

Matthew C. Wilsey

Institute for Educational Initiatives
University of Notre Dame
107 Carole Sandner Hall
Notre Dame, IN 46556
Office: (574) 631-2493
Email: mwilsey@nd.edu

ACADEMIC APPOINTMENTS

Assistant Professor of the Practice	2023 – Present
Institute for Educational Initiatives, University of Notre Dame	

EDUCATION

Ph.D. Curriculum Studies and Teacher Education – Science Education Stanford University, Stanford, CA Dissertation Committee: Dr. Bryan Brown, Dr. Hilda Borko, Dr. Victor Lee, Dr. Denise Pope, and Dr. Daniel McFarland	2023
M.Ed. University of Notre Dame, Notre Dame, IN Secondary Science Certification	2012
B.S. Biological Sciences Supplemental Major, German University of Notre Dame, Notre Dame, IN	2010

PUBLICATIONS

*Authors contributed equally

Peer-Reviewed Journal Articles

- Pynes, D., Kloser M., Wagner, C., Szopiak, M., **Wilsey, M.**, Svarovsky, G., Trinter, C. (2024). Bridging theory and practice: A framework for STEM teacher leadership. *School Science and Mathematics*, 1-15.
- Kloser, M., Borko, H., **Wilsey, M.**, & Rafanelli, S. (2022). Leveraging portfolios in professional development for middle school science teachers' assessment and data-use practice. *Science Education*, 106(4), 924-955.
- Brown, B. A., Boda, P. A., Ribay, K., **Wilsey, M.** & Pérez, G. (2021). A technological bridge to equity: How VR designed through culturally relevant principles impact students' appreciation of science. *Learning, Media and Technology*, 46(4), 546-584.
- Wilsey, M.**, Kloser, M., Borko, H., & Rafanelli, S. (2020). Middle school science teachers' conceptions of assessment practice throughout a year-long professional development experience. *Educational Assessment*, 25(2), 136-158.

- Brown, B. A., Pérez, G., Ribay, K., Boda, P. A., & **Wilsey, M.** (2020). Teaching culturally relevant science in virtual reality: “When a problem comes, you can solve it with science”. *Journal of Science Teacher Education*, 32(1), 7-38.
- Brown, B. A., Ribay, K., Pérez, G., Boda, P. A., & **Wilsey, M.** (2020). A virtual bridge to cultural access: Culturally relevant virtual reality and its impact on science students. *International Journal of Technology in Education and Science*, 4(2), 86-97.
- Kloser, M., **Wilsey, M.**, Madkins, T., & Windschitl, M. (2019). Connecting the dots: Secondary science teacher candidates’ uptake of the core practice of facilitating sensemaking discussions from teacher education experiences. *Teaching and Teacher Education*, 80, 115-127.
- Kloser, M., **Wilsey, M.**, Twohy, K. E., Immonen, A. D., & Navotas, A. C. (2018). “We do STEM”: Unsettled conceptions of STEM education in middle school STEM classrooms. *School Science and Mathematics*, 118(8), 335-347.
- Kloser, M., **Wilsey, M.**, Hopkins, D., Dallavis, J. W., Lavin, E., & Comuniello, M. (2017). Dual identities: Organizational negotiation in STEM-focused Catholic schools. *Cultural Studies in Science Education*, 13(2), 549-579.
- Wilsey, M.** and Kloser, M.* (2015). No blue ribbon: Reforming science fairs in middle and high school science education. *The Science Teacher*, 82(8) 53-59.

Book Chapters

- Rafanelli, S., Borko, H., Kloser, M., & **Wilsey, M.** (2018). From focusing on grades to student thinking: A case study of change in assessment practice. In Fives, H. and Barnes, N. (Eds) Cases of Teachers’ Data Use. London: Routledge.

Editor Reviewed

- Wilsey, M.** and Kloser, M. (2018). Building shared understanding about what it means to do STEM in middle school classrooms. Research to Practice Companion Piece for “We do STEM”: Unsettled conceptions of STEM education in middle school STEM classrooms. *School Science and Mathematics*.

Manuscripts in Preparation and Review

- Borko, H., **Wilsey, M.**, & Weiss, J. (Revise & Resubmit). Change over time: An investigation into the evolution of a Research-Practice Partnership across time and boundaries. Target Journal: *American Educational Research Journal*.
- Wilsey, M.**, Brown, B., & Pimentel, D. (in preparation). Assessment for learning: An exploration into how formative assessments can be designed for elementary student science learning and sensemaking. Target Journal: *Journal of Research in Science Teaching*

Delhay, C., **Wilsey, M.**, Reigh, E., Allen, S., Collins, M., Million, S., Borko, H., & Osborne, J. (in preparation). Supporting teachers in engaging students in argumentation: Insights from a practice-based professional learning model. Target Journal: *Journal of Science Teacher Education*.

Wilsey, M. (in preparation). “As a new teacher, your brain never turns off”: Beginning secondary science teachers’ perceptions of what influences their instructional practice to and through teacher education. Target Journal: *Teaching and Teacher Education*.

Weiss, J., **Wilsey, M.**, & Borko, H. (in preparation). Exploring organizational conditions supporting boundary spanning agency in a research-practice partnership. Target Journal: *AERA Open*.

Macaluso K., Dallavis, J., Kirkland, P., Kolwalski, M., Waddington, J., & **Wilsey, M.** (in preparation). Holistic teacher education: The case of the Alliance for Catholic education. Target Journal: *Journal of Teacher Education*.

RESEARCH EXPERIENCE

Principal Investigator

Generative Formative Assessment 2017 – 2018

Graduate Advisor: Bryan Brown

Sponsor: Technology for Equity in Learning Opportunities, Stanford University, \$7,500

Research Assistant

Improving Practice Together 2018 – Present

PI, Hilda Borko, Stanford University

PI, Emily Weiss, Lawrence Hall of Science

PI, Lori Paolinetti, Santa Clara Unified School District

Co-PI, Jonathan Osborne, Stanford University

Co-PI, Craig Strang, Lawrence Hall of Science

Co-PI, Kathie Kanaval, Santa Clara Unified School District

Sponsor: National Science Foundation

Culturally Relevant Virtually Reality Science Learning 2017 – 2022

PI, Bryan Brown, Stanford University

Sponsor: TELOS, MediaX, UPS

The Effects of Long-Term Professional Development on Core Teacher Practice, STEM Integration, and Leadership 2016 – 2020

PI, Matthew Kloser, University of Notre Dame

Sponsors: Trustey Family, Sweeney Family, Innovate Foundation

Measuring Science Instruction Using Teacher e-Portfolios 2014 – 2017

PI, Felipe Martinez, UCLA

Co-PI, Brian Stecher, RAND Corporation

Co-PI, Matthew Kloser, University of Notre Dame

Sponsor: National Science Foundation

Teachers' Use of Data for Instructional Decisions

2014 – 2017

PI, Matthew Kloser, University of Notre Dame

Co-PI, Hilda Borko, Stanford University

Sponsor: Spencer Foundation

STEM School Transformations

2014 – 2016

PI, Matthew Kloser, University of Notre Dame

Sponsor: Institute for Educational Initiatives, University of Notre Dame

TEACHING EXPERIENCE

University Teaching (Instructor of Record)

Senior Research Seminar, ESS 43640 2024 – Present
University of Notre Dame, Notre Dame, IN

Science Teaching Methods II, EDU 60785 (Graduate Level) 2016 – 2018; 2020; 2022;
ACE Program, University of Notre Dame, Notre Dame, IN 2024 – Present

Capstone Seminar in Teaching, EDU 65935 (Graduate Level) 2024 – Present
ACE Program, University of Notre Dame, Notre Dame, IN

Clinical Seminar in Teaching, EDU 65930 (Graduate Level) 2023 – Present
ACE Program, University of Notre Dame, Notre Dame, IN

Supervised Teaching, EDU 65950 (Graduate Level) 2023 – Present
ACE Program, University of Notre Dame, Notre Dame, IN

Assessment in Science Education, EDU 60795 (Graduate Level) 2017 – Present
ACE Program, University of Notre Dame, Notre Dame, IN

Curriculum & Instruction in Science, EDUC 267C (Graduate Level) 2021; 2023
STEP Program, Stanford University, Stanford, CA

Teaching Assistantships

Curriculum & Instruction in Science, EDUC 267B (Graduate Level) 2020; 2022
STEP Program, Stanford University, Stanford, CA

Curriculum & Instruction in Science, EDUC 267A (Graduate Level) 2020; 2022
STEP Program, Stanford University, Stanford, CA

Elective in Curriculum & Instruction in Science, EDUC 267D (Graduate Level) 2019 – 2020
STEP Program, Stanford University, Stanford, CA

Assessment in Science Education, EDU 60795 (Graduate Level) ACE Program, University of Notre Dame, Notre Dame, IN	2014 – 2017
Policy, Values, and Practice in Science Education, ESS 30632 University of Notre Dame, Notre Dame, IN	2015, 2017
Senior Research Seminar, ESS 43640 University of Notre Dame, Notre Dame, IN	2014 – 2016
Informal Learning Environments, ESS 20208 University of Notre Dame, Notre Dame, IN	2016
Science Teaching Methods I, EDU 60685 (Graduate Level) ACE Program, University of Notre Dame, Notre Dame, IN	2015
Science Teaching Methods II, EDU 60785 (Graduate Level) ACE Program, University of Notre Dame, Notre Dame, IN	2012 – 2013

Mentoring & Supervision Teaching Experience

Field Supervisor for ACE Teaching Fellows ACE Program, University of Notre Dame, Notre Dame, IN	2023 – Present
Field Supervisor for Secondary Science Teachers STEP Program, Stanford University, Stanford, CA	2019-2020
Summer Practicum Mentor Teacher ACE Program, University of Notre Dame, Notre Dame, IN	2012 – 2013

Secondary Teaching Experience

Physics, Chemistry, Forensic Science St. Rita of Cascia High School, Chicago, IL	2012 – 2014
Life Science, Earth Science, Physical Science Guadalupe Regional Middle School, Brownsville, TX	2010 – 2012

Professional Development Experience

Notre Dame STEM Teaching Fellows Notre Dame Center for STEM Education University of Notre Dame, Notre Dame, IN - Curriculum developer and professional learning facilitator	2015 – 2020; 2023 – Present
Collaboration to Refine and Enhance Science Teaching (CREST) Notre Dame Center for STEM Education University of Notre Dame, Notre Dame, IN	2014 – 2017; 2024 – Present

- Curriculum co-developer and professional learning facilitator

Hollyhock Fellowship Program 2020 – 2022
 Center to Support Excellence in Teaching (CSET)
 Stanford University, Stanford, CA
 - Secondary science instructional coach and professional learning facilitator

PROFESSIONAL EXPERIENCE

Associate Director 2014 – 2017
 Notre Dame Center for STEM Education
 - Research assistant, national summer STEM camp coordinator, website and social media manager

CONFERENCE PRESENTATIONS

Wilsey, M., Szopiak, M., Pynes, D., Wagner, C., Kloser, M., and Svarovsky, G. (2025). *Shifts in middle school STEM teachers' conceptions of teacher leadership and equity*. A Paper for National Association for Research in Science Teaching. Washington D.C.

Weiss, J., **Wilsey, M.**, and Borko, H. (2024). *Exploring organizational conditions supporting boundary spanning agency in a research-practice partnership*. A Paper for the American Educational Research Association. Philadelphia, PA.

Wilsey, M., and Sircar, M. (2024). *"Taking action to make change.": Capturing science teachers' conceptions of Content Critique*. A Paper for National Association for Research in Science Teaching. Denver, CO.

Wilsey, M. (2023). *What matters?: Beginning secondary science teachers' perceptions of what influences their instructional practice*. A Paper for National Association for Research in Science Teaching. Chicago, IL.

Wilsey, M., Weiss, J., and Borko, H. (2023) *Critical Infrastructure?: An Investigation into the Evolution of a Research-Practice Partnership Across Time and Boundaries*. A Paper for the American Educational Research Association. Chicago, IL.

Wilsey, M., Brown, B., & Pimentel, D. (2022). *Explaining as Learning: Sense-Making Through Generative Formative Assessment in Science*. A Paper for the American Educational Research Association. San Deigo, CA.

Wilsey, M., Delhay, C., Osborne, J., Borko, H., Reigh, E. (2021). *An investigation of teacher professional learning that resulted in significant shifts in practice*. A Paper for the Annual Meeting of the European Association for Research on Learning and Instruction. Gothenburg, Sweden.

Delhay, C., Borko, H., **Wilsey, M.**, Reigh, E., Osborne, J. (2021). *Building Teacher Leadership for Equitably Accessible Distance Science Learning in a School District during COVID-19*. A Paper for the American Educational Research Association. Orlando, FL. [Symposium session]

- Wilsey, M.**, Delhay, C., Reigh, E., Borko, H., Osborne, J. (2021). *Changes in elementary teachers' perceptions and facilitation of argumentation throughout year-long participation in professional learning*. A Paper for the American Association of Educational Research. Orlando, FL.
- Delhay, C., **Wilsey, M.**, Borko, H., Reigh, E. (2021). *Mise en œuvre d'un dispositif d'apprentissage professionnel pour accompagner des enseignants à soutenir l'argumentation scientifique d'élèves de primaire*. Colloque du Centre de recherche interuniversitaire sur la formation et la profession enseignante, Montréal, Québec, Canada. [Symposium session].
- Wilsey, M.**, Delhay, C., Reigh, E., Borko, H., Osborne, J. (2020). *Changes in Elementary Science Teachers' Classroom Argumentation Practices After Participation in a Professional Development Program*. A Paper for American Educational Research Association. San Francisco, CA. (Conference cancelled)
- Wilsey, M.** & Kloser, M. (2020) *Changes in middle school STEM teachers' drawn mental models of STEM education over time*. A Paper for National Association for Research in Science Teaching. Portland, OR. (Conference cancelled)
- Kloser, M. & **Wilsey, M.** (2020) *Middle grade STEM teachers' conceptions and prioritization of core instructional practices over time*. A Paper for National Association for Research in Science Teaching. Portland, OR. (Conference cancelled)
- Delhay, C., **Wilsey, M.**, Reigh, E., Borko, H., & Osborne, J. (2020). *Improving guidance for classroom argumentation in science inquiry*. A Paper for National Association for Research in Science Teaching. Portland, OR. [Symposium session] (Conference cancelled)
- Pérez, G., Brown, B., Boda, PA., Ribay, K., & **Wilsey, M.** (2019). *Finding meaning in science through CRP-VR: Critical understandings of science among diverse elementary students*. A Paper for the National Association for Research in Science Teaching. Baltimore, MD. [Symposium session]
- Wilsey, M.**, Boda, PA., Lemmi, C., Pérez, G., & Brown, B. (2019). *Designing and testing CRP-VR: A mixed-methods, quasi-experimental multiple trial study*. A Paper for the National Association for Research in Science Teaching. Baltimore, MD. [Symposium session]
- Kloser, M., **Wilsey, M.**, Borko, H., & Rafanelli, S. (2018). *Leveraging portfolios in professional development for middle school science teachers' assessment and data-use practice*. A Paper for the American Association of Educational Research. New York, NY.
- Kloser, M., **Wilsey, M.**, Madkins, T., Windschitl, M., Wells, A., Davis, E., & Carlson, J. (2018). *Connecting the dots: Secondary science teacher candidates' uptake of facilitating discussions from teacher education experiences*. A Paper for the Annual Meeting of the National Association of Research on Science Teaching. Atlanta, GA.
- Rafanelli, S., Borko, H., Kloser, M., & **Wilsey, M.** (2018). *Science teachers' changing assessment practices: Case studies of individual change through PD and professional collaboration*. A Paper for the Annual Meeting of the National Association of Research on Science Teaching. Atlanta, GA.

- Martinez, J. F., Kloser, M., Stecher, B., **Wilsey, M.**, Srinivasan, J., & Edelman, A. (2017). *Assessing and improving quality science instruction using an innovative tablet portfolio app*. A Paper for the Annual Meeting of the European Association for Research on Learning and Instruction. Tampere, Finland.
- Rafanelli, S., Borko, H., Kloser, M., & **Wilsey, M.** (2017). *From focusing on grades to exploring student thinking: A case study of change in assessment practice*. A Paper for the American Association of Educational Research. San Antonio, TX.
- Kloser, M., Gottlieb, J., **Wilsey, M.**, Svarovsky, G. N., Kirkland, P., & Puricelli, J. (2017). *Exploring the relationship among middle grade teacher's conceptions of STEM and equity*. A Paper for the Annual Meeting of the National Association of Research on Science Teaching. San Antonio, TX.
- Kloser, M., & **Wilsey, M.** (2017). *Common conception or confusion?: Tracking STEM teachers' initial conceptions of what counts as STEM education*. A Paper for the Indiana STEM Education Conference. West Lafayette, IN.
- Martinez, J. F., Riedell, K., Rocchio, R., Srinivasan, J., Kloser, M., **Wilsey, M.**, & Stecher, B. (2016). *Next generation tablet e-Portfolio tool for documenting and reflecting on instructional practice: Possibilities for teacher evaluation and development*. A Paper for the Annual Meeting of the European Association for Research on Learning and Instruction. Oslo, Norway.
- Kloser, M., **Wilsey, M.**, Weseli, D., Lavin, E., Comuniello, M., Dallavis, J. (2016). *Dual identities: Toward a framework for STEM-focused Catholic schools*. A Paper for the Annual Meeting of the National Association of Research for Science Teaching. Baltimore, MD.
- Kloser, M., Borko, H., **Wilsey, M.**, Rafanelli, S. (2016). *Science teachers' use of data for instructional decisions: Mental models of middle school science assessment practice*. A Paper for the Annual Meeting of the National Association of Research for Science Teaching. Baltimore, MD.
- Martinez, F. M., Kloser, M., Riedell, K., Srinivasan, J., Stecher, B., Rocchio, R., **Wilsey, M.**, Tangmunarunkit, H. (2016). *Tablet-based teacher e-Portfolio tool for documenting and reflecting on instruction aligned to the Next Generation Science Standards*. A Paper for the Annual Meeting of the American Educational Research Association. Washington D.C.
- Kloser, M., **Wilsey, M.** (2016). *Dual identities: Investigating the nature of STEM-focused Catholic schools*. A Paper for the Indiana STEM Education Conference. West Lafayette, IN.

AWARDS

- | | |
|-------------|--|
| 2010 – 2012 | AmeriCorps National Service Program: Educational grant recipient and member of AmeriCorps Education Awards Program |
| 2010 | Delta Phi Alpha, German Honor Society
University of Notre Dame |

2006 – 2010 Donald F. and Edna G. Bishop Foundation Scholar

PROFESSIONAL AND UNIVERSITY SERVICE

Editorial Board Member
Journal of Research in Science Teaching (JRST) 2026 – Present

Conference Proposal Reviewer
National Association for Research in Science Teaching 2021 – Present
American Educational Research Association 2021 – Present

Journal Manuscript Reviewer
European Journal of Education
Journal of Pre-College Engineering Education Research (J-PEER)
Teaching and Teacher Education (TATE)
Science Education

Participant in Journal of Research in Science Teaching (JRST) Mentored Reviewer Initiative 2019

School and Department Service
ACE Artificial Intelligence Committee 2024 – Present

Stanford Graduate School of Education Doctoral Student Mentor 2018 – 2022

Stanford Graduate School of Education Guild, Social Chair 2019 – 2021

PROFESSIONAL ORGANIZATIONS

American Educational Research Association 2017 – Present
National Association for Research in Science Teaching 2015 – Present
National Science Teaching Association 2013; 2020 – Present