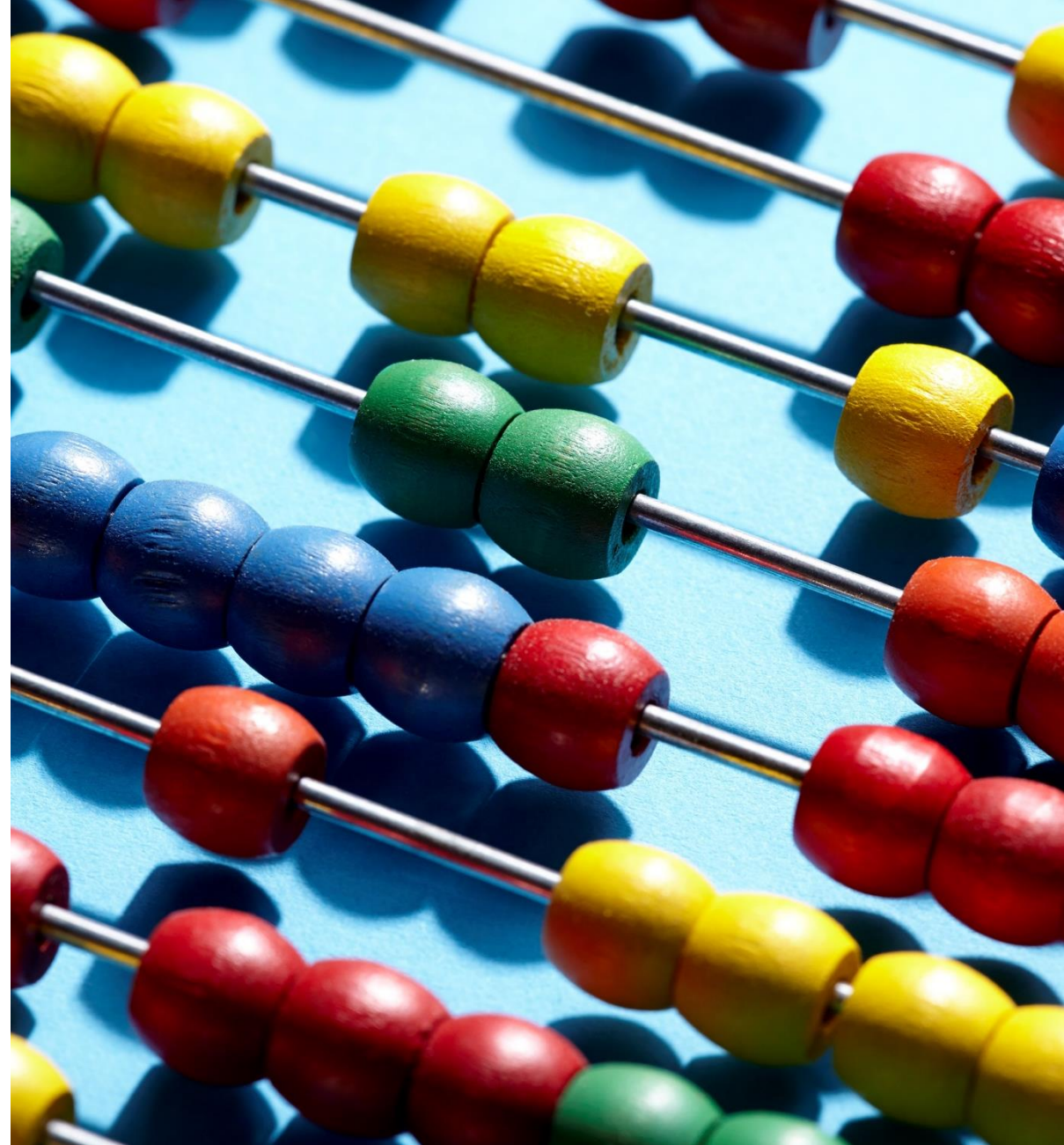
Debrief

- Was this assignment useful and reflective of ways to think about community engagement in research?
- What resources did you use to complete your assignment?
- What did you think of the resources made available to complete the assignment?
- Was there anything else that could have supported you while completing this assignment?

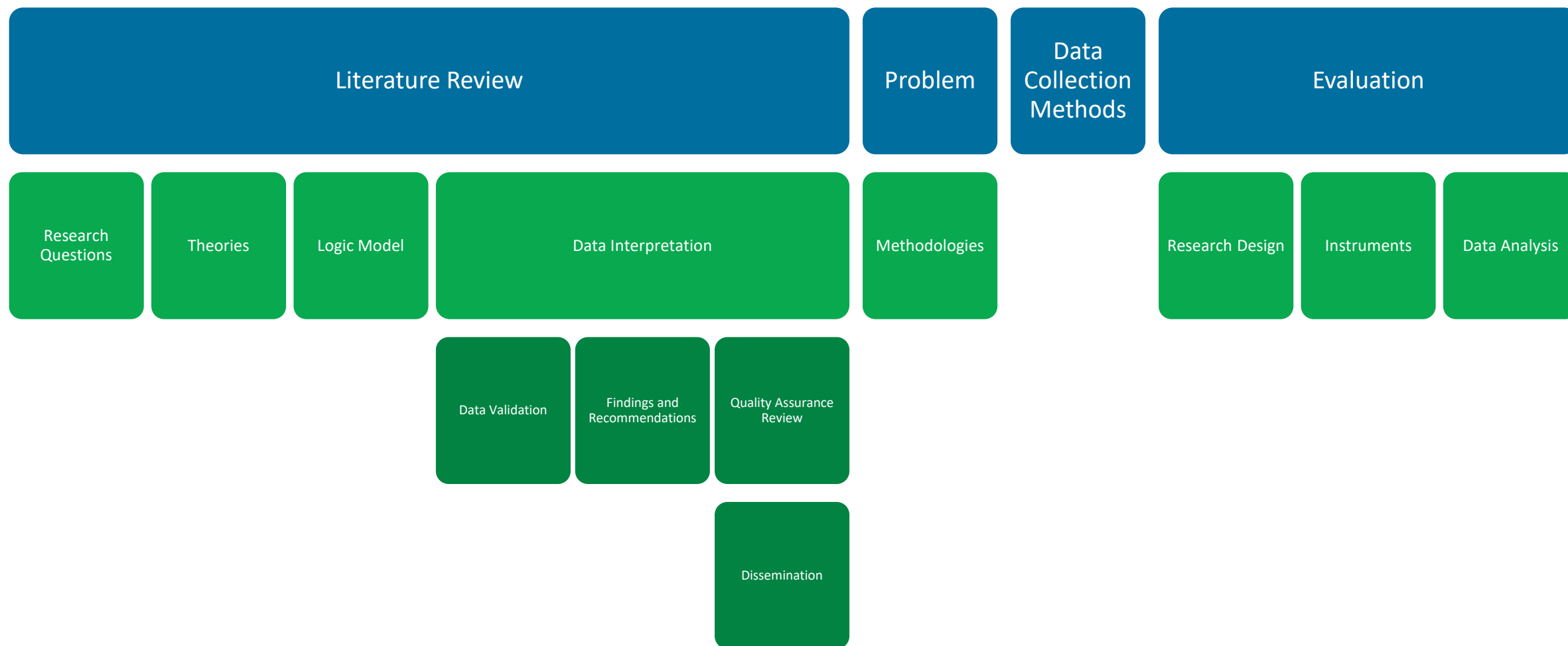


Example of a Conceptual Framework Developed by Researcher A

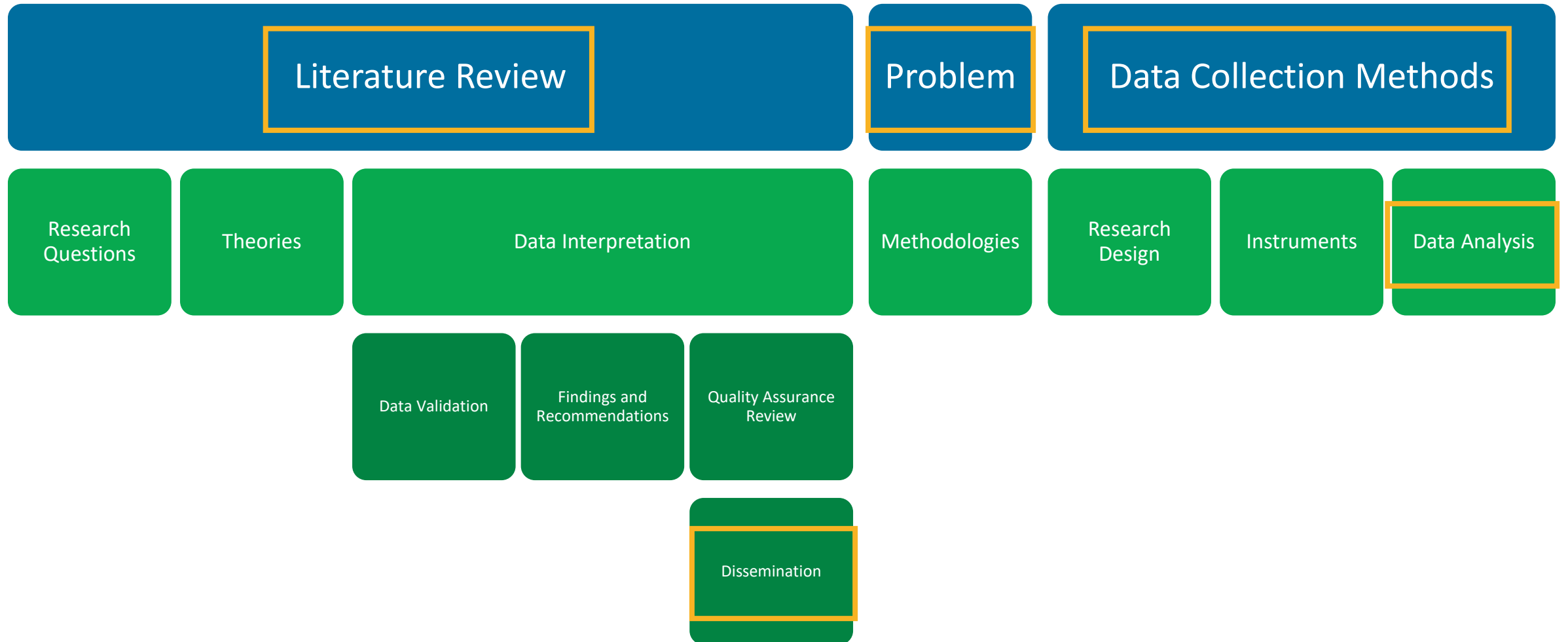
- **Goal:** The Evaluation of an English Language and Mathematics Afterschool Instruction Program for Refugee Children



Conceptual Framework



Conceptual Framework



Conceptual Framework

Literature Review

Problem

Data Collection Methods

Research
Questions

Findings and
Recommendations

Research Design

Instruments

Data Analysis

Dissemination

Example of a Conceptual Framework Developed by Researcher A

Review your conceptual framework and reflect on where it falls on the Continuum for Improved Community Engagement.

- **Goal:** The Evaluation of an English Language and Mathematics Afterschool Instruction Program for Refugee Children
- **Problem:** In 2019, district A in Washington state took in more 25,000 refugees from Myanmar. Surveys conducted by the school board found that high proportions of students (aged 15 years) from refugee families failed to achieve proficiency in core subjects, including mathematics and English.

The school board in district A wants to assign an afterschool program that was effective in another district (B) to help improve outcomes. **Can this afterschool intervention help improve academic achievement for refugee children?**



Example of a Conceptual Framework Developed by Researcher A

Review your conceptual framework and reflect on where it falls on the Continuum for Improved Community Engagement.

Researcher A selected three components of their conceptual framework:

1. **Literature Review:** Peer-reviewed journals focusing on primary education in the United States

Researcher A reflects and thinks this part is under “None.”

2. **Data Collection:** Student assessment and classroom observations

Researcher A reflects and thinks this is under “Some.”

3. **Dissemination:** Site coordinator, parents, teachers, and community leaders

Researcher A thinks this part comes under “More.”

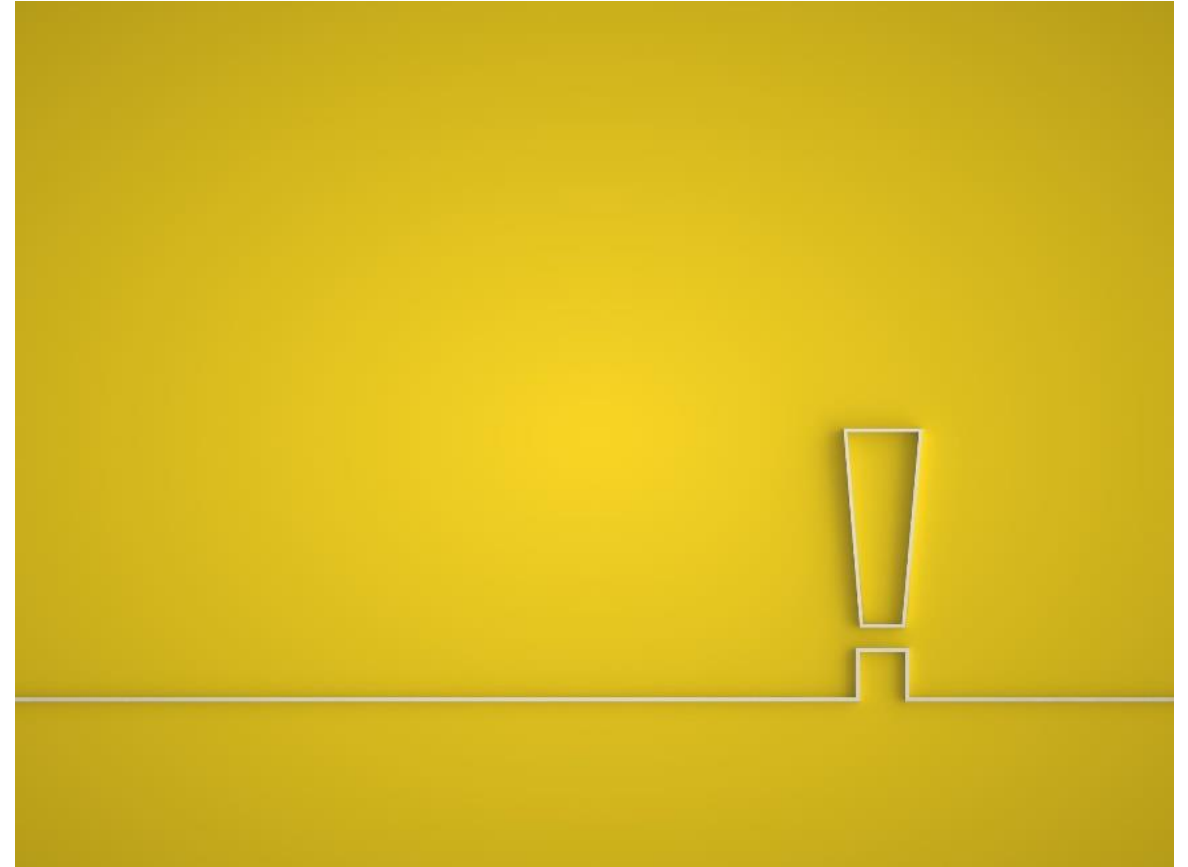


Specific Strategies to Integrate DEI Into K–12 STEM Research

Paula Dias

Problematic Research Practices From a DEI Perspective

- **Assuming what issues are important to communities** → Research is not always relevant to communities.
- **Using a “Western” worldview as the standard/norm** → Local knowledge not valued.
- **Lack of consideration of positionality** → Idea of research and researcher as being objective and neutral.



Sources: Chicago Beyond (2018); Lokot (2022).

Problematic Research Practices From a DEI Perspective

- **Lack of accountability** → Researchers are not held responsible when research does not produce high-quality outcomes for the community.
- **Underresourced communities often targeted for research** → Research can cause fatigue and burden on communities.



Sources: Chicago Beyond (2018); Lokot (2022).

Integrating DEI Is a Journey, Not a Checklist



Integrating DEI Into Research Design

“The questions we are asked, where do they come from? Whose lab are we in? When I was doing my masters I had to do research too. The starting question was never ‘how is this going to benefit the people being researched?’”

Asiaha Butler, Founder and President, Resident Association of Greater Englewood
(Chicago Beyond, 2018, p. 9)

Key Questions: Research Design Phase

- Who decided the topic/issue to conduct research on and what positionalities inform their views? Whose voices were included in this process and whose were not?
- What assumptions underlie the choice of the topic/problem?
- Who funded the research and who holds the budget?
- Who benefits from the research/data collection and how do they benefit?
- What is the relationship with local actors during the process of developing research?

Source: Lokot (2022).



Strategies to Integrate DEI Into Research Design

- Identify the positionalities of ourselves and others involved in the research.
- Prioritize needs and voices of populations we work with → Examples: needs sensing, landscape analysis, preliminary interviews to learn about local needs.
- Frame problems with humility.



Source: Lokot (2022).

Strategies to Integrate DEI Into Research Design

- Create opportunities for meaningful decision making of populations we work with, such as
 - Advisory boards
 - Community consultations
 - Steering committees
 - Co-creation workshops
 - Community members in key team positions
- Value expertise of local actors; establish partnerships with local scholars or community members to contribute from the outset.

Source: Lokot (2022). Photo by Allison Shelley/The Verbatim Agency for EDUimages. Licensed under the CCBY-NC 4.0 license.



Integrating DEI Into Literature Review

- A literature review frames the “problem” or “hypothesis” the research is addressing.
- What sources and perspectives are considered “valid” in literature reviews?
 - Do the studies cited consider voices from the communities involved in the research?
 - Are there local scholars/community organizations/advocacy groups producing work that is relevant to understanding the context?
 - Are community ways of knowing (such as storytelling) included?



Strategies to Integrate DEI Into Methodology

- Choose methods that create opportunities for voices of populations we work with to be heard and for power hierarchies to be challenged.
 - Use methods that **center the knowledge of communities involved** with the research.
 - Use methods that **give participants greater influence and voice** within the research process.
 - **Incorporate “inductive” methods** (which let the issues/findings emerge from the data) rather than only using “deductive” methods (which aim to prove a hypothesis).

Source: Lokot (2022).

Strategies to Integrate DEI Into Methodology

- What practical strategies allow populations we work with to meaningfully participate in research? This is about weighing the negative/positive aspects of particular methods we use.
- Examples
 - Digital storytelling to center student perspectives (Rossiter & Garcia, 2010)
 - Mixed-methods approach (mosaic ethnography + survey) to understand the experiences of Black students in STEM (current NSF grant; Morton & Tyler)

Strategies to Integrate DEI Into Data Collection

- Not only about the method but also how it is implemented
- Trust building between researchers and participants, shifting of power hierarchies, compensation for participants' time
 - Involvement from the outset
 - They can ask us questions
 - Nonmandatory questions
 - Location of the data collection



Source: Lokot (2022). Photo by Allison Shelley for EDUimages. Licensed under the CCBY-NC 4.0 license.

Strategies to Integrate DEI Into Data Collection

- Consider recruiting data collectors who have lived experience in the study areas and are culturally and linguistically competent.
- Ensure that instruments are appropriate for the local cultural context. Elicit inputs from community partners and data collectors into instruments.
- Minimize power hierarchies between data collectors and researchers.

Source: Lokot (2022). Photo by Allison Shelley for EDUimages. Licensed under the CCBY-NC 4.0 license.



Questions and Answers



Examples of DEI in K–12 STEM Research

Marissa Spang

Community Engagement Continuum

Community Engagement Continuum

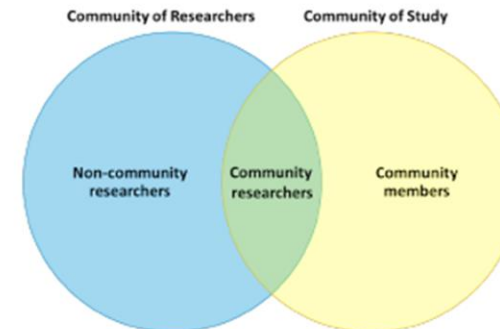


Including members of the community in the research process (during development of a conceptual framework and in the execution of a research study) can be an effective strategy for including diverse perspectives, empowering community voices, and encouraging equitable decision making in the design and execution of research. Researchers interested in creating research teams and designs and procedures that are diverse, equitable, and inclusive can use the Community Engagement Continuum (Exhibit 2) for *improved community engagement* to reflect on how well the community they are interested in studying (community of study) is engaged in the design and execution of research.

Exhibit 1. Description of the Groups or Individuals Involved in the Design and Execution of Research

The continuum refers to the following groups:

- Community of researchers: Group of individuals with advanced training and adequate experience to conduct research (herein referred to as researchers)
- Community of study: Group of individuals being studied with shared characteristics or experiences
- Non-community researchers: Scholars who *are not* members of the community of study
- Community researchers: Scholars who are members of the community of study
- Community members: Individuals from the community of study¹



¹ It is also important to note that an individual can belong to multiple communities. A community can be defined by different factors, such as roles (e.g., teachers, students), personal or group characteristics (age, gender, race/ethnicity, language, disability, state of residency), or experiences (e.g., cohort, participants in professional development courses). For example, for an education research project on schools, a community can be defined as the school community, consisting of school administrators, teachers, students, and parents/caregivers.

Meet Some Scholars and Their Work



Dr. Megan Bang

*Professor
Learning Sciences
Northwestern
University*



Dr. Chris Meyer

*Director
Department of
Education
Coeur d'Alene Tribe*



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Learning Sciences
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Dr. Phil Bell

*Professor and Chair
Learning Sciences
University of
Washington*

Dr. Megan Bang and Dr. Chris Meyer



Dr. Megan Bang

*(Ojibwe & Italian
descent)*

Professor

Learning Sciences

Northwestern

University and Senior

Vice President

Spencer Foundation

Indigenous STEAM Collaborative

Dr. Bang is Principal Investigator
(PI)

NSF award #DRL 1946478

The project codesigns,
implements, and shares land-
based educational materials
developed in collaboration with
families, communities, and
educators and research—
foregrounded in Indigenous
knowledge systems.

Coauthor, *Who's Asking? Native
Science, Western Science, and
Science Education*



Dr. Chris Meyer

Director

Department of

Education

Coeur d'Alene Tribe

Addressing Historic and Systemic Racial Inequities: Coeur d'Alene Land- Based STEM Education

Dr. Meyer is PI

NSF Award #DRL 2200838

This project centers on an Indigenous
Scholars program, immersing students
in land-based learning to deepen a
relationship with their homeland
while understanding how legal and
political conflicts impact
environmental and community health.

“We must grow our own researchers.”
—Dr. Meyer

Dr. Na'ilah Suad Nasir and Dr. Terrell Morton



Dr. Na'ilah Suad Nasir

*President
Spencer Foundation
Chicago, Illinois*

Member of the National Academy
of Education and National Academy
of Arts and Sciences

Authored:

- *Racialized Identities Race and Achievement Among African-American Youth* (2012)
- *We Dare Say Love: Supporting Achievement in the Educational Life of Black Boys* (2018)

Coeditor of *Handbook of the
Cultural Foundations of Learning*



Dr. Terrell Morton

*Assistant Professor
Identity & Justice in
STEM Education
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Chicago*

*Member, CADRE
DRK-12 resource
center*

***Examining Blackness in
Postsecondary STEM Education***

Dr. Morton is PI
NSF award #DRL 2243109

The project uses an exploratory sequential mixed-methods approach to understand students' conceptions of Blackness as it relates to their STEM engagement and perspectives of racial equity in STEM across five states. The project will produce tools of analysis and translational products to change how institutional policies, practices, and future research treat Black people in STEM.

Dr. Bill Penuel and Dr. Phil Bell



Dr. Bill Penuel

*Distinguished
Professor
Learning Sciences
University of
Colorado–Boulder*

The Research + Practice Collaboratory (RPC)

Dr. Penuel & Dr. Bell, Co-PIs
NSF Awards #1238253 & #1626365

The RPC brings educators and researchers together to develop more equitable innovations for STEM teaching and learning.

Authored:

- *Creating Research-Practice Partnerships in Education* (2017)
- *Connecting Research and Practice for Educational Improvement* (2018)



Dr. Phil Bell

*Professor, Chair
Learning Sciences
University of
Washington*

STEM Teaching Tools

Dr. Bell & Dr. Penuel, Co-PIs
NSF Awards #1238253 & #1626365

Features a new genre of professional learning tools called “practice briefs.” The briefs are bite-size tools designed to help practitioners understand a specific problem of educational practice, reflect on it, and access resources and instructional tools that will enable them to teach more effectively.

Case Study Breakout Activity

Varsha Ranjit

Activity: Case Study

Time: 15 minutes

Instructions

- Join your assigned breakout room.
- Review provided case study.
- Assess the case study's literature review, methodology, and data collection according to the Continuum for Improved Community Engagement.
- Discuss: How could these activities integrate DEI better?
- Identify a scribe to enter notes into the shared Google Doc (link in Chat).

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Fictional Case Study

A new STEM curriculum, called STEM Equity for All, was developed with and by a nondominant community in Washington. The curriculum demonstrated promising practices for improving STEM outcomes and equity for nondominant children in Grades 9–12.

A university proposes to serve as the PI and to partner with three Title I local education agencies (LEAs) with high enrollments of nondominant students to implement and measure the effectiveness of the STEM curriculum in Colorado. As PI, they cited the work of leading researchers in the field of STEM education and equity in their *literature review*, including the work of those involved in the original project in Washington. The university unilaterally created a priori *research questions* that the LEAs agreed to despite not being involved in their development. The Washington project was careful and intentional to build out an asset- and community-based *methodology* in the overall research design, including the formation of an advisory group comprising students, parents, community members, and LEA leadership to share the power and decision making in the project.

The PI in the Colorado project implemented a traditional, top-down methodology (as they thought the community values from the Washington project would passively and organically translate to their work), which resulted in them updating LEA leaders through quarterly meetings but not the families or community members of the children being studied—referring them instead to the project website. Lastly, the Colorado project employed its *data collection* through surveys and interviews of students without involving them (or any other local folks) in the design of these protocols.

Activity: Case Study Debrief

Please share your group's assessment and how you would better integrate DEI.

- Group 1: Literature Review
- Group 2: Methodology
- Group 3: Data Collection



Homework

Marissa Spang

Homework 2

- Using the Continuum for Improved Community Engagement, return to your conceptual framework and write one or two specific strategies (each) that you can do to incorporate DEI into your literature review, methodology, and data collection.
- Please share these strategies in the Discussion forum in the shared learning space.
- We will discuss your strategies at the next (and final) session.





Questions



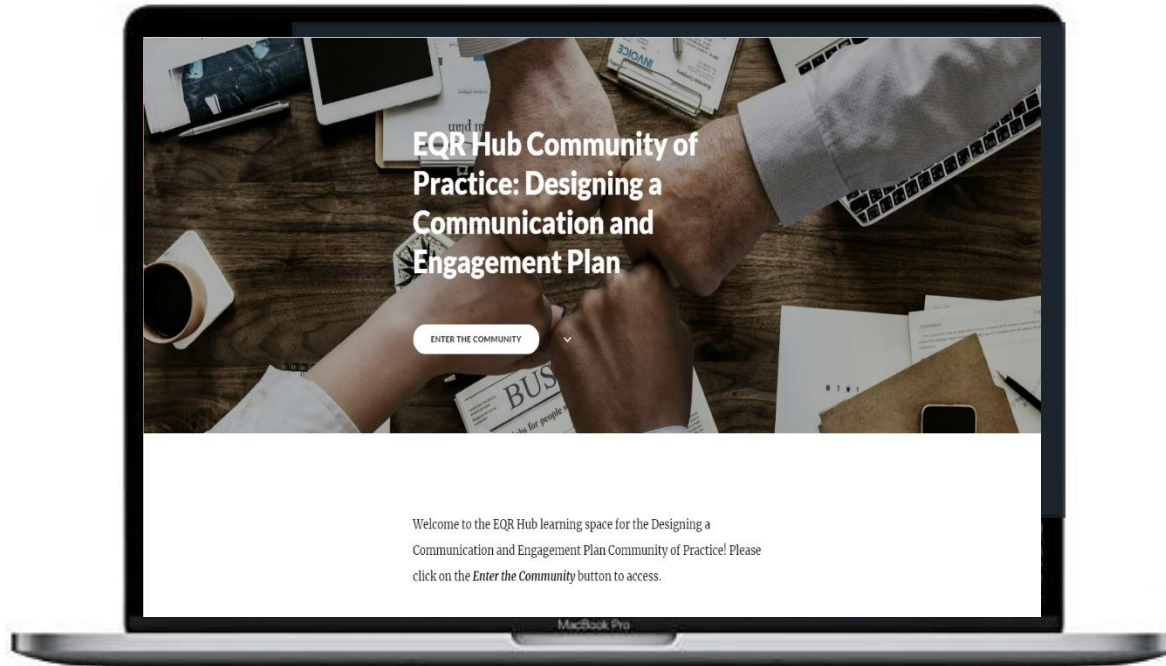
Next Steps

Final Community of Practice Session

Session 3: Wednesday, March 8, 3:00–4:30 p.m.

We will explore strategies to integrate DEI into conceptual frameworks related to data analysis and dissemination and troubleshoot challenges in integrating DEI.

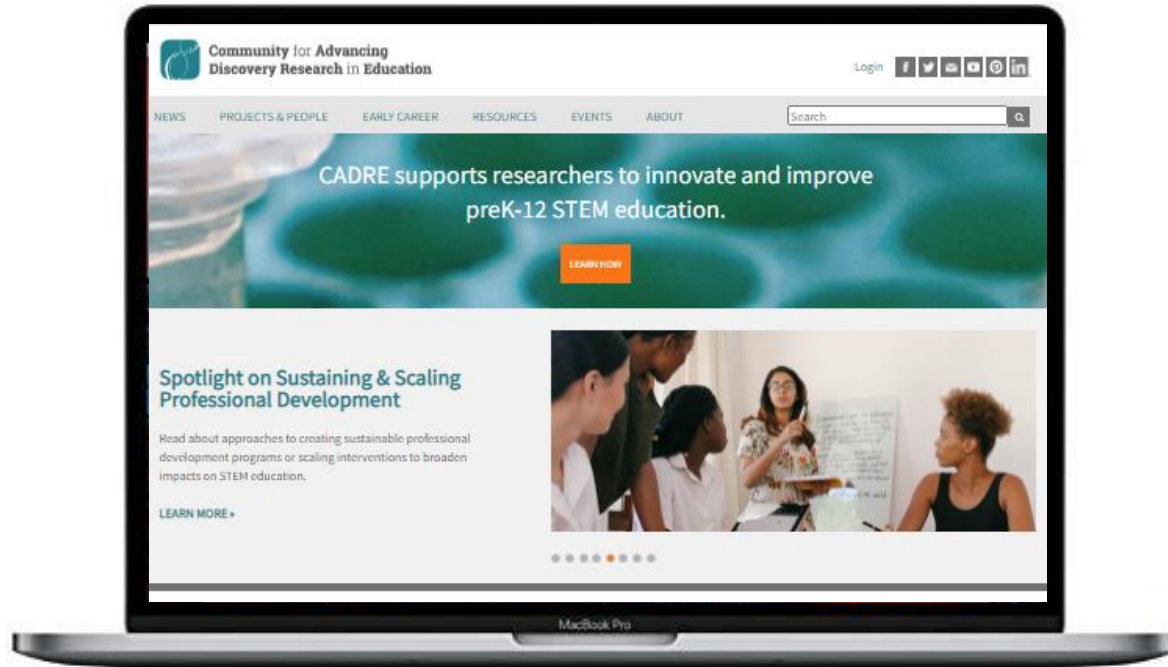
Visit the CoP Learning Space



Develop a Conceptual Framework Centered on DEI

[CoP Learning Space](#)

Stay Connected



Visit the CADRE website

<http://cadrek12.org/>

and the EQR Hub page

<http://cadrek12.org/eqr-hub>

Thanks for attending!

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