

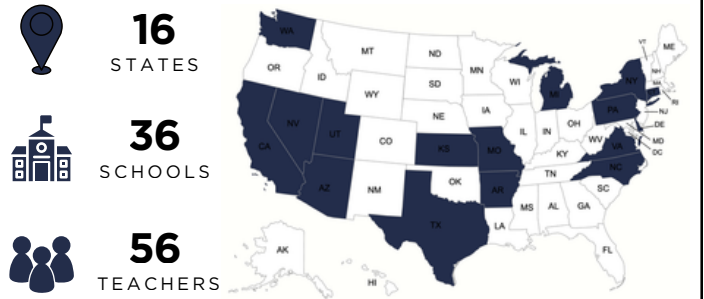
Building a National Infrastructure to Understand Instruction for Students with Learning Disabilities

#2201464: Science Instruction for Elementary Students with Learning Disabilities



How do **students with learning disabilities** experience science instruction and how does the type of instruction provided align with emerging effective practices and in turn affect students' meaningful **engagement** and **achievement**?

NATIONAL REPRESENTATION



LARGE-SCALE NATURALISTIC DATA

AUDIO RECORDINGS
676

TRANSCRIPTS
676

DIRECT OBSERVATIONS
224

INSTRUCTIONAL MATERIALS
285

STUDENT WORK SAMPLES
869

Data collected over three school years: 2023-24, 2024-25, 2025-26.

✧ Committed to open science and data sharing. ✧

WHY IT MATTERS

- ✓ Largest known dataset on science instruction for students with LD.
- ✓ Diverse regions, classrooms, student populations.
- ✓ Power to examine instruction, engagement, and achievement at scale.

Coming Soon!

POTENTIAL USES

- Secondary analyses to answer new research questions.
- Examine instructional features related to engagement.
- Train and test AI-assisted tools for observation and coding.
- Inform practice, policy, and professional learning.
- Build and extend a national research infrastructure.

EMERGING FINDINGS

(WHAT WE KNOW SO FAR)

Science is taught on average **175 minutes** per week.
Wide variability of 36-144 hours per year.

78% of teachers report students with LD are often pulled out of class for remedial special education. When pulled out, students miss science all together.

11% of planned science instruction is not enacted.
This is significantly associated with low-SES schools.

Challenges Overcome

- Broader recruitment networks
- Representative samples
- Scalable training resources
- Centralized data systems
- High-fidelity transcription
- Streamlined data processing
- Open, transparent research
- Scalable research infrastructure

THE POWER IS IN THE MULTIPLIER.

By crowdsourcing data collection across our network of research partners (and teachers, schools, districts, and regions), we create an infrastructure where:

Research partners collect data



One integrated dataset



A resource for the field - many studies, many answers



William J. Therrien, Jennifer L. Chiu, Bryan G. Cook, Christian Doabler, Christina Taylor, Elizabeth Swanson, and Vivian Wong

edresearchaccelerator.org
therrien@virginia.edu



UNIVERSITY of VIRGINIA



The Meadows Center
FOR PREVENTING EDUCATIONAL RISK

