

## Curriculum Vitae

### Ian Thacker

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### PROFESSIONAL APPOINTMENTS

Begins Fall 2020      **University of Texas at San Antonio**  
Assistant Professor of Educational Psychology

### EDUCATION

2015–present      **University of Southern California**  
Ph.D. Urban Education Policy, Educational Psychology concentration  
Advisor: Gale M. Sinatra, Ph.D.  
Expected degree date: May, 2020  
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

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)

Scholarly Consortium for Innovative Psychology in Education (SCIPIE)

## RESEARCH / PUBLICATIONS

### Peer-Reviewed Journal Publications

Copur-Gencturk, Y., Cimpian, J. R., Lubienski, S. T., & **Thacker, I.** (2020). Teachers' Bias Against the Mathematical Ability of Female, Black, and Hispanic Students. *Educational Researcher*, 49(1), 30–43. <https://doi.org/10.3102/0013189X19890577>

Copur-Gencturk, Y. & **Thacker, I.** (2020). Teachers' self-reports of knowledge gains compared with validated measures: Relationships among self-reports, direct assessments, and teacher characteristics. *Journal of Teacher Education*. Advance online publication. <https://doi.org/10.1177/0022487119899101>

**Thacker, I.**, Muis, K. R., Danielson, R. W., Sinatra G. M., Pekrun, R., Winne, P. H., & Chevrier, M. (2019). Using persuasive refutation texts to prompt attitudinal and conceptual change. *Journal of Educational Psychology*. Advance online publication. <https://doi.org/10.1037/edu0000434>

**Thacker, I.** (2019). An embodied design for grounding the mathematics of slope in middle-school students' perceptions of steepness. *Research in Mathematics Education*. Advance online publication. <https://doi.org/10.1080/14794802.2019.1692061>

Kim, A. Y. & **Thacker, I.** (2019). A good sine? Seeking math help using online discussion boards. *E-Learning and Digital Media*, 17(1) 78–93. <https://doi.org/10.1177/2042753019874142>

**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. <https://doi.org/10.3390/educsci9010014>

### Peer-Reviewed Conference Proceedings

Rodrigues, J. & **Thacker, I.** (2019) Refuting a Fraction Misconception: A Brief Intervention Promotes Teachers' Conceptual Change. To appear in the *Proceedings of the Forty-First Annual Meeting of the North-American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. 8, pp. 731-735). St Louis,

MA: University of Missouri.

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

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

Copur-Gencturk, Y., Du, H., & **Thacker, I.** (under review). *Differences in mathematical ability beliefs between teachers and mathematicians in higher education*. AERA Open.

### Work in Progress

**Thacker, I.**, Sinatra, G. M., & Rasiej, R. (manuscript in preparation). *Mathematics teachers' epistemic cognition and its relationship with teacher instruction and student achievement: A systematic research synthesis*

Rodriguez, J., & **Thacker, I.** (manuscript in preparation). *A refutation text intervention to remediate fraction misconceptions among elementary school teachers*.

Jacobson, J. G., Sinatra, G. M., & **Thacker, I.** (manuscript in preparation). *The importance of emotions in mediating the backfire effect of refutation text*.

Kennedy, A., **Thacker, I.**, & Sinatra G. M. (manuscript in preparation). *Re-Living Paleontology: Correcting Scientific Misconceptions with Augmented Reality in a Museum Setting*.

### HONORS AND AWARDS

- 2019 American Psychological Association Division 15 Dissertation Research Award  
2019 SCIEPIE Graduate Student Poster Award  
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

- 2018–2019 Mathematics Initiative Internal Research Funds Recipient  
2017–2018 USC Rossier Internal Research Funds Award  
2016–2018 Graduate Student Government Travel Grant Recipient

## RESEARCH PRESENTATIONS

**Thacker, I.**, Sinatra, G. M., & Rasiej, R. (August, 2020). *Mathematics teachers’ epistemic cognition and its relationship with teacher instruction: A systematic research synthesis*. Poster to be presented to the American Psychological Association, Washington DC.

**Thacker, I.**, & Sinatra, M. (April, 2020). *The Influence of Numerical Estimation Skills and Epistemic Cognition in Conceptual Change*. Spoken presentation to be given at the American Educational Research Association, San Francisco, CA.

Kennedy, A., **Thacker, I.**, & Sinatra G. M. (April, 2020). *Re-Living Paleontology: Correcting Scientific Misconceptions with Augmented Reality in a Museum Setting*. Spoken presentation to be given at the American Educational Research Association, San Francisco, CA.

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

**Thacker, I.**, & Giovanni, E. (October, 2019). *Numeracy, Epistemic Cognition, and Conceptual Change*. Poster presented at the Scholarly Consortium for Innovative Psychology in Education (SCIEPIE), Savannah, GA.

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

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

**Thacker, I.**, Rodrigues, J., & Sinatra, G. M. (July, 2019). *Mathematics Refutation Text: Remediating a Common Fraction Misconception*. Poster presented to the Society for Text and Discourse, New York, NY.

Sinatra, G. M., **Thacker, I.**, & Jacobson, N. (July, 2019). Here's hoping it's not just text structure: The importance of emotions in mediating backfire effects of refutation text. In J. Kaakinen (Chair) *The Influence of Emotion on the Processing of Varying Text Sources*. Symposium presented at the annual meeting of the Society for Text and Discourse, New York, NY.

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*. Spoken presentation given to 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*. Spoken presentation given to the National Council of Teachers of Mathematics, San Diego, California.

Copur-Gencturk, Y., **Thacker, I.**, & Quinn, D. (April, 2019). *K-8 Mathematics teachers' overall and gender-specific beliefs about mathematical aptitude*. Spoken presentation given to 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*. Spoken presentation given to 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*. Spoken presentation given to 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 to 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 to 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 given 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  
Design-Based Research  
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**

- 2015–2020 ***Motivated Change Research Lab Team Leader, University of Southern California.*** Directed by Gale Sinatra, Ph.D. Collaborated to design and execute various studies examining conceptual and attitude change related to controversial science topics. Directed graduate and undergraduate students in research design.
- 2017–2020 ***Joan Herman & Richard Rasiej Mathematics Initiative Research Assistant, University of Southern California.*** Gift of \$1,000,000. Conducted research to improve teacher effectiveness in mathematics instruction.
- 2018 ***National Science Foundation Grant Writing Team Member, University of Southern California.*** *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.
- 2015–2019 ***Social Sciences & Humanities Research Council of Canada (SSHRC) Research Assistant, McGill University.*** *Fostering epistemic belief change: The role of epistemic emotions and self-regulated learning.* Total award: \$497,286. Awarded \$13,700 to USC. Assisted research measuring change in undergraduate students' knowledge and attitudes while reading texts about controversial science topics.
- 2015–2017 ***Jobs for the Future Research Assistant, University of Southern California.*** Total award: \$99,242. Assisted research evaluating outcomes of employer created credentialing programs. Developed measures to assess knowledge, attitude, and motivation, developed research design, and conducted quantitative analyses.
- 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. Acted as 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 about 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  
Learning and Individual Differences

2018–present **Reviewer**

The Annual Meeting of the American Psychological Association: Division 15  
The Annual Meeting of the American Educational Research Association  
The Annual Meeting of the Psychology of Mathematics Education

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, Mplus, EQS, STATA, SPSS, SAS

Qualitative Analysis: NVivo

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

Survey Research: Qualtrics, MTurk, Google Forms

Adobe Creative Suite

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

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