

Yewon Sung

Curriculum Vitae

California State University, San Bernardino
Department of Teacher Education and Foundations

College of Education

Mathematics Education

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ACADEMIC EMPLOYMENT

California State University, San Bernardino, Department of Teacher Education and Foundations

Assistant Professor, Mathematics Education

Aug 2022-present

EDUCATION

University of Wisconsin-Madison, Madison, WI

Aug 2022

Ph.D. in Mathematics Education, Ph.D. Minor in Educational Psychology

Dissertation: *Korean immigrant parents' ways and reasons to support their elementary-aged children's mathematical meaning-making at home during the COVID-19 pandemic.*

Advisor/Chair: Erika Bullock

Committee Members: Maxine McKinney de Royston, Thomas Popkewitz, Mary Louise Gomez, Martha Alibali, and Ana Stephens

Gyeongin National University of Education, Gyeonggi, South Korea

Feb 2022

M.Ed. in Global Teacher Education

St. Cloud State University, St. Cloud, MN

Aug 2017

M.S. in Curriculum and Instruction (Math Ed) & Special Education (Dual Major)

Gyeongin National University of Education, Gyeonggi, South Korea

Aug 2013

M.Ed. in Mathematics Gifted Education

Gyeongin National University of Education, Gyeonggi, South Korea

Aug 2009

B.S. in Elementary Education (specialized in Mathematics Education)

Naruto University of Education, Tokushima, Japan

Oct 2007-Aug 2008

Exchange Student (Mathematics Education)

RESEARCH & TEACHING INTERESTS

Cross-cultural use of semiotic bundles in mathematics learning

Parental involvement in mathematics education

Mathematical meaning-making among diverse families
 Mathematics identities and belonging
 Early Algebra intentional intervention
 Narrative Inquiry

PUBLICATIONS

Peer-Reviewed Journal Articles, Published or Accepted for Publication

- Sung, Y.**, Stephens, A., Veltri Torres, R., Strachota, S., Blanton, M., Gardiner, A. M., Knuth, E., & Stroud, R. (2024). Teacher Use of Multimodal Signs to Support Kindergarten Students' Developing Understanding of Mathematical Equivalence. *Mathematics Education Research Journal*.
- Strachota, S., Stephens, A., Morton, K., Veltri-Torres, R., Blanton, M., Murphy Gardiner A., **Sung, Y.**, Stroud R., & Knuth, E. (2023). How Tools Mediate Elementary Students' Algebraic Reasoning about Evens and Odds. *Mathematics Education Research Journal*. DOI: <https://doi.org/10.1007/s13394-023-00457-x> [doi.org]
- Sung, Y.**, Stephens, A., Knuth, E., Blanton, M., Gardiner, A., & Stroud, R. (2021). Positive Emotions in Early Algebra Meaning-Making. *Didactica Mathematicae*, 43, 31-59. DOI: <https://doi.org/10.14708/dm.v43i1.7115>
- Stephens, A., Veltri Torres, R., **Sung, Y.**, Strachota, S., Murphy Gardiner, A., Blanton, M., Stroud, R., & Knuth, E. (2021). From "You have to have three numbers and plus sign" to "It's the exact same thing": K-1 students learn to think relationally about equations. *Journal of Mathematical Behavior*. DOI: 10.1016/j.jmathb.2021.100871
- Stephens, A., **Sung, Y.**, Strachota, S., Veltri Torres, R., Morton, K., Murphy Gardiner, A., Blanton, M., Knuth, E., & Stroud, R. (2020). The Role of Balance Scales in Supporting Productive Thinking about Equations Among Diverse Learners. *Mathematical Thinking and Learning*. DOI: [10.1080/10986065.2020.1793055](https://doi.org/10.1080/10986065.2020.1793055)
- Sung, Y.**, & Song, S. (2013). Mathematical Elaboration Process of the Elementary Gifted Children's Board Game Re-creation in Group Project. *School Mathematics, KCI*, V. 15(3), p 619-632. Republic of Korea.

Master's Thesis

- Sung, Y. (2017). Advisor, Lo, M., Kaffar, B., and Haller, S., Teacher's perception of creativity of mathematically Talented students. Saint Cloud State University, Minnesota, United States.
- Sung, Y. (2013). Advisor, Song, S. Mathematical Elaboration Process of the primary Gifted Children's Board Game Re-Creation Group Project. Gyeongin National University of Education, Republic of Korea.

SUBMITTED FOR REVIEW

- Sung, Y.** (Under Review). *I Am Not a Tiger Parent, I Want My Child to Belong Here: Korean Immigrant Families' Narratives for Racial Equity Through Mathematics Support*.
- Sung, Y.** (Revisions). *Mathematics is NOT a Universal Language for Immigrant Families: Understanding Korean Immigrant Families' Culturally Relevant Mathematical Meaning-making*.

WORKING MANUSCRIPTS

- Sung, Y.** (in progress). Mathematical Code Switching as a Tool for Supporting Immigrant Children's Math Learning. Submission Goal: Educational Studies in Mathematics (ESM)
- Sung, Y. & Kim, J.** (in progress). Problem-Based Learning With Technology Tools for Students with Mathematics Learning Disability and Intellectual Disability. Submission Goal: Teaching Exceptional Children (TEC).
- Sung, Y.** (in progress). Developing Understanding of Mathematical Equivalence: The Impact of Virtual and Tactile Manipulatives on Elementary Preservice Teachers. Submission Goal: Educational Studies in Mathematics (ESM)
- Sung, Y.** (in progress). Exploring AI Digital Textbook Preparation in South Korea. Submission Goal: International Journal of Educational Technology in Higher Education (ETHE)
- Song, S. & Sung, Y.** (in progress). 초등 예비교사를 위한 한국과 미국의 디지털 수학 교구의 활용사례 및 전망. *Utilization and Future Prospects of Mathematics Virtual Manipulatives for Elementary Pre-service Teachers in South Korea and the United States.* Submission Goal: 교육논총

PROCEEDINGS

- Sung, Y.** (2024). Korean Immigrant Parents' Ways of Providing Support for Mathematics Understanding at Home. In Kosko, K. W., Caniglia, J., Courtney, S., Zolfaghari, M., & Morris, G. A. (Eds.), *Proceedings of the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 378–383). Cleveland, OH: Kent State University.
- Sung, Y.,** Stephens, A., Veltri Torres, R., Strachota, S., Blanton, M., Murphy Gardiner, A., Stroud, R., & Knuth, E. (2022). Teacher Language and Gesture in an Intervention Focused on Developing Kindergartners' Understandings of the Equal Sign. In Lischka, A., Dyer, E., Jones, R., Lovett, J., Strayer, J., & Drown, S. (Eds.), *Proceedings of the forty-fourth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 303–312). Nashville, TN: Middle Tennessee State University.
- Stephens, A., Stroud, R., Strachota, S., Blanton, M., Stylianou, D., Knuth, E., Veltri Torres, R., Murphy Gardiner, A., & **Sung, Y.** (2019). Sixth-grade students' retention of early algebra understandings after an elementary grades intervention. In Otten, S., Candela, A. G., de Araujo, Z., Haines, C., & Munter, C. (Eds.), *Proceedings of the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 147–156). St. Louis, MO: University of Missouri.

PEER-REVIEWED PRESENTATIONS

- Sung, Y.** (2024). Mathematics is NOT a Universal Language for Immigrant Families: Understanding Korean Immigrant Families' Mathematics Interactions. Mini-Conference

- Paper Presentation of *the 2024 Educational Leadership Summit, San Bernardino, California: California State University, San Bernardino.*
- Sung, Y.** (2024). Korean Immigrant Parents' Ways of Providing Support for Mathematics Understanding at Home. Brief Research Paper Presentation of the forty-sixth annual meeting of *the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)*. Cleveland, Ohio: Kent State University.
- Sung, Y.**, (2024). Korean Immigrant Parents' Reasons for Providing Home Mathematics Support for Their Children during the COVID-19 Pandemic. Paper submitted to the 2024 annual meeting of *the American Educational Research Association (AERA)*. Philadelphia, Pennsylvania.
- Sung, Y.**, Stephens, A., Veltri Torres, R., Strachota, S., Blanton, M., Gardiner, A. M., Knuth, E., & Stroud, R. (2023). K-2 Early Algebra Students' Understanding of the Commutative Property of Addition. Empirical Paper Presentation of the 2023 annual meeting of *the American Educational Research Association (AERA)*. Chicago, IL.
- Stephens, A., **Sung, Y.**, Blanton, M., Gardiner, A., Stroud, R., & Knuth, E. (2022). Kindergarten–grade 2 students' algebraic reasoning before and after a one-year early algebra intervention. Empirical Paper Presentation of the 2023 annual meeting of *the American Educational Research Association (AERA)*. Chicago, IL.
- Sung, Y.**, Stephens, A., Veltri Torres, R., Strachota, S., Blanton, M., Gardiner, A. M., Knuth, E., & Stroud, R. (2022). Teacher language and gesture in an intervention focused on developing kindergarteners' understandings of the equal sign. Empirical Paper Presentation of the forty-fourth annual meeting of *the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)*. Nashville, TN: Middle Tennessee State University.
- Sung, Y.** (2022). Mathematical Meaning-Making Among Immigrant Families: Code-Switching, Cultural Negotiation, and Identity Development. Paper presented at the Curriculum and Instruction Graduate Student Conference, University of Wisconsin-Madison, USA.
- Sung, Y.**, Stephens, A., Blanton, M., Gardiner, A., Knuth, E., & Stroud, R. (2021). Positive Emotions in Early Algebra Learning. Paper presented at The 14th International Congress on Mathematical Education, Shanghai, China.
- Veltri Torres, R., **Sung, Y.**, Strachota, S., Stephens, A., Blanton, M., Gardiner, A., Stroud, R., Knuth, E., & Stylianou, D., (2021). *An Early Algebra Intervention Develops K–1 Students' Relational Understanding of the Equal Sign*. Poster presented at the WCER Annual Poster Fair, Madison, USA.
- Stephens, A., **Sung, Y.**, Strachota, S., Veltri Torres, R., Morton, K., Murphy Gardiner, A., Blanton, M., Knuth, E., & Stroud, R. (2020). How do balance scales shape K–2 students' understandings of equations? Poster presented at the Annual Conference of the Society for Research on Educational Effectiveness, Washington, D.C. (Conference canceled due to the COVID-19 pandemic)
- Veltri Torres, R., Prough, S., Strachota, S., Stephens, A., **Sung, Y.**, Gardiner, A., Blanton, M., & Knuth, E., (2019). *Describing the unknown: Moving toward variable notation and algebraic thinking in kindergarten*. Paper presented at the American Educational Research Association Annual Meeting, Toronto, Canada.
- Veltri Torres, R., **Sung, Y.**, Strachota, S., Stephens, A., Blanton, M., Gardiner, A., Stroud, R., Knuth, E., & Stylianou, D., (2019). *Does early algebra matter? Results from a*

large-scale longitudinal intervention. Poster presented at the WCER Annual Poster Fair, Madison, USA.

RESEARCH GRANT EXPERIENCES

External Grant Principal Investigator

NAEd/Spencer Foundation (Applied in Nov 2024)

Proposal writing for NAEd/Spencer Postdoctoral Fellowship: Breaking Barriers in Early Algebra: Developing Understanding of Mathematical Equivalence for Grade K-2 Minoritized Students with Semiotic Resources and Culturally Sustaining Practices (2025-2027)

PI: Yewon Sung (CSUSB)

Proposed Amount: \$ 70,000

Eugene P. & Clara M. Smith Mathematics Education Research Fund, AMTE, & NCTM (Applied in Oct 2024)

Proposal writing for Early Career Research Grant: Developing Elementary Preservice Teachers' Understanding of Mathematical Equivalence: Examining the Impact of Semiotic Bundles, Language, Gestures, and Educational Tools (2025-2026)

PI: Yewon Sung (CSUSB)

Proposed Amount: \$ 10,000

Professional Development Funding Proposal

Center for the Advancement of Instruction in Quantitative Reasoning (CAIQR), CSU Chancellor's Office (Awarded in Jan 2024)

Proposal writing for the MSTI (Math and Science Teacher Initiative) Fund on PK-5 PD in Mathematics Content Knowledge and Data Science and PK-5 PD in Incorporating Science Literacy and NGSS in the Curriculum: Exploring PK-5 Science Concepts and the Next Generation Science Standards (2024-2025)

PIs: Drs. Jonathan Hall, Xinying Yin, Yewon Sung, Halil Tasova, and Peet Smith (CSUSB)

Proposed Amount: \$ 75,000

Internal Grant Principal Investigator

California State University-San Bernardino, San Bernardino, CA (Awarded in Aug 2024)

Proposal writing for 2024-2025 Academic Affairs Assigned Time Awards

PI: Yewon Sung (CSUSB)

Proposed Amount: \$ 7,465

California State University-San Bernardino, San Bernardino, CA (Awarded in July 2024)

Proposal writing for James R. Watson & Judy Rodriguez Watson College of Education Faculty Summer Research Fellowship: Mathematics is NOT a Universal Language for Immigrant Families: Understanding Korean Immigrant Families' Ways of Code-Switching in Mathematics (2024-2025)

PI: Yewon Sung (CSUSB)

Proposed Amount: \$ 5,000

California State University-San Bernardino, San Bernardino, CA (Awarded in May 2024)

Proposal writing for Mini-Grants: Developing Elementary Preservice Teachers' Understanding of Mathematical Equivalence through Virtual and Tactile Manipulatives.
 PI: Yewon Sung (CSUSB)
 Proposed Amount: \$ 6,500

California State University-San Bernardino, San Bernardino, CA (Awarded in April 2024)

Proposal writing for Professors Across Borders (PAB) Travel Grants: Exploring AI Digital Textbook Preparation in South Korea: Navigating the Landscape (2024-2025)
 PI: Yewon Sung (CSUSB)
 Proposed Amount: \$ 2,500

California State University-San Bernardino, San Bernardino, CA (Declined in May 2023)

Proposal writing for Vital/Expanded Technologies Initiative Instructional Technology (VETI) grant: Interactive Video Wall for CSUSB Student Teachers, Educators, and Students in Inland Empire (STEM Exploration Center) (2023-2024)
 PIs: Yewon Sung (CSUSB), Eun-Ok Baek (CSUSB)
 Proposed Amount: \$85,715

Project Assistant

University of Wisconsin-Madison, Madison, WI Sep 2017 - Aug 2022

Funded by **National Science Foundation** DRL-1720129: Building a Grades K–2 Early Algebra Learning Progression for Diverse Populations (2017-2020)

Funded by **Institute for Education Sciences** R305A170378: Extending a Grades 3–5 Early Algebra Learning Progression into Grades K–2 (2017-2021)

PIs: Maria Blanton (TERC), Angela Gardiner (TERC), Eric Knuth (University of Texas at Austin), Ana Stephens (University of Wisconsin-Madison), and Rena Stroud (Merrimack College)

Publications at JMB, 2021, MTL, 2020, DM, 2021.

Presentations at ICME-14 2021

HONORS & AWARDS

Thomas A. Romberg Fellowship (A Nine-Month Stipend, \$22,909) Sep 2021-May 2022
 The University of Wisconsin-Madison, Madison, WI

Hartzman International Conference Award (\$ 400) July 2021
 The University of Wisconsin-Madison, Madison, WI

Excellent Graduate Student Award (\$1,000) Mar 2012
 Gyeongin National University of Education, Gyeonggi, South Korea

Excellent Teaching Award 2nd highest rank Nov 2012
 Gyeonggi Province Education Office, Suwon-Si, Gyeonggi, South Korea
 Mathematics Teaching: Polydron to 5th-grade students

Gifted Education Teaching Award 2nd highest rank Nov 2012
 Uiwang Education Office, Uiwang-Si, Gyeonggi, South Korea

Tokushima Congress Chair's Award in Japanese Speech Contest July 2008
 Tokushima Prefecture, Japan

University Mascot Design Contest 2nd highest rank Nov 2006
 Gyeongin National University of Education, Anyang-Si, Gyeonggi, South Korea

PROFESSIONAL EMPLOYMENT HISTORY

Assistant Professor

California State University, San Bernardino, CA Aug 2022-present
 Mathematics Education, Teacher Education and Foundations, Watson College of Education

Practicum Supervisor

California State University, San Bernardino, CA Aug 2022-present
 Multiple Subject Credential Program, Watson College of Education

Teaching Assistant

University of Wisconsin-Madison, Madison, WI Sep 2020 - May 2021
 Teaching assistant for pre-service teachers

St. Cloud State University, St. Cloud, MN Jan 2016 - May 2017
 Teaching assistant for pre-service teachers including edTPA

Lecturer for PD sessions

Gyeongin National University of Education, Gyeonggi, South Korea Jan 2014 – Jan 2015

Elementary School Teaching

Ojeon Elementary School, Gyeonggi, South Korea Mar 2010 - Aug 2015
 Homeroom teacher and subject teacher for 3-6th grade students

Changrim Elementary School, Seoul, South Korea May 2017-July 2017
 Homeroom teacher for 6th-grade students

Haneol Elementary School, Gyeonggi, South Korea May 2019-Aug 2019
 English subject teacher for 3-6th grade students

COURSES/TEACHING

Fall 2022

- EDMS 5104 (1) Mathematics Teaching and Learning
- EDMS 5104 (5) Mathematics Teaching and Learning
- EDMS 4107A Supervised Clinical Practice (Student Teaching)

Spring 2023

- EDMS 5104 (1) Mathematics Teaching and Learning

- EDMS 5104 (2) Mathematics Teaching and Learning
- EDMS 5104 (3) Mathematics Teaching and Learning

Fall 2023

- EDMS 5104 (60) Mathematics Teaching and Learning
- EDMS 5104 (61) Mathematics Teaching and Learning
- EDMS 4107A Supervised Clinical Practice (Student Teaching)

Spring 2024

- EDMS 5104 (60) Mathematics Teaching and Learning
- EDMS 5104 (61) Mathematics Teaching and Learning
- EDMS 4107A Supervised Clinical Practice (Student Teaching)

Fall 2024

- EDMS 5104 (60) Mathematics Teaching and Learning
- EDMS 5104 (61) Mathematics Teaching and Learning
- Course Release for Mini-Grant Research
- Course Release for 2024-2025 Academic Affairs Assigned Time Awards

LICENSURE AND CERTIFICATIONS

Graduate Certificate in Instructional Technology	Aug 2017
Saint Cloud State University, St. Cloud, MN, United States	
Minnesota Mathematics 5-12 Teacher License	Oct 2016
Minnesota Department of Education, MN, United States	
Minnesota Elementary K-6 Teacher License	Oct 2016
Minnesota Department of Education, MN, United States	
Elementary School Teacher license 1st level (Highest Level)	Aug 2014
Gyeonggi Province Education Office, Suwon-Si, Gyeonggi, South Korea	
Elementary School Teacher license 2nd level	Aug 2009
Gyeongin National University of Education, Anyang-Si, Gyeonggi, South Korea	

RESEARCH SUPERVISION AND ACADEMIC ADVISING

Doctoral dissertation second reader for

- Michelle R Estrada-Quezada

Fall 2024 semester-

SERVICE

Service to the CSUSB

Intellectual Life and Visiting Scholars Committee

Fall 2024 - present

Watson College of Education Scholarship and Research Committee

Fall 2023 - present

STEM Exploration Center Development Team

Fall 2022 - present

Professional Awards Committee

Fall 23 - Spring 2024

Service to the University of Wisconsin-Madison

Alumni Panelist for Job Market Preparation Session for Curriculum and Instruction	
International Student Association (CIISA)	Spring 2023
Peer Mentor for new international students and visiting scholars	Aug 2021
Presenter for Global Research Symposium, Spring 2022	April 2022

Service to the Profession

Editorial Board Member for Journal of Elementary Mathematics Education in Korea (JEME)	
한국초등수학교육학회지	March 2023-Present
Reviewer for Mathematical Thinking and Learning (MTL)	Sep 2023-present
Reviewer for Educational Researcher	Aug 2021-present
Reviewer for ICME conference proposals	Nov 2019
Reviewer for PME-NA conference proposals	March 2019
Reviewer for Didactica Mathematicae (DM)	May 2022-present

Service to the Global Community

Mother Teresa's house, Kolkata, India	January 2012
Translator for Korea & Japan mathematics education seminar	August 2007 – August 2015

PROFESSIONAL DEVELOPMENT*Professional Development Semester Training*

Assessment Remix Institute	Fall 2024 semester
Equity Minded Pedagogy	Fall 2023 semester
Next Generation Smart Classroom Co-synchronous Teaching Program (CSUSB)	Spring 2023 semester
Quality Online Teaching Program (CSUSB)	Fall 2022 semester
Fall Canvas Institute (CSUSB)	Fall 2022 semester

Webinars

Increasing Student Engagement and Learning Success: High Impact Practices	Jan 2023
The Seven Principles of Good Teaching (CSUSB)	Jan 2023
Winter Proposal Workshop (CSUSB)	Jan 2023

Doctoral Study Webinars at UW-Madison

A Writer's Retreat	July 2021
Paraphrasing Like a Pro: How to Successfully "Use Your Own Words"	June 2020
Writing Literature Reviews of Published Research	Nov 2019
Getting Your Dissertation off the Ground: Writing the First Chapter	Oct 2019
Creating Figures and Tables in APA Research Papers	Sep 2019
Education Fall Welcome Resource Fair	Sep 2017
International Student Fair	Sep 2017
Grad School Resource Fair	Aug 2017

PROFESSIONAL AFFILIATIONS

California Mathematics Council (CMC)	July 2022-Present
Association of Mathematics Teacher Educators (AMTE)	June 2022-Present
National Council of Teachers of Mathematics (NCTM)	April 2022-Present
American Educational Research Association (AERA)	Aug 2021-Present
Division K: Teaching and Teacher Education	
Korean American Research Association (KAERA)	Aug 2021-Present

LANGUAGES

English, Japanese, & Korean (Trilingual Fluency)	
Japanese Language Proficiency Test (JLPT) 1st level (Highest Level)	Jan 2009
Japan Foundation, Japan Educational Exchange and Service	