

Curriculum Vitae

Ian Thacker

501 W. Cesar E. Chavez Blvd
San Antonio, TX 78207
ian.thacker@utsa.edu
(210) 458-26505

PROFESSIONAL APPOINTMENTS

2020–present **University of Texas at San Antonio**
Assistant Professor of Educational Psychology

EDUCATION

2015–2020 **University of Southern California**
Ph.D. Urban Education Policy, Educational Psychology concentration
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

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

Thacker, I. (2020). An embodied design for grounding the mathematics of slope in middle-school students' perceptions of steepness. *Research in Mathematics Education*, 22(3), 304-328. <https://doi.org/10.1080/14794802.2019.1692061>

Thacker, I., Sinatra G. M., Muis, K. R., Danielson, R. W., Pekrun, R., Winne, P. H., & Chevrier, M. (2020). Using persuasive refutation texts to prompt attitudinal and conceptual change. *Journal of Educational Psychology*, 112(6), 1085–1099. <https://doi.org/10.1037/edu0000434>

Copur-Gencturk, Y., **Thacker, I.**, & Quinn, D. (2020). K-8 Mathematics teachers' overall and gender-specific beliefs about mathematical aptitude. *International Journal of Science and Mathematics Education*. Advance online publication. <https://doi.org/10.1007/s10763-020-10104-7>

Copur-Gencturk, Y. & **Thacker, I.** (2020). A comparison of perceived and observed learning from professional development: Relationships among self-reports, direct assessments, and teacher characteristics. *Journal of Teacher Education*. Advance online publication. <https://doi.org/10.1177/0022487119899101>

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>

Kim, A. Y. & **Thacker, I.** (2020). 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>

Published Book Chapters and Conference Proceedings

Thacker, I., Copur-Gencturk, Y., & Cimpian, J. R. (in press). Teacher bias: A discussion with special emphasis on gender and STEM learning. In T. L. Good & M. McCaslin (Eds.), *The Routledge Encyclopedia of Education: Educational Psychology Edition*. Routledge.

Thacker, I. (2020). Numerical estimation skills, epistemic cognition, and climate change: Mathematical skills and dispositions that can support science learning. In A.I. Sacristán, J.C. Cortés-Zavala & P.M. Ruiz-Arias, (Eds.). *Mathematics Education Across Cultures: Proceedings of the Forty-Second Annual Meeting of the North-American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1054-1062). Mazatlán, Sinaloa, Mexico. ISBN: 978-1-7348057-0-3

Thacker, I. & Rasiej, R. (2020). Mathematics teachers' epistemic dispositions and their relationship with teacher instruction and student learning: A systematic research synthesis. In A.I. Sacristán, J.C. Cortés-Zavala & P.M. Ruiz-Arias, (Eds.). *Mathematics Education Across Cultures: Proceedings of the Forty-Second Annual Meeting of the North-American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 2126-2132). Mazatlán, Sinaloa, Mexico. ISBN: 978-1-7348057-0-3

Copur-Gencturk, Y., Du, H., & **Thacker, I.** (2020). Differences in mathematical ability beliefs between teachers and mathematicians in higher education. In A.I. Sacristán, J.C. Cortés-Zavala & P.M. Ruiz-Arias, (Eds.). *Mathematics Education Across Cultures: Proceedings of the Forty-Second Annual Meeting of the North-American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 573-577). Mazatlán, Sinaloa, Mexico. ISBN: 978-1-7348057-0-3.

Rodrigues, J. & **Thacker, I.** (2019) Refuting a fraction misconception: A brief intervention promotes teachers' conceptual change. In S. Otten, A. G. Candela, Z. Araujo, C. Haines, & C. Munter (Eds.), *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. ISBN: 978-0-578-57791-3

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. ISBN: 978-0-615-31397-9 [**Author names are in alphabetical order**]

Work under Review

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

MacNaul, H. L., Garcia, R., Civdini-Motta, C., & **Thacker, I.** (accept). *Effect of Assignment Choice on Student Academic Performance in an Online Class*. Behavior Analysis in Practice.

Thacker, I. & Sinatra, G. M. (under review). *Numerical Estimation Skills, Epistemic Cognition, and Conceptual Change: Supporting Climate Change Understanding Through a Mathematical Skills Intervention*. Journal of Educational Psychology.

Kennedy, A., **Thacker, I.**, & Sinatra G. M., Nye, B., Swartout, W., & Lyndsey, E. (under review). *AR for Tar: Correcting Scientific Misconceptions with Augmented Reality in a Museum Setting*. International Journal of Science Education.

Copur-Gencturk, Y., **Thacker, I.** & Cimpian, J. R. (under review). *Teachers' implicit gender bias and the moderating effects of modern sexism and math anxiety*. Educational Researcher.

Manuscripts in Preparation (*indicates student co-author)

Thacker, I., Seyranian, V., Duong, N., & Beardsley, P. (manuscript in preparation). *Social connectedness in physical isolation: Online teaching practices that support minoritized undergraduate students' belongingness and engagement in STEM*.

Thacker, I., Broadway, R.*, 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*.

Work in Progress

Thacker, I. (study in preparation). *Science by the numbers: Leveraging mathematical skills for science learning online.*

Thacker, I., Copur-Gencturk, Y., & Cimpian, J. R. (study in preparation). *Addressing math teachers' implicit bias by reflecting on types of feedback for students: An intervention.*

Emenaha, U. & **Thacker, I.** (studies in preparation). *Implicit bias among STEM preservice teachers.*

HONORS AND AWARDS

2020	USC Ph.D. Achievement Award
2020	USC Student Recognition Award
2019	SCIPIE Graduate Student Poster Award
2018	Richard C. Anderson Graduate Student Research Award
2015–2020	Rossier Dean's Fellowship, University of Southern California
2015–2020	USC Graduate Student Travel Fund Recipient

GRANTS

2020	College of Education and Human Development Faculty Research Award (\$5000)
2019	APA Division 15 Dissertation Research Grant Award (\$1000)
2018–2020	Mathematics Initiative Internal Research Funds Recipient (\$28,250 total)
2017–2018	USC Rossier Internal Research Funds Award (\$3000 total)
2016–2018	Graduate Student Government Travel Grant Recipient (\$1000 total)

RESEARCH PRESENTATIONS

Thacker, I., Herrick, I., & Nichols, S (April, 2021). #TeachingDuringAPandemic: An analysis of emotional content of K-12 teachers' tweets during the transition to online learning. In K. R. Kelly (Chair) *Informal Learning is Not Cancelled: Research and Program Implementation during a Global Pandemic.* Symposium to be presented at the American Educational Research Association, Orlando, FL.

- Copur-Gencturk, Y., **Thacker, I.**, & Cimpian, J. R. (April, 2021). *Teachers' Implicit Gender Bias and the Moderating Effects of Modern Sexism and Anxiety*. Spoken presentation to be presented at the American Educational Research Association, Orlando, FL.
- Thacker, I.**, & Sinatra, G. M. (April, 2021). *Numerical Estimation Skills, Epistemic Cognition, and Climate Change: Mathematical Skills and Dispositions That Can Support Science Learning*. Roundtable to be presented at the American Educational Research Association, Orlando, FL.
- Thacker, I.**, Seyranian, V., Duong, N., & Beardsley, P. (April, 2021). *Social Connectedness in Physical Isolation: Online Teaching Practices that Support Minoritized Undergraduate Students' Belongingness and Engagement in STEM*. Poster to be presented at the American Educational Research Association, Orlando, FL.
- Spata, A. *, Nieblas, F. *, **Thacker, I.**, & Seyranian, V. (November, 2020). *Interviews with STEM students and faculty during COVID: Unearthed transcript codes*. Spoken presentation at the STEM Education Research Seminar, University of Texas, San Antonio, TX.
- Thacker, I.**, Sinatra, G. M., & Rasiej, R. (August, 2020). *Mathematics teachers' epistemic cognition and its relationship with teacher instruction: A systematic research synthesis*. Poster 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 at the American Educational Research Association, San Francisco, CA. (Conference canceled)
- Kennedy, A., **Thacker, I.**, & Sinatra G. M. (April, 2020). *Re-Living Paleontology: Correcting Scientific Misconceptions with Augmented Reality in a Museum Setting*. Spoken presentation at the American Educational Research Association, San Francisco, CA. (Conference canceled)
- 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 (SCIPIE), 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
Introductory Statistics
Multiple Regression
Survey Research Methods
Structural Equation Modeling (SEM)
Hierarchical Linear Modeling (HLM)

Graduate Level Teaching Experience

2020-present **Instructor**, University of Texas at San Antonio, *EDP 5603: Psychology of*

Human Motivation

- 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

2020 **National Science Foundation (NSF) Project Consultant, California State Polytechnic University, Pomona.** *Building Capacity: Polytechnic for All: STEM Undergraduate Success via an Inclusive Institution* (HSI Project Award #1832405). Contributed to design, implementation, and analysis of three motivation interventions to enhance undergraduate STEM education and build capacity at HSIs. Total award: \$1,500,000.

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.** Conducted research to improve teacher effectiveness in mathematics instruction. Gift of \$1,000,000.

2018 **National Science Foundation (NSF) 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* (AISL Award #1810984). Data analyst and grant writer for NSF-AISL project. Total award: \$2,000,000.

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.* Assisted research measuring change in undergraduate students' knowledge and attitudes while reading texts about controversial science topics. Total award: \$497,286.

2015–2017 **Jobs for the Future Research Assistant, University of Southern California.** Assisted research evaluating outcomes of employer created credentialing

programs. Developed measures to assess knowledge, attitude, and motivation, developed research design, and conducted quantitative analyses. Total award: \$99,242.

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

National/International

Reviewer

2020–present Contemporary Educational Psychology

2018–present The Annual Meeting of the American Psychological Association: Div 15

2019–present The Annual Meeting of the American Educational Research Association

2019–present The Annual Meeting of the Psychology of Mathematics Education

Ad-Hoc and Guest Reviews

2020 Research in Mathematics Education

2020 Journal of Experimental Psychology: Applied

2020 Discourse Processes

2020 Science Education

2019 Learning and Individual Differences

2018 Educational Psychologist

2017 ZDM (Zentralblatt für Didaktik der Mathematik)

2016 Learning and Instruction

Service to Professional Organizations

2017-2018 *Newsletter Editor*, National Consortium for Instruction and Cognition

College of Education and Human Development Service

2020-present *Committee Member*, COEHD Scholarship Committee

2020-present *Committee Member*, COEHD Technology Committee

Department of Educational Psychology Service

2020-present *Faculty Advisor*, Educational Psychology, General MA Program

2020-present *Hiring Committee*, Educational Psychology, Applied Behavioral Analysis

Rossier School of Education Service

2016–2020 *Webmaster*, [Motivated Change Research Laboratory](#)

2016–2020 *Webmaster*, [Herman & Rasiej Mathematics Initiative](#)

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

Community Service

2020 *Guest Presenter*, Applications of Learning Theories, McGill University, Instructor: Kristy Robinson, *The Role of Attitudes and Emotions in Conceptual Change*

2020 *Panelist*, Science Teachers Association of Texas (STAT), Conference for the Advancement of Science Teaching (CAST), *Let's talk about R.A.C.E.: Reimagining a Culture of Equality*

2020 *Presenter*, STEM Education Research Seminar, Department of Mathematics, UTSA, *Implicit Bias in the Mathematics Classroom*

2019 *Guest presenter*, Experimental Psychology, California State Polytechnic University, Pomona, *Making Mathematics Meaningful: Leveraging Informal Knowledge for STEM Learning and Access*

2018 *Guest presenter*, PSY 433 Experimental Psychology, *The Role of Emotion, Attitudes, and Beliefs in Science and Mathematics Learning*

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)