

Curriculum Vitae

Ian Thacker

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EDUCATION

- 2015-present **University of Southern California**
Ph.D. Urban Education Policy, Educational Psychology concentration
Expected degree date: May, 2019
Advisor: Gale M. Sinatra, Ph.D.
Dissertation Title: *The Influence of Numerical Estimation Skills and Epistemic Cognition in Plausibility Judgments and Conceptual Change*
- 2017-2018 **University of Southern California**
M.S. Statistics
Department of Mathematics
- 2008-2010 **University of California, Berkeley**
M.A. and Credential in Science and Mathematics Education (MACSME)
Single Subject Credential: Mathematics
Advisor: Dor Abrahamson, Ph.D.
Thesis Title: *Not Too Slippery a Slope: Grounding the Mathematics of Slope in Students' Perceptions of Steepness*
- 2001-2005 **University of Colorado, Boulder**
B.A. Mathematics
B.A. Physics

PROFESSIONAL AFFILIATIONS

American Education Research Association (AERA)
Association of Mathematics Teacher Educators (AMTE)
American Psychological Association (APA)
European Association for Research on Learning and Instruction (EARLI)
Mathematical Association of America (MAA)
National Consortium for Instruction and Cognition (NCIC)
National Council of Teachers of Mathematics (NCTM)
Psychology of Mathematics Education - North American Chapter (PME-NA)
Southwest Consortium for Innovative Psychology in Education (SCIPIE)

RESEARCH / PUBLICATIONS

Publications

Thacker, I. & Sinatra, G.M. (2019). Visualizing the greenhouse effect: Restructuring mental models of climate change through a guided online simulation. *Education Sciences*, 9(1), 14.

Abrahamson, D., Bryant, M. J., Gutiérrez, J. F., Mookerjee, A. V., Souchkova, D., & **Thacker, I.** (2009). Figuring it out: Mathematical learning as guided semiotic disambiguation of useful yet initially entangled intuitions. In S. L. Swars, D. W. Stinson & S. Lemons-Smith (Eds.), *Proceedings of the Thirty-First Annual Meeting of the North-American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. 5, pp. 662-670). Atlanta, GA: Georgia State University. [**Author names are in alphabetical order**]

Work under Review

Thacker, I. (revise and resubmit). *Not too slippery a slope: Grounding the mathematics of slope in students' perceptions of Steepness*. Research in Mathematics Education.

Thacker, I., Muis, K. R., Danielson, R. W., Sinatra G. M., Pekrun, R., Winne, P. H., & Chevrier, M. (revise and resubmit). *Using attitudinally-augmented refutation texts to prompt attitudinal and conceptual change*. Journal of Educational Psychology.

Kim, A. Y. & **Thacker, I.** (revise and resubmit). *A good sine?: Seeking math help using online discussion boards*. E-Learning and Digital Media.

Copur-Gencturk, Y., Robinson-Cimpian, J. P., Lubienski, S. T., **Thacker, I.**, & Plowman, D. L. (revise and resubmit). *Mathematics teachers' bias against the mathematical ability of female, black and hispanic students*. Educational Researcher.

Copur-Gencturk, Y. & **Thacker, I.**, & Junk, D. L. (under review). *Teachers' self-reports of knowledge gains compared with validated measures: Relationships among self-reports, direct assessments, and teacher characteristics*. Journal of Teacher Education.

Copur-Gencturk, Y., Quinn, D., & **Thacker, I.** (under review). *K-8 Mathematics teachers' overall and gender-specific beliefs about mathematical aptitude*. *Journal of Teacher Education*.

Work in Progress

Thacker, I., Sinatra, G. M., & Rasiej, R. (in preparation). *Teachers' beliefs about mathematical knowledge and knowing and their influence on mathematics instruction*. Manuscript in preparation

Rodriguez, J., & **Thacker, I.** (in preparation). *Using refutation texts to shift misconceptions about fraction multiplication*. Manuscript in preparation.

HONORS AND AWARDS

2018 Recipient of the Richard C. Anderson Graduate Student Research Award
2015-present Rossier Dean's Fellowship, University of Southern California
2015-present USC Graduate Student Travel Fund Recipient

GRANTS

2018 Internal Research Funds Award
2018 Graduate Student Government Travel Grant Recipient
2017 Internal Research Funds Award
2016 Graduate Student Government Travel Grant Recipient

RESEARCH PRESENTATIONS

Rodriguez, J. & **Thacker, I.** (November, 2019). *Refuting a Fraction Misconception: A Brief Intervention Promotes Teachers' Conceptual Change*. Presentation to be given at the North-American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), St. Louis, MS.

Jacobson, N., Sinatra, G. M., & **Thacker, I.** (July, 2019). *Here's hoping it's not just text structure: The importance of emotions in mediating the backfire effect of refutation text*. Presentation to be given at the Society for Text and Discourse, New York, NY.

Thacker, I. & Rodriguez, J. (August, 2019). *The role of teachers' mathematics self-efficacy and anxiety in fractions learning*. Presentation to be given at the American Psychological Association, Chicago, IL.

Rodriguez, J. & **Thacker, I.** (August, 2019). *Does multiplication always make bigger? Using refutation text to address a misconception about fraction multiplication*. Presentation to be given at the American Psychological Association, Chicago, IL.

Copur-Gencturk, Y., **Thacker, I.**, Quinn, D., & Ebby, C. B. (April, 2019). *Mathematical ability and gender: Beliefs held by elementary and middle school mathematics teachers*. Presentation given at the National Council of Teachers of Mathematics, San Diego, California.

Copur-Gencturk, Y., Robinson-Cimpian, J. P., Lubienski, S. T., **Thacker, I.**, & Plowman, D. L. (April, 2019). *Mathematics teachers' bias against the mathematical ability of female, black and hispanic students*. Presentation given at the National Council of Teachers of Mathematics, San Diego, California.

Copur-Gencturk, Y., **Thacker, I.**, Quinn, D., & Ebby, C. B. (April, 2019). *K-8 Mathematics teachers' overall and gender-specific beliefs about mathematical aptitude*. Presentation to be given at the American Educational Research Association, Toronto, Canada.

Copur-Gencturk, Y., Cimpian, J. P., Lubienski, S. T., **Thacker, I.**, & Plowman, D. L. (April, 2019) *What's in a name? A study of mathematics teachers' implicit bias*. Presentation to be given at the American Educational Research Association, Toronto, Canada.

Copur-Gencturk, Y., Cimpian, J. P., Lubienski, S. T., **Thacker, I.**, Plowman, D. (February, 2019). *Mathematics teachers' implicit biases toward female students and students of color*. Presentation given at the Association of Mathematics Teacher Educators, Orlando, FL.

Thacker, I. & Sinatra, G. M. (June, 2018). *When actions do not reflect ideals: Justifications for climate inaction*. Poster presented at the American Psychological Association, San Francisco, CA.

Kennedy, A.U., Jacobson, N., **Thacker, I.**, Sinatra, G. M., Lu, X., Sohn, J. H., Nelson, D., Rosenberg, E. S., & Nye, B. D. (June, 2018). *Re-living paleontology: Using augmented*

reality to promote engagement and learning. Poster presented at the meeting of the American Psychological Association, San Francisco, CA.

Thacker, I. & Sinatra, G. S. (April, 2018). *Feel the Heat: An embodied approach to the instruction of the greenhouse effect.* Roundtable presented to the annual meeting of the American Educational Research Association, New York, USA.

Copur-Gencturk, Y., **Thacker, I.**, & Junk, D. L. (April, 2018). *Do teachers accurately report their learning? A comparison of teacher reports to validated measures.* Spoken presentation presented to the annual meeting of the American Educational Research Association, New York, USA.

Thacker, I., Muis, K. R., Danielson, R. W., Sinatra G., Pekrun, R., Winne, P. H., & Chevrier, M. (August, 2017). *Shifting attitudes on GMFs: The influence of a conceptual change intervention.* Poster presented to the European Association for Research on Learning and Instruction, Tampere, Finland.

Danielson, R. W., Sinatra, G. M., **Thacker, I.**, & Jacobson, N.G. (August, 2017). *When strategic graphical interpretation fails: The influence of prior belief and political identity.* Poster presented to the European Association for Research on Learning and Instruction, Tampere, Finland.

Kim, A. Y. & **Thacker, I.**, (August, 2017). *A good sine: Seeking and finding math help using online discussion boards.* Poster presented to the American Psychological Association, Washington DC.

Sinatra, G. M., **Thacker, I.**, & Danielson, R. W. (August, 2017). *When strategic graphical interpretation fails: The influence of prior belief and political identity.* Spoken presentation given to the Society for Text and Discourse, Philadelphia, USA.

Thacker, I. (April, 2017). *Not too slippery a slope: Grounding the mathematics of slope in students' perceptions of steepness.* Roundtable presented to the annual meeting of the American Educational Research Association, San Antonio, USA.

Thacker, I., Muis, K. R., Danielson, R. W., Sinatra G., Pekrun, R., Winne, P. H., & Chevrier, M. (April, 2017). *The influence of attitudes and emotions in learning from multiple texts.* Poster presented to the Annual meeting of the American Educational Research Association, San Antonio, USA.

Corwin, Z., Ochsner A. K., Maruco, T., Danielson R. W., Tichavakunda, A. A., Kolluri, S., **Thacker, I.**, Galan, C., Sinatra, G., & Tierney, W. G. (April, 2017). *A digital approach to increasing college access in california high schools*. Symposium presented to the annual meeting of the American Educational Research Association, San Antonio, USA.

Thacker, I. (2016) *Fostering student grounding of slope in perceptions of steepness*. Spoken presentation given to the 2016 National Consortium for Instruction and Cognition Annual Meeting. Washington DC.

TEACHING

Courses Prepared to Teach

Mathematics Teaching Methods
Learning and Instruction
Human Motivation
Introductory Statistics
Multiple Regression
Survey Research Methods
Structural Equation Modeling (SEM)
Hierarchical Linear Modeling (HLM)

Graduate Level Teaching Experience

Fall 2018 **Teaching Assistant**, University of Southern California, *EDUC 682: Introduction to Quantitative Research Methods in Education*.

Spring 2018 **Instructor**, University of Southern California, *Intro Stats Workshop*.

Fall 2017 **Teaching Assistant**, University of Southern California, *EDUC 712: Human Motivation*.

Spring 2017 **Teaching Assistant**, University of Southern California, *EDUC 642: Learning and Instruction*.

Spring 2017 **Course Facilitator**, University of Southern California, *Intro Stats Workshop*.

Fall 2016 **Teaching Assistant**, University of Southern California, *EDUC 712: Human Motivation*.

Undergraduate Teaching Experience

2009-2010 **Graduate Student Instructor**, University of California, Berkeley, CA
Physics for Future Presidents (an introductory physics course).

2004-2005 **Learning Assistant**, University of Colorado, Boulder
General Physics II

High School Teaching Experience

2012-2015 **Math and Physics Instructor**, AGBU Manoukian High School, Pasadena, CA
Advanced Physics / Precalculus / Geometry

2010-2012 **Math and Physics Instructor**, City Arts Technology HS, San Francisco, CA
Physics / Precalculus / Academic Advisor

2009-2012 **Mathematics Instructor**, University of California, Berkeley, CA
Algebra II Instructor. Academic Talent Development Program.

2008-2010 **Student Teacher**, San Francisco and Berkeley Unified, CA
Algebra / Algebra II

2006-2008 **Mathematics Instructor**, Mapleton Early College, Denver, CO
Geometry / Algebra / Math Support / Academic Advisor

2005-2006 **Substitute Teacher**, Denver Public Schools, Denver, CO

RESEARCH EXPERIENCE

2015-present **Motivated Change Research Lab Research Assistant**. University of Southern California. Directed by Gale Sinatra, Ph.D. Working as a collaborative team to design and execute various studies examining conceptual change and attitudes related to controversial science topics. Built lab website.

- 2018 **National Science Foundation Grant Writing Team Member.** *Re-Living Paleontology: Studying How Augmented Reality Immersion and Interaction Impact Engagement and Communicating Science to the Public.* Data analyst and grant writer. Awarded \$2,000,000, August, 2018.
- 2017-present **Joan Herman & Richard Rasiej Mathematics Initiative Research Assistant.** *Scaled Models for Certificate Delivery.* Total. Award: \$1,000,000. Research Assistant for initiative at USC focused on improving elementary teacher education in mathematics. Helped plan biannual conference, contributed to development of five-year research agenda.
- 2015-present **Social Sciences & Humanities Research Council of Canada (SSHRC) Research Assistant.** *Fostering epistemic belief change: The role of epistemic emotions and self-regulated learning.* Total Award: \$497,286. Awarded \$13,700 to USC. Research Assistant helping to measure change in epistemic beliefs while reading conflicting texts regarding controversial science topics.
- 2015-2017 **Jobs for the Future Research Assistant.** *Scaled Models for Certificate Delivery.* Total. Award: \$99,242. Research Assistant helping to evaluate the outcomes of employer created credentialing programs. Developed multiple measures to assess knowledge, attitude, and motivation, developed research design, and conducted quantitative analysis.
- 2008-2010 **Embodied Design Research Laboratory Team Member.** University of California at Berkeley. Directed by Dor Abrahamson, Ph. D. Worked as a collaborative team to design, execute, and build theory from various design-based research studies investigating the embodied nature of mathematical knowledge. Principal investigator of an empirical study and director of undergraduate and graduate students.
- 2008-2010 **Reasoning Research Group Team Member.** University of California at Berkeley. Directed by Michael Ranney, Ph. D. Worked as a collaborative team to design and execute empirical studies regarding reasoning that occurs when learning controversial science topics like climate change and evolution.

PROFESSIONAL AND ACADEMIC SERVICE

- 2016-present **Ad-Hoc Reviewer**

Learning and Instruction
ZDM (Zentralblatt für Didaktik der Mathematik)
Educational Psychologist

2016-present **Webmaster**, [Motivated Change Research Laboratory](#)

2016-present **Webmaster**, [Herman & Rasiej Mathematics Initiative](#)

2016-2017 **Board Member**, Student Community of Ph.D.'s in Education (SCoPE)

2017 **Newsletter Editor**, National Consortium for Instruction and Cognition (NCIC)

RELEVANT SOFTWARE SKILLS

Statistical Analysis: R, SAS, EQS, Mplus, SPSS, STATA

Qualitative Analysis: NVivo

Web Design: [HTML](#), [Wix](#), [Google Sites](#)

Adobe Creative Suite

Learning Management Software (e.g., Blackboard, TeacherEase, Powerschool)

Math Education Technology (e.g., Desmos, NetLogo, Sketchpad explorer)