

LINDSEY MOHAN, Ph.D.

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PROFESSIONAL INTERESTS

Exemplary science instruction and innovative material design, classroom discussion, environmental science and geoscience education, learning progressions, intersections in science and literacy education, classroom motivation.

EDUCATION

Michigan State University Ph.D. Aug 2008

Educational Psychology & Educational Technology

Dissertation: *Orchestrating productive discussion: A study of dialogic discourse and participation in science*; Committee: Mary Lundeberg (Chair), Charles (Andy) Anderson, Angela Calabrese-Barton, Mary Juzwik

University of Notre Dame B.A. May 2002

College of Arts and Letters, Psychology (educational)

Magna cum laude, Dean's list all 4 years

Texas State Teaching Licensure

4-8 Science

PROFESSIONAL POSITIONS

Research Scientist and Division Director, Instructional Materials 2017-present

BSCS Science Learning: Major Projects

- *BSCS Biology*: Project Advisor
- *OpenSciEd*: Unit Lead, Unit Editor and Lead Writer
- *GLOBE Weather*, Project Lead and Lead Writer
- *3DMSS: A Medical Mystery*, Lead Writer
- Lucas Education Research, AP Environmental Science, Project Lead
- Math and Science Teacher Leadership Synthesis, Lead Writer

Assistant Professional Specialist, University of Notre Dame 2015- present

Alliance for Catholic Education

Grade 8 Science Teacher, Burnet CISD, Texas 2013-2015

Educational Consultant 2008-2013

Guidelines for Assessing High Quality Instructional Products That Exemplify NGSS, BSCS

Collaborators: Jody Bintz, Audrey Mohan

Spatial Thinking Concept and Skills progression, National Geographic Society

Collaborators: Audrey Mohan

A Roadmap for 21st Century Geography Education, National Geographic Society

Collaborators: Emily Schell, Kathy Roth, Audrey Mohan

MOOC: Facilitating learning through outdoor water education, National Geographic Society,

Collaborators: Audrey Mohan, Kathleen Schwillie

CarbonTIME, Michigan State University

Collaborator: Andy Anderson

Bioblitz, National Geographic Society

Collaborator: Ann Haywood

Education and the Environment Initiative (EEI), National Geographic Society

Collaborators: Daniel Edelson, Audrey Mohan

Climate Education Manager, *National Geographic Society*

2009-2010

- Manager for climate education partnerships
- Director, [*Environmental Literacy Teacher Guide Series*](#)
- Project Coordinator, *Pittsburgh Climate Consortium*

Post-Doctoral Research Scientist, Michigan State University

2008-2009

- Research scientist on [*Environmental Literacy Project*](#)
- Principal Investigator/Advisory: Andy Anderson

Doctoral Research Experience, Michigan State University

2002-2008

Research assistantship with Andy Anderson, Environmental Literacy Project

Research assistantship with Michael Pressley, Literacy Achievement Research Center

Research assistantship with Mary Lundeberg, Problem-Based Learning Project

Research assistantship with Carole Ames, motivation research

Practicum research project with Michael Pressley/Jere Brophy, classroom motivation

Undergraduate Research Experiences, University of Notre Dame

1999-2002

Research with Michael Pressley, exemplary literacy instruction/motivation

Assistant to the Editor, *Journal of Educational Psychology*

Executive assistant, Alliance for Catholic Education

K-16 TEACHING EXPERIENCE

University of Texas-Austin (Spring 2016)

Undergraduate Courses

EDU 370E- Elementary Science Methods (K-6)

University of Notre Dame (2015-present)

Master's Courses

EDU 60024- Middle School Classroom Management

EDU 60795- Science Assessment

EDU 65930- Clinical Seminar

EDU 65950- Supervised Teaching

Michigan State University (2004-2009)

Master's Courses

TE 861B- Inquiry and the Nature of Science

TE 801- Professional Roles and Science Teaching Practice (K-8)

Undergraduate Courses:

TE 402- Crafting Science Teaching Practice (K-8)
TE 150- Introduction to Educational Psychology (PK-12)

K-12 Public School

Grade 8 Science Teacher

Burnet Middle School, Burnet CISD, Burnet, TX (*rural, Title I*) 2013-2015
New Braunfels Middle School, New Braunfels, TX 2003-2004

INSTRUCTIONAL MATERIALS DESIGN (*recent examples*)

OpenSciEd 2018-present

- Unit lead developer and editor/writer (Thermal Energy, Forces at a Distance, Light, Ecosystem Dynamics); Writer (Metabolic Reactions, Plate Tectonics)

Knowledge in Action: AP Environmental Science (*George Lucas Education Foundation*) 2018-present

- Project lead and course revision writer

GLOBE Instructional Materials Task: GLOBE Weather 2017-2019

- Project lead and lead writer

Three-Dimensional Teaching and Learning: Rebuilding and Researching an Online Middle School Science Curriculum: A Medical Mystery 2017-present

- Lead writer
- Study group facilitator: STeLLA for 3DMSS

PUBLICATIONS

Refereed Publications:

Mohan, L., (2018). Student learning of place: Learning progressions can help fill the gaps. *Journal of Geography*, 117(3), 125-127.

Mohan, A., & Mohan, L. (2014). Spatial thinking through the elementary years. *Social Studies Review*, 52-29.

Mohan, L., Chen, J., & Anderson, C.W. (2009). Developing a multi-year K-12 learning progression for carbon cycling in socio ecological systems. *Journal of Research in Science Teaching*. 46(6), 675-698.

Raphael, L.M., Pressley, M., & Mohan, L. (2008). Engaging instruction in middle school classrooms: An observational study of nine teachers, *Elementary School Journal*, 109(1), 61-81.

Mohan, L., Lundeberg, M.A. & Reffitt, K. (2008). Studying teachers and schools: Michael Pressley's legacy and directions for future research. *Educational Psychologist*, 43(2), 107-118.

Pressley, M., Mohan, L., Raphael, L.M., & Fingeret, L. (2007). How does Bennett Woods Elementary School produce such high reading and writing achievement? *Journal of Educational Psychology*, 99(2), 221-240.

Dolezal, S., Mohan, L., Pressley, M., & Vincent, M. (2003). How nine third grade teachers motivate student academic engagement. *Elementary School Journal*, 103(3), 239-267.

Pressley, M., Dolezal, S., Raphael, L., Mohan, L., Roehrig, A., & Bogner, K., (2003). Increasing academic motivation in the primary grades classrooms, *Catholic Education: A Journal of Inquiry and Practice*, 6(3), 372-392.

Books, Book Chapters, Technical papers:

Anderson, A., Gane, B., Hmelo-Silver, C., Moulding, B., Mohan, L., Vo, T. (2019). CCCs as epistemic heuristics to guide student sense-making of phenomena. In Fick, S. J., Nordine, J., & McElhaney, K. W. (Eds.). (2019). Proceedings of the Summit for Examining the Potential for Crosscutting Concepts to Support Three-Dimensional Learning (pp.41-51). Charlottesville, VA:

University of Virginia. Retrieved from <http://curry.virginia.edu/CCC-Summit>.

- Mohan, L., Galosy, J., Miller, B., & Bintz, J. (2017). *A synthesis of math and science teacher leadership development: Consensus findings and recommendations*. Colorado Springs, CO: BSCS.
- Mohan, L., Mohan, A., & Uttal, D. (2014). Research on thinking and learning with maps and geospatial technologies. In Solem, M., Huynh, N., Boehm, R (Eds.), *GeoProgressions. Learning progressions for maps, geospatial technology, and spatial thinking: A research handbook*, (9-21). Association of American Geographers, Washington, DC.
- Mohan, A., & Mohan, L. (2013). *Spatial thinking about maps: Development of concepts and skills across the early school years*. Report prepared for National Geographic Education Programs.
- Mohan, L. & Plummer, J. (2012). Exploring challenges to defining learning progressions. In A. C. Alonzo & A. W. Gotwals (Eds.), *Learning progressions in science: Current challenges and future directions* (pp.139-150). Rotterdam, The Netherlands: Sense Publishers.
- Gunckel, K.L., Mohan, L., Covitt, B.A., & Anderson, C.W. (2012). Addressing challenges in developing learning progressions in environmental literacy. In A. C. Alonzo & A.W. Gotwals (Eds.), *Learning progressions in science: Current challenges and future directions* (pp.39-76). Rotterdam, The Netherlands: Sense Publishers.
- Lundeberg, M. A., & Mohan, L. (2009). Context matters: Gender and cross-cultural differences in confidence. In R.J. Sternberg (Series Ed.) & D.J. Hacker, J. Dunlosky, & A.C. Graeser (Vol. Eds.), *Handbook of Metacognition: Vol. 1. The Educational Psychology Series*. Lawrence Erlbaum.
- Lundeberg, M.A., & Mohan, L. (2007). Gender and schooling. In Thomas L. Good (Ed.), *21st Century Education: A Reference Handbook, Vol.2 (p288-296)*. Thousand Oaks, CA: Sage.
- Pressley, M.P., Mohan, L., Fingeret, L., Refitt, K. Raphael Bogaert, L. (2007). Writing instruction in engaging and effective elementary settings. In S. Graham & C. MacArthur, & J. Fitzgerald (Eds.), *Best Practices in Writing Instruction* (pp. 13-27). New York: Guilford.
- Pressley, M., Dolezal, S., Raphael, L., Mohan, L., Roehrig, A., Bogner, K. (2003). *Motivating Primary Grade Students*. New York: Guilford.
- Pressley, M., Roehrig, A., Raphael, L., Dolezal, S., Bohn, K., Mohan, L., Wharton-McDonald, R., & Bogner, K., (2003). Teaching processes in elementary and secondary education. In W.M. Reynolds & G.E. Miller (Eds.), *Comprehensive Handbook of Psychology, Volume 7: Educational Psychology*. New York: John Wiley & Sons.

PRESENTATIONS

- Mohan, L., Vo, T., Anderson C.W., Hmelo-Silver, C., Moulding, B., Gane, B. (2019). CCCs as epistemic heuristics. Presented at the annual meeting of National Association for Research in Science Teaching, Baltimore, MD.
- Bintz, J., Galosy, J., Miller, B., Mohan, L., & Mohan, A. (2017, April). Developing math/science teacher leadership: A consensus approach to evaluating program quality. Presented at the annual meeting of National Association for Research in Science Teaching, San Antonio, TX.
- Mohan, A., & Mohan, L. (2014, October). *Research on thinking and learning with maps and geospatial technologies*. Paper presented at the GeoProgressions: Learning progressions for maps, geospatial technology, and spatial thinking: A researcher-training workshop.
- Mohan, L., & Anderson, C.W. (2009, June). *Teaching experiments and the carbon cycle learning progression*. Paper presented at the Learning Progression in Science Conference, Cedar Rapids, IA.
- Mohan, L., Chen, J., Choi, J., Lee, Y., Baek, H., & Anderson, C.W. (2009, April). *Validation of a multi-year carbon cycle learning progression: A closer look at progress variables and process*. Presented at the annual meeting of the National Association of Research in Science Teaching, Garden Grove, CA.
- Anderson, C.W., & Mohan, L. (2009, April). *Learning progressions to inform the development of standards: A pragmatic approach*. Presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- Mohan, L., & Anderson, C.W. (2009, April). *Teaching experiments and the development of a carbon cycle learning progression*. In Wisner, M., Smith, C.L. session Developing and Refining a Learning Progression for Matter from Pre K to Grade 12: Commonalities and Contrasts Among Four Current Projects. Presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- Mohan, L. (2008, December). *A study of dialogic discourse and science practice in classrooms*. Presented at the annual meeting

of the National Reading Conference, Orlando, FL.

- Mohan, L. (2008, June). *Environmental Science Literacy*. Presented to the Education and Children's Program, National Geographic Society, Washington, DC.
- Mohan, L. (2008, March/April). *Orchestrating productive discussions: A study of dialogic exchange in science classrooms*. Presented at the annual meeting of National Association for Research in Science Teaching, Baltimore, MD.
- Chen, J., Mohan, L., & Anderson, C.W. (2008, March/April). *Developing a K-12 learning progression for carbon cycling in socio-ecological systems*. Presented at the annual meeting of National Association for Research in Science Teaching, Baltimore, MD.
- Merritt, B, Wilson, C.W., Mohan, L., & Anderson, C.W. (2008, March). *Principled reasoning about biological systems: Patterns across secondary students, undergraduate, science teachers, and university faculty*. Presented at the annual meeting of the American Educational Research Association, New York, NY.
- Mohan, L., Chen, H.Y., & Anderson, C.W. (2008, March). *A learning progression focusing on the role of carbon in environmental systems*. Presented at the annual meeting of the American Educational Research Association, New York, NY.
- Anderson, C.W., Mohan, L., Gunckel, K., Tsurusaki, B., Covitt, B., Wilson, C., & Jin, H. (2007, July). *Can American students understand global climate change?* Presented at the Capitol Hill reception for the Center for Curriculum Materials in Science Knowledge Sharing Institute, Washington, DC.
- Mohan, L., Chen, J., & Anderson C.W., (2007, July). *Developing a K-12 learning progression for carbon cycling in couple human and natural systems*. Presented at the fourth annual Center for Curriculum Materials in Science Knowledge Sharing Institute. Washington, DC.
- Draney, K., Mohan, L., Piety, P., & Choi, J. (2007, April). *Learning progressions in the carbon cycle*. Presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Wharton-MacDonald, R., Mohan, L., & Reffitt, K. (2006, December). *Michael Pressley: A research retrospective on his contribution to the field and a vision for the future: Effective teachers and schools research*. Presented at the annual meeting of the National Research Conference, Los Angeles, CA.
- Anderson, C.W., Wilson, C., Mohan, L., Covitt, B., Gunckel, K., Sharma, A., Cho, I., & Jin, H. (2006, September). *Modernizing ecology content in the required K-12 curriculum: The development of a learning progression for environmental literacy*. Presented at the annual All Scientists Meeting, Estes Park, CO.
- Fingeret, L., Mohan, L., & Reffitt, K. (2006, September). *How do schools produce high language arts achievement?* Professional development session at the Literacy Achievement Research Center Practitioner conference, East Lansing, MI.
- Mohan, L., Sharma, A., Cho, I., Jin, H., & Anderson, C.W. (2006, April). *Developing a carbon cycle learning progression for K-12*. Presented at the annual meeting of the National Research on Science Teaching conference. San Francisco, CA.
- Pressley, M., Mohan, L., Raphael, L., & Fingeret, L. (2005, December). *What Goes On In An Elementary School Producing Really Impressive Language Arts Test Scores?* Presented at the annual meeting of the National Reading Conference, Miami, FL.
- Anderson, C.W., Mohan, L., & Sharma, A. (2005, August). *Developing a learning progression for carbon cycling in environmental systems*. Presented at the annual meeting of the Ecological Society of America, Montreal, Canada.
- Roehrig, A., Mohan, L., Dolezal, S., Pressley, M., & Bohn, K. (2002, December). *Assessing the quality of early primary grade teaching behaviors*. Presented at the annual meeting of the National Reading Conference, Miami FL.

PROFESSIONAL MEMBERSHIPS

Member

- National Science Teachers Association
- National Council for Geographic Education
- National Association for Research in Science Teaching
- American Educational Research Association

Manuscript Reviewer for:

Journal for Research in Science Teaching

SELECTED AWARDS & HONORS

VFW Teacher of the Year, Burnet CISD	2014
Dissertation Completion Fellowship, Michigan State University	2008
CEPSE Department Fellowship, Michigan State University	2003
Magna Cum Laude, University of Notre Dame	2002
Dean's List, University of Notre Dame	1998-2002
Dailey Memorial Scholarship, University of Notre Dame	1998-2002
Salutatorian, Burnet High School, Burnet TX	1998