TEXAS STATE VITA

I. Academic and Professional Background

Juanita M. Silva

Associate Professor, Mathematics Education

Educational Background

Degree	Year	University	Major	Thesis/Dissertation
Ph.D.	2018	The University of Texas at Austin	STEM Education	Emerging Bilinguals' Mathematical Agency in a Teaching Experiment: Tomar Posesión y Entender Las Ideas Matemáticas
B.S.	2008	The University of Texas at Austin	Mathematics	

University Experience

Position Associate Professor Assistant Professor	University Texas State University Texas State University: Department of Curriculum and	Dates 2024-Present 2018-2024
Consultant Researcher	Instruction North Carolina State University, Jessica Hunt, PI	2017-2018
Assistant Instructor, Math education undergraduate courses	The University of Texas at Austin	2015-2018
Teaching Assistant, Math undergraduate courses	The University of Texas at Austin	Fall 2017
Graduate Research Assistant	The University of Texas at Austin, Jessica Hunt, PI	2014-2017
Teaching Assistant, Math education undergraduate courses	The University of Texas at Austin	2013-2014

Relevant Professional Experience

Position	Entity	Dates
Middle School Teacher, 8th	Thomas C. Marsh Middle School, DISD,	2008-2013
Grade and Algebra 1	Dallas TX	
College Advisor and	The Road Map to College Program, Thomas	2012-2013
Instructor	C. Marsh Middle School, DISD, Dallas, TX	
Math Department Head, 6-8	Thomas C. Marsh Middle School, DISD,	2010-2012
Math Teachers	Dallas TX	
Test Writer, Math	Dallas Independent School District, Dallas,	2010-2012
Department	TX	

Other Professional Credentials

Teaching Certification: Texas 8-12 Mathematics Education, 2008

II. TEACHING

Teaching Honors and Awards

Honor Recipient. (2022). College Achievement Award, Presidential Award for Excellence in Teaching, Assistant Professor Rank, Texas State University, College of Education.

Honor Recipient. (2020). Teaching Award of Honor for Exemplar Service during the Covid-19 Crisis, Texas State University Alumni Association.

Courses Taught

The University of Texas at Austin

Undergraduate

370E Elementary Mathematics Methods

Texas State University

Undergraduate

CI 4345 Teaching Mathematics to Diverse Children in EC- 2nd Grade Classrooms

CI 4350 Teaching Mathematics to Diverse Children in 3rd- 6th Grade Classrooms

CI 4350 Mathematics in the Integrated Elementary Curriculum

BILG 4362 Teaching Across the Bilingual Content Areas EC-6

Graduate

CI 5303 Teaching Math in the Elementary Classroom

Directed Student Learning (i.e., theses, dissertations, exit committees, etc.)

Ford, L. (December 2022- Present). Undergraduate Developmental Mathematics Fraction Understandings. [Status: In Progress]. Member. Dissertation, Department of Mathematics, Texas State University.

Courses Prepared and Curriculum Development

Graduate New Course Created

CI 5332: Multicultural Teaching and Learning Mathematics, Add to the new Alternative Certification Elementary program for Education graduate majors, Texas State University, Approved: May 2024-Present.

Undergraduate New Course Created

- CI 4348: Teaching Mathematics to Diverse Children in Early Childhood through 6th Grade Classrooms, Add to Existing Degree Program for Special Education majors, Texas State University, Proposed: September 2023.
- CI 4345: Teaching Mathematics to Diverse Children in Early Childhood through 2nd Grade Classrooms, Revise Existing Degree Program, Texas State University. Approved: August 2021 Present.

Undergraduate Course Changes

- CI 4350 Teaching Math in the Elementary Classroom (MULT), Revised Existing class with 60 % Multicultural Content, Texas State University. Approved: January 2022 Present.
- CI 4350: Teaching Mathematics to Diverse Children in Early Childhood through 2nd grade Classrooms, Revise Existing Degree Program, Texas State University. Approved: August 2021 Present.

Teaching Grants and Contracts

Funded Internal Teaching Grants and Contracts

Silva, J. M. (Principal Investigator), Forsythe, M. E. (Co-Principal), Maldonado, L. A. (Co-Principal). (2019 – 2020) *Equity and STEM Integration: Using Wearable Technology to Enhance STEM Education*. [Grant]. Teaching and Learning Technology Innovation Grant. Texas State University, \$4,357.00.

Teaching Professional Development Activities Attended

Multicultural Curriculum Transformation & Research Institute (MCTRI), 2021

A weeklong professional development experience that focuses on enriching the curriculum by re-envisioning goals, content, teaching strategies, assessment, and classroom interactions with a multicultural lens.

III. SCHOLARLY/CREATIVE

Works in Print

Refereed Journal Articles

- **Silva, J.M.**, Hunt, J.H., & Welch-Ptak, J. (2023). From (and for) the invisible 10%: Including students with learning disabilities in problem solving instruction. *Journal for Research in Mathematics Education*. *54*(4), 260-278. https://doi.org/10.5951/jresematheduc-2020-0117
- Martinez, J. H., **Silva, J.M**., Maldonado Rodríguez, L.A. (2022). Attending to others' ideas: A semiotic alternative to logocentrism in bilingual classrooms. *International Journal of Qualitative Studies in Education*. 1-18. https://doi.org/10.1080/09518398.2022.2098398
- Silva, J.M., Maldonado Rodríguez, L.A., White, D.Y. (2022). Doing right

- by our preservice teachers of color: Reflections by mathematics teacher educators of color. *Journal of Mathematics Teacher Education in Texas*, 12(1), 14-15.
- **Silva, J.M.** (2021). Through an equity lens: Teaching practices on children who are bilingual with learning dis/abilities during mathematics discussions. *Insights into Learning Disabilities*, 18(2), 187-209. https://www.ldw-ild.org/images/Silva_2021.pdf
- Krause, G., **Silva, J.M.,** & Aguilar, J. (2020). Bilingual pre-service teachers and their opportunities to learn. *Investigations in Mathematics Learning*, *12*(4), 289-303. https://doi.org/10.1080/19477503.2020.1836458
- Hunt, J., Martin, K., Khounmeuang, A., **Silva, J.M.**, Patterson, B., & Welch Ptak, J. (2020). Design, development, and initial testing asset-based intervention grounded in trajectories of student fraction learning. *Learning Disability Quarterly*, 00(0), 1-14. https://doi.org/10.1177/0731948720963589
- **Silva, J.M.** (2020). Exploring the mathematical agency of a multilingual child with an identified learning disability. *Teaching for Excellence and Equity in Mathematics Journal, 11*(3), 25-31.
- Hunt, J., & **Silva**, **J.M.** (2020). Emma's negotiation of number: Implicit intensive intervention. *Journal for Research in Mathematics Education*, *51*(3), 334-360. https://doi.org/10.5951/jresemtheduc-2019-0067
- Hunt, J.H., **Silva, J.M.**, & Lambert, R. (2019). Empowering students with specific learning disabilities: Jim's concept of unit fraction. *Journal of Mathematical Behavior*, 56, 100738. https://doi.org/10.1016/j.jmathb.2019.100738
- Hunt, J.H., MacDonald, B.L., & **Silva, J.M.** (2019). Gina's mathematics: Thinking, tricks, or "teaching"? *Journal of Mathematical Behavior*, 56, 100707. https://doi.org/10.1016/j.jmathb.2019.05.001
- Hunt, J. H., MacDonald, B.L., Lambert, R., Sugita, T., & **Silva, J.M.** (2018). Think-pair show-share to increase classroom discourse. *Teaching Children Mathematics*, 25(2), 78-84. https://www.jstor.org/stable/10.5951/teacchilmath.25.2.0078
- Hunt, J.H., Welch-Ptack, J., & **Silva, J.M.** (2016). Initial understandings of fraction concepts evidenced by students with mathematics learning disabilities and difficulties: A framework. *Learning Disability Quarterly*, *39*(4), 213-225. https://doi.org/10.1177/0731948716653101
- Hunt, J. H., Westenskow, A., **Silva, J.M.**, & Welch-Ptak, J. (2016). Levels of participatory conception of fractional quantity along a

purposefully sequenced series of equal sharing tasks: Stu's trajectory. *Journal of Mathematical Behavior*, 41, 45-67. https://doi.org/10.1016/j.jmathb.2015.11.004

Conference Proceedings

Refereed Conference Proceedings

- Silva, J. M., Adams Corral, M., Martinez, R., Krause, G., Myers, M., Maldonado Rodríguez, L., & Amidon, J. (2022, November). Coming out on the other side of "the equity group": From choqué to harmony. In A. E. Lischka, E. B. Dyer, R. S. Jones, J. Lovett, J. Strayer, & S. Drown (Eds.), Proceedings from the 44th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 2173-2175). Nashville, Tennessee.
- Krause, G., **Silva, J. M.**, & Aguilar, J. (2020, November). Language: A hidden resource in preparing bilingual pre-service teachers. In A. I. Sacristán, J. C. Cortés-Zavala, & P. M. Ruiz-Arias (Eds.), *Mathematics Education Across Cultures: Proceedings from the 42nd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 850-859). Mazatlán, México.
- White, D. Y., Maldonado Rodríguez, L. A., **Silva, J. M.**, & Anderson, C. (2020, November). Exploring culture in mathematics education from the perspectives of preservice teachers of color. In A. I. Sacristán, J. C. Cortés-Zavala & P. M. Ruiz-Arias (Eds.), *Mathematics education Across Cultures: Proceedings of the 42nd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 587-591). Mazatlán, México.
- **Silva, J.M.** (2019, November). The math agency of three emergent bilinguals with identified learning disabilities. In S. Otten, Z. deAraujo, A. G. Candela, C., Haines, & C. Munter (Eds.), *Proceedings from the 41st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 242-247). Saint Louis, Missouri.
- Silva, J.M., Myers, M., Martinez, R., Langer-Osuna, J., & Amidon, J. (2019, November). Addressing equity and diversity issues around expansion, displacement, and growth in mathematics education. In S. Otten, Z. deAraujo, A. G. Candela, C. Haines, & C. Munter (Eds.), *Proceedings from the 41st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 2020-2025). Saint Louis, Missouri.
- Hunt, J.H., & Silva, J.M. (2019, November). Emma's counting and coordination of units: Supporting sense making for students with working memory differences.
 In S. Otten, Z. deAraujo, A. G. Candela, C. Haines, & C. Munter (Eds.), Proceedings from the 41st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp.1477-1481). Saint Louis, Missouri.

- Silva, J. M., Krause, G., & Maldonado, L. A. (2018, November). "Explicame tu estrategia": Emergent bilingual's development of mathematical agency in problem solving discussions. In T. E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), *Proceedings of the 40th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1014). Greenville, SC: University of South Carolina & Clemson University.
- Hunt, J.H., MacDonald, B., & Silva, J.M. (2018, November) Tacit, trick, or "teach": What is Gina's mathematical reality? In T. E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), Proceedings from the 40th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 914-921). Greenville, SC: University of South Carolina & Clemson University.
- Hunt, J.H., **Silva, J.M.**, & Lambert, R. (2017, October). From trajectories, deficits, and differences to neurodiversity: The case of Jim. In E. Galindo, & J. Newton (Eds.), *Proceedings from the 39th annual meeting of the North America Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1091-1094). Indianapolis, Indiana.
- Hunt, J.H., **Silva**, **J.M.**, & Welch-Ptak, J. (2016, August). Elementary children with learning disabilities and difficulties: Initial fraction understandings. In C. Csikos, A. Rausch, & J. Szitanyi (Eds.), *Proceedings from the 40th annual meeting of the International Group for the Psychology of Mathematics Education (pp. 3-10). Szeged, Hungary.*
- Hunt, J.H., Westenskow, A., **Silva, J.M.**, & Welch-Ptak, J. (2015, November). Stu's initial and evolving conceptions of unit fractions. In T.G. Bartell, K.N. Bieda, R.T. Putnam, K. Bradfield, & H. Dominguez (Eds.), *Proceedings from the 37th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 205-208). East Lansing, Michigan.

Works not in Print

Papers Presented at Professional Meetings (peer-reviewed)

- Maldonado Rodríguez, L., **Silva, J. M.**, White, D. Y., Eley, P., & Franco, L. (2024, Nov 6-9). *Reflections of Preservice Teachers of Color on a Racialized Mathematics Case of Benjamin*. [Paper session] International Conference on Urban Education (ICUE), Cancun, Mexico.
- White, D. Y., Eley, P., Maldonado Rodríguez, L., & **Silva, J. M.** (2024, Sept 25-27). *Preservice Teachers of Color Naming Racialized Mathematics Experiences*. [Round table] National Council of Teachers of Mathematics (NCTM) Research Conference, Chicago, IL.
- Silva, J.M., Maldonado Rodriguez, L.A., White, D. Y., & Eley, P. (2023,

- February 1-4). *One Mathematics Culture Unit, Three Modifications* [Paper Session]. Association of Mathematics Teacher Educators (AMTE) Annual Conference, New Orleans, Louisiana.
- **Silva, J.M.**, Hunt, J., & Welch-Ptak, J. (2021, April 8-12). *Small environments supporting the unique fractional understanding of a child with a learning disability* [Paper session]. American Education Research Association (AERA) Annual meeting, Virtual.
- Silva, J.M. (2021, April 8-12). Capturing the responsive teacher moves of an expert bilingual mathematics teacher during clinical interviews in a bilingual setting. In J.H. Martinez (Chair), Preparando Futurxs Maestrxs: Teaching Mathematics and Supporting Bilingualism in the Elementary Classroom [Symposium]. American Education Research Association (AERA) Annual meeting, Virtual.
- Anderson, C., Maldonado Rodriguez, L.A., **Silva, J.M.** (2021, February 11 20). *Doing right by our pre-service teachers of color: Reflections by mathematics teacher educators of color* [Symposium]. Association of Mathematics Teacher Educators (AMTE) Annual Conference, Virtual.
- MacDonald, B., Hunt. J.H., & **Silva**, **J.** (2019, October 16-18). "*Think pair show share*": *UDLizing talk moves to increase classroom discourse* [Workshop] National Council of Teachers of Mathematics (NCTM) Regional Conference and Exposition, Salt Lake City, UT.
- Hunt, J.H. & **Silva, J.** (2019, April 5-9). *Emma's numbers: Whose knowledge is valued? What knowledge is valued?* [Poster Session]. American Educational Research Association (AERA) Annual Meeting, Toronto, Canada.
- Hunt, J.H., & **Silva, J.** (2019, April 1-5). *Differentiating instruction in mathematics education* [Paper Symposium]. National Council of Teachers of Mathematics (NCTM), Research Conference, San Diego, CA.
- Hunt, J.H., & **Silva, J.M.** (2017, April 27-30). *Unit coordination and partitioning activity of one child with mathematics learning disability: A case study* [Paper session]. American Education Research Association (AERA) Annual Meeting, San Antonio, TX.
- Hunt, J.H., Welch-Ptak, J., & Silva, J.M. (2016, April 11-13). *Initial understanding of fractions: Children with learning disabilities and difficulties* [Paper session].
 National Council of Teachers of Mathematics (NCTM) Research Conference, San Francisco, CA.
- Hunt, J.H., **Silva**, **J.M.**, & Welch-Ptak, J. (2016, April 11-13). *Trajectories of fractions quantities: Students with learning disabilities and difficulties* [Paper session]. National Council of Teachers of Mathematics (NCTM), Research pre-session, San Francisco, CA.

Consultancies

Position	Entity	Dates
Math Consultant	Austin Learning Center, Austin, TX	2013-2015
MET Teacher	Measures of Effective Teachers Program, Bill	2011-2013
	Gates Foundation	

Workshops

Maldonado, L. A., **Silva, J. M.,** & Martinez H. J. (2019, August). *Cognitively Guided Instruction: Una Probadita*. [Workshop]. De Zavala Elementary, San Marcos CISD, San Marcos, TX.

Invited Talks, Lectures, and Presentations

- **Silva, J. M.** (2022, June 14). *De cualquier manera: Norms around choice for multilinguals with dis/abilities.* [Webinar]. TODOS: Mathematics for All. https://vimeo.com/724489932
- Silva, J. M. (2022, Oct 22). Restructuring classroom participation norms:

 Leveraging multiple languages and nonverbal communication

 [Keynote Speaker] The Math Learning Center: Intervention Leadership Conference. Tempe, Arizona.

 https://www.mathlearningcenter.org/educators/professional-development/fall-intervention-conference
- **Silva, J.** M. (Host) (2023, Jun 22). Building a broader definition of participation (No. 19) [Audio podcast episode]. In *Rounding Up: An MLC Podcast*. https://www.mathlearningcenter.org/educators/podcast

Other Works not in Print

Works in Progress

Book Chapters

Silva, J.M. [Chapter in preparation]. Capturing the responsive teacher moves of an expert bilingual mathematics teacher during a fraction discussion with three students with learning dis/abilities. To be submitted in January 2024.

Articles

Colegrove, K. S. S., **Silva, J.M.,** Sunmin, L. [Manuscript in preparation]. Shared experiences and wisdom of Latine immigrant mothers of emergent bilingual children with dis/abilities. *Bilingual Research Journal*. To be submitted in December 2023.

Maldonado Rodríguez, L.A., White, D., Silva, J.M. [Manuscript in

- preparation]. Pre-service teachers of color perspectives on culture in mathematics teaching. *Journal of Urban Mathematics Education*. To be submitted in 2023.
- White, D., **Silva, J.M.**, Maldonado Rodríguez, L.A., Eley, P. [Manuscript in preparation]. Review of culture and mathematics education programs studying pre-service teachers of color. *Journal for Research in Mathematics Education*. To be submitted in 2024.
- **Silva, J.M.** [Manuscript in preparation]. Elementary preservice teachers' view of language in the mathematics classroom. *Educational Research Review*. To be submitted in February 2024.
- **Silva, J.M.**, Maldonado-Rodríguez, L., & Krause, G. [Manuscript in preparation]. Translanguaging and children's mathematical thinking of bilinguals identified with a learning difficulty during problem solving lessons. *Educational Studies in Mathematics an International Journal*. To be submitted in April 2024.
- **Silva, J.M.** [Manuscript in preparation]. Learning to use multilingual children with learning dis/abilities strengths during small group mathematics discussions. *Journal of Urban Mathematics Education*. To be submitted in in July 2024.
- **Silva, J.M.**, Maldonado, L., & Forsythe, M. [Manuscript in preparation]. Integrating STEM and wearable technology in a math and science methods courses. *Learning and Instruction*. To be submitted in December 2024.

Scholarly/Creative Professional Development Activities Attended:

- Workshop, "Mathematics Education Scholars of Color 3.0," Mathematics Education Scholars of Color. (May 7, 2021 May 8, 2021).
- Workshop, "Women of Color Writing & Planning Retreat," Araceli Ortiz, Executive Director, LBJ Institute for STEM Education & Research, Fredericksburg, TX, United States. (August 13, 2018 August 15, 2018).

Fellowships, Awards, Honors

- Keynote Speaker Award, Intervention Leadership Conference. The Math Learning Center (\$5,000), Fall 2022.
- Travel Award, Division of Diversity and Community Engagement, The University of Texas at Austin, (\$ 250), Fall 2017.
- Longhorn Presidential Achievement Scholarship, The University of Texas at Austin (\$20,000), 2004-2008.
- AP Strategies Scholarship, Advance Placement Foundation by Roger Enrico, Former PepsiCo President, Dallas, TX (\$17,875), 2004-2008.

The Dallas Foundation, Peters Scholarship, Dallas, TX (\$1,000), 2004-2005.

Scholarly/ Creative Grants and Contracts

Submitted, Funded, External Grants and Contracts:

Maldonado Rodriguez, L.A. (Principal), **Silva, J. M.** (Co-Principal). Identifying Systemic Racism in Mathematics Teacher Education: Building a Cross-Site Community with Preservice Teachers of Color. [Collaborative Grant]. National Science Foundation, Racial Equity in STEM Education (HER Racial Equity). Other PIs include: White, D. Y., & Eley, P. Funding for Texas State: \$ 389,377, Total funding for multi-institution: \$1,377,808. (Submitted, Funded 2023-2028).

Submitted, but not Funded, External Grants and Contracts:

White, D. Y. (Principal), Maldonado Rodriguez, L.A. (Co-Principal), **Silva, J. M.** (Co-Principal), & Eley, P. (Co-Principal). Centering preservice teachers of color racialized mathematics experiences: Voices from HBCU, HIS, and PWI teacher education programs. [Grant]. Spencer Foundation, \$75,000. (Submitted, not funded: April 2022).

Submitted, but not Funded, Internal Grants and Contracts:

Maldonado Rodríguez, L. A. (Principal), **Silva, J. M.** (Co-Principal), Martínez Hinestroza, J. M. (Co-Principal). *Elementary teachers of color exploring culturally sustaining mathematics teaching*. [Grant]. Research Enhancement Program, Texas State University, \$16,000.00. (Submitted, not funded: October 2021).

Silva, J. M. (Principal), *Integrating STEM using personal digital assistant devices with pre-service teachers*. [Grant]. Research Enhancement Program, Texas State University, \$8,000.00. (Submitted, not funded: October 2018).

IV. SERVICE

Institutional

Departmental

Co-Chair. (2021, December-Present). Research Enhancement Committee.

Member, (2021, July-2023). Mathematics Methods Course Creation Committee.

Reviewer, (2020, October-2022). Curriculum and Instruction Comprehensive Exam Scoring Committee.

Member, (2019, September-Present). Curriculum & Instruction Jigsaw Curriculum and Standards Committee.

- Member, (2018, September -Present). Math Methods Instructor Check in Meetings.
- Reviewer, (2018, September-Present). Curriculum and Instruction Scholarship Committee.
- Member. (2018, September Present). Undergraduate Elementary ESL Generalist EC 6 Education Program.
- Member, (2018, August-2018, November). Faculty Search Committee for Assistant/Associate Professor in Elementary Mathematics Education.

Professional

- Editorial Team Reviewer, (2022, February-Present), Manuscripts for *Journal of Mathematical Behavior*.
- Editorial Team Reviewer, (2021, August- Present). Manuscripts for *Journal of Teacher Education*.
- Editorial Team Reviewer, (2021, February-Present). Manuscripts for *Investigations in Mathematics Learning*.
- Ad hoc Proposal Reviewer, (2021, February-2022). Grant proposals for *National Science Foundation (NSF)*.
- Editorial Team Reviewer, (2020, March Present). Conference proposals for *North America Chapter of the international Group for the Psychology of Mathematics Education (PME-NA)*.
- Editorial Team Reviewer, (2019, June-Present). Manuscripts for *Teaching for Excellence* and Equity in Mathematics.
- Editorial Team Reviewer, (2018-2020). Manuscripts for *Journal of Research in Mathematics Education*.
- Editorial Team Reviewer, (2019-2020). Manuscripts for *American Educational Research Journal*.
- Editorial Team Reviewer, (2018-Present). Manuscripts for Educational Researcher.
- Program Committee Coordinator. (2018, September 2019, July). *Conference for the Advancement of Mathematics Teaching (CAMT)*.

Professional Memberships

- American Educational Research Association (AERA) Division K. (October 2018-Present).
- National Council of Teachers of Mathematics (NCTM). (February 2016 Present).
- North America Chapter of the International Group for the Psychology of Mathematics Education (PME-NA). (January 2016-Present).
- Mathematics for All Excellence and Equity in Mathematics (TODOS). (September 2018-Present).
- Association of Mathematics Teacher Educators (AMTE). (January 2019-Present).