

## Siling Guo

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### EDUCATION

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- Exp. 2027 **Doctor of Philosophy in Education** University of California, Irvine  
Specialization: Human Development in Context  
Advisors: Dr. Drew Bailey (primary) and Dr. Andres Bustamante (secondary)
- 2022 **Master of Science in Education** University of Pennsylvania  
Program: Interdisciplinary Studies in Human Development  
Thesis Title: *The role of classroom-level school readiness in predicting classroom quality and teacher well-being in Ghanaian preschools*  
Thesis Committee: Dr. Sharon Wolf (advisor) and Dr. Douglas Frye
- 2019 **Bachelor of Education** University of Macau  
Major: Pre-Primary Education; Minor: Psychology

### RESEARCH INTERESTS

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Child Development; Early Childhood Education; Mathematical Cognition; Program Evaluation; Meta-Science (meta-analysis; causal inference)

### PEER-REVIEWED PUBLICATIONS

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- **Guo, S.**, Sun, T., Gong, J., Lu, Z., Wang, Q., & Zhang, L. (2022). Remote Co-teaching in Rural Classrooms: Current Practice, Perceptions, and Challenges. In *CHI Conference on Human Factors in Computing Systems (CHI'22)*. April 29-May 5, 2022, New Orleans, LA, USA. ACM, New York, NY, USA. 16 Pages. <https://doi.org/10.1145/3491102.3501924>
- Gong, J., Han, T., **Guo, S.**, Li, J., Zha, S., Zhang, L., ... & Rui, Y. (2021). HoloBoard: A Large-format Immersive Teaching Board based on Pseudo Holographics. In *The 34th Annual ACM Symposium on User Interface Software and Technology (UIST '21)*, October 10–14, 2021, Virtual Event, USA. ACM, New York, NY, USA. <https://doi.org/10.1145/3472749.3474761>

### SUBMITTED MANUSCRIPTS

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- **Guo, S.**, Bailey, D.H., Rhodes, K., Begolli, K.N., Bermudez V.N., Lawrence, L., Alvarez-Vargas, D., Acevedo-Farag, L.M., Ahn J., Bustamante, A.S., & Richland, L.E. Buckets of Fun: Impacts of Fraction Ball on Students' Math-Related Emotions. *Journal of Applied Developmental Psychology*. (Under Revision)
- **Guo, S.**, & Wolf, S. The Role of Classroom-level School Readiness in Predicting Classroom Quality and Teacher Well-being in Ghanaian Preschools.

### SELECTED MANUSCRIPTS IN PROGRESS

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- Begolli, K.N.\*, **Guo, S.\***, ..., Bustamante, A.S., & Bailey, D.H. (in prep). Playing with Multiple
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Representations to Improve Knowledge Transfer of Fractions. [**\*First authorship shared**].

- Acevedo-Farag, L.M., **Guo, S.**,..., Bustamante, A.S., & Ahn J. (in prep). Unpacking Play and Learning through the Experience of Teachers and Students.

## CONFERENCE PRESENTATIONS

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### *Paper Presentations*

- **Guo, S.**, Acevedo-Farag, L.M., Sanchez J.G., Alvarez-Vargas, D., Lawrence, L., Bustamante, A.S., Begolli, K.N., Rhodes, K., Richland, L.E., & Bailey, D.H. (2023, June 5–8; Paper). Impact of Fraction Ball Activities on Students’ Math-Related Emotions. In Ramani G. (Chair), Equity-focused Programs to Measure and Promote Math Learning and Executive Functioning. *The Mathematical Cognition and Learning Society*, Loughborough, UK.

### *Poster Presentations*

- **Guo, S.**, Bustamante, A.S., & Bailey, D.H. (2023, October 18-20). Examining the Effectiveness of Playful Math Games on Adding Fractions. [Ph.D. Student Poster Fair], *LEAD Retreat*. Invited by LEAD Graduate School & Research Network, Universität Tübingen. Herrenberg, Germany.
- Wen, P., Chen Y., Zeng X., & **Guo, S.** (2021, April 8–12). Investigating Teaching Activities in Rural China: Effective Teaching, Class Management, and Child Attention. [Poster session]. *American Educational Research Association Annual Meeting*. Virtual.
- Wu, C., **Guo, S.**, Wen, P., & Chen, S. (2021, March 5–6). Pathways of Parenting Skills and Knowledge, Parent’s Perception of School Invitation for Involvement Towards Child Vocabulary Development in China: Parental School Involvement as a Mediator. [Poster session]. *The 5th Annual Conference for the Association for Reading and Writing in Asia*. Virtual.

## FELLOWSHIPS AND AWARDS

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2023	The Mathematical Learning Cognition and Learning Society Travel Award
2022-2023	University of California, Irvine Teaching in Research Fellowship
2019-2020	University of Pennsylvania Merit Scholarship
2019	Macau Foundation Academic Prize
2016, 2017, 2018	Henry Fok Foundation Scholarship

## RESEARCH EXPERIENCE

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**Graduate Student Researcher** PI: Dr. Andres Bustamante 2022 – present  
University of California, Irvine

*Lead graduate student researcher in designing and evaluating the program*

Main Project: Fraction Ball; After-school Co-design Project

- Co-led an evaluation study of an A/B test study with a series of fraction games to test different mechanisms of improving elementary students’ fraction learning (see *Playing with Multiple Representations* in “In Progress” section)
- Led an evaluation paper about the effects of a playful math intervention on students’ math-related emotions and the relationships between emotional and learning outcomes (see *Math-Related Emotions* in “Under Review” section).

- Co-led a qualitative paper using data from co-design and playtest sessions to examine underlying learning mechanisms of teachers' design ideas for program iteration and to explore variances of student engagement.
- Drafted an evaluation plan for examining the impact of co-design activities at the school district's after-school program.

**Graduate Student Researcher** *PI: Dr. Drew Bailey*

2022 – present

University of California, Irvine

Main Project: Meta-analysis of Educational Interventions with Follow-ups in Low-and middle-income Countries

- Led a meta-analysis project focusing on long-term effects of international interventions with follow-ups implemented outside of the U.S to inform skill-building theories.
- Helped with a project systematically reviewing the impact of community violence by developing keywords, search and screening criteria, and coding.

**Graduate Research Assistant** *PI: Dr. Caroline Ebby*

2020 – 2022

University of Pennsylvania

*Projects: Ongoing Assessment Project; Responsive Math Teaching*

- Analyzed teacher surveys and student assessment data to understand the process and impact of a math teacher professional development project.
- Created and organized a math task bank for participant teachers (K-6) in the School District of Philadelphia.

**Graduate Student Researcher** *PI: Dr. Douglas Frye*

2021 – 2022

University of Pennsylvania

*Main Projects: Figurative Speech in Teacher-Child; Conception of Teaching and Learning*

- Conducted an independent study exploring figurative language use in early childhood science class and teachers' perception of science instruction.
- Helped with child assessment and material preparation of a project examining developmental changes in children's understanding of teaching and learning at a children's museum.

**User Experience Researcher** *PI: Dr. Jiangtao Gong*

2020 – 2021

Lenovo Research (Beijing, China)

*Main Projects: Remote Co-teaching in Rural China; Co-teaching with AI; Immersive Interactive Technology in Education; Educational Research in Human-Computer Interaction*

- Led an evaluation study of an information and communication technology for education (ICT4E) intervention in China by conducting semi-structured interviews with 21 teachers (see *Remote Co-teaching* in "Publications" section).
- Conducted an experiment to evaluate an immersive teaching board on student engagement and analyzed classroom interactions and interview data (see *HoloBoard* in "Publications" section).
- Wrote a literature review on educational research in the field of human-computer interactions.

**Research Assistant** *PIs: Dr. Catherine Snow & Dr. Si Chen*

2018 – 2020

Harvard Graduate School of Education

*Project: One Village One Preschool*

- Designed and revised a picture book-based experimental curriculum for rural China.
- Developed a teacher training program for rural teachers in village preschools.

- Helped with implementation by providing ongoing coaching to 60 preschool teachers.

## TEACHING AND MENTORING EXPERIENCE

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<i>Playful Math Activities Facilitator</i>	Santa Ana Unified School District
<i>Math and Executive Function Test Administrator</i>	Santa Ana Unified School District
<i>Kindergarten Class Quality Observer</i>	The School District of Philadelphia
<i>Intern Kindergarten Teacher (2018-2019)</i>	School of the Nations (Macau)

## PROFESSIONAL SERVICE AND TRAINING

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**Conference Reviewer** 2022, 2023

- Conference on Human Factors in Computing Systems (CHI)

**Invited Alumni Panelist** 2023

- Invited panelist for a pre-doctoral panel focused on international students, organized by the University of Pennsylvania Career Services

**Member of Modern Meta-Analysis Research Institute** PI: Terri Pigott 2023

- Hosted by the American Institute of Research and Georgia State University, supported by the National Science Foundation.
- Selective workshop for early career STEM scholars to learn the state-of-the-art methods of systematic review and meta-analysis.

## WORK EXPERIENCE

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2022 – present	<i>Research Mentor</i>	ConnectEd (Non-profit Organization)
2020 – 2021	<i>Curriculum Designer</i>	Shenzhen PACE Research Institute
2020	<i>Educational Content Creator</i>	Kidas

## RESEARCH MENTORSHIP

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- PhD student peer mentee: April Yu (UC Irvine Diverse Educational Community and Doctoral Experience Peer Mentorship)
- Undergraduate mentees: Jessica Lopez, Cathy Nguyen\*, Stephanie Park\*, Xiangqian Yu, Cao Zhong (\* UC Irvine Undergraduate Research Opportunities Program Research)
- Grad Student Advisor for the Undergraduate Chinese Student Education Science Club at UC Irvine

## RELEVANT SKILLS & CERTIFICATIONS

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**Statistical Program:** Mplus; STATA; R

**Qualitative Analysis Program:** Dedoose; NVivo 12.0

**Languages:** English (fluent), Mandarin (native), Cantonese (proficient)

**Certificates:** Early Childhood Education Teacher in Macau (June 2019)