Zandra de Araujo

Chief Equity Officer & Math Principal
University of Florida
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EDUCATION

2012	**University of Georgia**, Athens, GA Doctor of Philosophy in Mathematics Education Certificate of Qualitative Inquiry Graduate School Teaching Portfolio Certificate Dissertation: *Transferring Demand: Secondary Teachers' Selection and Enactment of Mathematics Tasks with English Language Learners*
2007	**University of Central Florida,** Orlando, FL M. Ed. in Mathematics Education
2003	**University of Florida**, Gainesville, FL B S. in Mathematics Minor in Anthropology

PROFESSIONAL EXPERIENCE

2021-present	Chief Equity Officer & Math Principal, University of Florida Lastinger Center for Learning, Gainesville, FL
2020-2021	Director, MU Partnership for Educational Renewal (MPER), University of Missouri, Columbia, MO
	Interim Director, Hook Center, University of Missouri, Columbia, MO
2018 - 2021	Associate Professor of Mathematics Education, University of Missouri, Columbia, MO
2018 - 2021	Director, MPER Early Career Scholars Program, University of Missouri, Columbia, MO
2018 - 2020	Academic Director, MU Partnership for Educational Renewal (MPER), University of Missouri, Columbia, MO
2012 - 2018	Assistant Professor of Mathematics Education, University of Missouri, Columbia, MO
2011 - 2012	Adjunct Instructor, Athens Technical College, Athens, GA
2008 - 2012	Graduate Assistant, University of Georgia, Athens, GA
2008	Adjunct Instructor, Valencia Community College, Orlando, FL
2003 - 2008	Mathematics Teacher, Orange County Public Schools, Orlando, FL

LEADERSHIP DEVELOPMENT

2020-2021	University of Missouri Leadership Development Program

PUBLICATIONS

*Denotes graduate student, +Denotes Post-doctoral scholar

Peer Reviewed Journal Articles

1. Otten, S., de Araujo, Z., Sherman, M., & Birişçi, S. (2023). A framework for capturing structural variation in flipped mathematics instruction. *International Journal of Mathematical Education in Science and Technology*, 1-32, 10.1080/0020739X.2021.1958945
2. Vahle, C., de Araujo, Z., Han, J., & Otten, S. (2023). Teachers' instructional responses to the COVID-19 pandemic. *Teaching and Teacher Education, 124,* 104040.
3. Roberts, S. A., de Araujo, Z., Willey, C., & Zahner, W. (2022). Three Ways to Enhance Tasks for Multilingual Learners. *Mathematics Teacher: Learning and Teaching PK-12, 115*(7), 458-467.
4. de Araujo, Z., & Smith, E. (2022). Examining English language learners' learning needs through the lens of algebra curriculum materials. *Educational Studies in Mathematics*, 1-23, https://doi.org/10.1007/s10649-021-10081-w
5. de Araujo, Z., Smith, E., & Yeong, J. (2021). Preservice teachers' use of mathematics tasks in relation to their experiences with, goals for, and beliefs about English learners. *ZDM–Mathematics Education*, 53(2), 419-433. https://doi.org/10.1007/s11858-021-01226-5
6. Hanuscin, D., de Araujo, Z., Cisterna, D., Lipsitz, K., & van Garderen, D. (2020) The re-novicing of elementary teachers in science? Grade level reassignment and teacher PCK. *Journal of Science Teacher Education*, *31*(7), 780-801. https://doi.org/10.1080/1046560X.2020.1778845
7. de Araujo, Z., Otten, S., Zhao, W.*, Han, J.*, & Kamuru, J.* (2020). Fostering collaboration with the flip. *Mathematics Teacher: Learning and Teaching Pre-K-12, 113*(9), 731-736.
8. Candela, A., & de Araujo, Z. (2020). Little straw, big impact. *Mathematics Teacher: Learning and Teaching Pre-K-12, 113*(6), 533-535.
9. Otten, S. A., Zhao, W.*, de Araujo, Z., & Sherman, M. (2020). Evaluating videos for flipped instruction. *Mathematics Teacher: Learning and Teaching Pre-K-12, 113(*6), 480-486.
10. de Araujo, Z., Hanuscin, D., & Otten, S. (2020). Practices for mathematics and science integration. *Mathematics Teacher: Learning and Teaching Pre-K-12, 113*(4), 480-486.
11. I, J. Y., & de Araujo, Z. (2019). An examination of monolingual preservice teachers' set-up of cognitively demanding mathematics tasks with emergent bilingual students. *Research in Mathematics Education*, 21(2), 208-228. DOI 10.1080/14794802.2019.1615980
12. de Araujo, Z., Roberts, S. A., Willey, C., & Zahner, W. (2018). English learners in K-12 mathematics education: A review of the literature. *Review of Educational Research*, 88, 879-919. [Acceptance Rate: SJR: 8.241]
13. Estapa, A., Amador, J., Kosko, K. W., Weston, T., de Araujo, Z., & Aming-Attai, R. (2018). Preservice teachers' articulated noticing through pedagogies of practice. *Journal of Mathematics Teacher Education*, 21(4), 387-415. [Acceptance Rate: 20%; SJR: 1.062]
14. de Araujo, Z., Orrill, C. H. & Jacobson, E. (2018). Designing communication-rich problem-centered mathematics professional development. *International Journal of Mathematical Education, Science, & Technology, 49*, 323-340.
15. Cisterna-Albuquerque, D.+, Hanuscin, D., Lipsitz, K.*, de Araujo, Z., & van Garderen, D. (2018). Supporting science teachers in creating lessons with explicit conceptual storylines. *Innovations in Science Teacher Education,* 3(1). Retrieved from

http://innovations.theaste.org/supporting-science-teachers-in-creating-lessons-with-explicit-conceptual-storylines/

16. de Araujo, Z., & DeLeeuw, W. (2017). Questioning through guess my number. *Teaching Children Mathematics, 24,* 208. [Acceptance Rate: 15-20%]
17. de Araujo, Z. (2017). Connections between secondary mathematics teachers' beliefs and their selection of tasks for English language learners. *Curriculum Inquiry*, *47*, 363–389.
18. de Araujo, Z., Otten, S. A., & Birisci, S.+ (2017). Teacher-created videos in a flipped mathematics class: digital curriculum materials or lesson enactments? *ZDM International Journal on Mathematics Education, 49,* 687–699. [SJR: .707]
19. I, J. Y*., & de Araujo, Z. (2017). Slowing down the in the moment decision-making process: The case of one mathematics teacher and one English learner. *Teaching for Equity and Excellence in Mathematics, 8*(1), 15–22. [Acceptance Rate: ~35%]
20. Amador, J., Estapa, A., de Araujo, Z., Kosko, K., & Weston, T. (2017). Facilitating preservice teacher noticing: An innovation to support development. *Mathematics Teacher Educator, 5*(2), 158–177. [Acceptance Rate: 13%]
21. Otten, S., Webel, C., & de Araujo, Z. (2017). Inspecting the foundations of claims about cognitive demand and student learning: A citation analysis of Stein and Lane (1996). *Journal of Mathematical Behavior, 45,* 111–120. [Acceptance Rate: 20-30%; SJR: 1.259]
22. de Araujo, Z., Otten, S., & Birisci, S.+ (2017). Conceptualizing "homework" in flipped mathematics classes. *Journal of Educational Technology and Society*, 20, 248–260. [Acceptance Rate: 14.68%, SJR: 1.325]
23. de Araujo, Z., Otten, S., & Birisci, S.+ (2017). Mathematics teachers' motivations for, conceptions of, and experiences with flipped instruction. *Teaching and Teacher Education, 62,* 60–70. Acceptance Rate: 18%, SJR: 1.836]
24. de Araujo, Z., Smith, E.*, & Sakow, M.* (2016). Reflecting on the dialogue regarding the mathematics education of English learners. *Journal for Urban Mathematics Education, 9*(2), 33–48. [Acceptance Rate: ~20%]
25. Amador, J., Estapa, A., Kosko, K., & Weston, T., & de Araujo, Z (2016). Animations as a transformational approximation of practice for preservice teachers to communicate professional noticing *Journal of Technology and Teacher Education, 24*(2), 127–151. [Acceptance Rate: 7.2%]
26. Hanuscin, D., Lipsitz, K.*, Cisterna-Alburquerque, D.+, Arnone, K. A.*, D., van Garderen, D., de Araujo, Z., & Lee, E. J. (2016). Developing coherent conceptual storylines: Two elementary challenges. *Journal of Science Teacher Education.* 27, 393–414. [Acceptance Rate: 12%; SJR: .797]

    Recipient of National Science Teacher Association's (NSTA) 2016 *Research Worth Reading* designation
27. de Araujo, Z., Amador, J., Estapa, A., Kosko, K., Weston, T., & Aming-Attai, R. (2015). Animating pre-service teachers' noticing. *Mathematics Teacher Education and Development, 17*(2), 25–44. [Acceptance Rate: 29%]
28. de Araujo, Z. (2015). The need for research into elementary mathematics specialist preparation. *Journal of Mathematics Education Leadership, 16*(2), 27–37. [Acceptance Rate: 35%]
29. Otten, S., & de Araujo, Z. (2015). Viral criticisms of Common Core Mathematics. *Teaching Children Mathematics, 21,* 517–520. [Acceptance Rate: 15-20%]

30. de Araujo, Z. Jacobson, E., Singletary, L., Wilson, P., Lowe, L., & Marshall, A. (2013). Teachers' conceptions of integrated mathematics curricula. *School Science and Mathematics*, 113, 285–296. [Acceptance Rate: 20%]
31. Izsak, A., Jacobson, E., de Araujo, Z., & Orrill, C. (2012). Measuring growth in mathematical knowledge for teaching fractions with drawn quantities. *Journal for Research in Mathematics Education, 43,* 391–427. [Acceptance Rate: <10%; SJR: 2.631]
32. Edenfield, K., & de Araujo, Z. (2010). How tall is that cactus? *Mathematics Teaching in the Middle School, 16*(3), 192. [Acceptance Rate: 30%]

Books

33. Otten, S., Candela, A., de Araujo, Z., Haines, C., & Munter, C. (2019). *Proceedings of the 41st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. St. Louis, MO: University of Missouri.
34. de Araujo, Z., Dougherty, B., & Zenigami, F. (2018). *Putting essential understandings of equations, expressions, and function into practice in grades 6-8.* Reston, VA: National Council of Teachers of Mathematics.

Peer Reviewed Book Chapters

35. de Araujo, Z., Smith, E.*, I, J. Y., & Sakow, M.* (2018). Preservice teachers' strategies for teaching mathematics with English learners. In T. G. Bartell (Ed.), *Toward Equity and Social Justice in Mathematics Education* (pp. 217-239). Cham, Switzerland: Springer. [Monograph Chapter]
36. de Araujo, Z., Smith, E.*, & Kremmel, M. (2018). Moving the mathematics forward while acquiring English. In S. Crespo, S. Celedón-Pattichis, & M. Civil (Eds.), *Access and Equity: Promoting high-quality mathematics in grades 3-5* (pp. 67-80). Reston, VA: National Council of Teachers of Mathematics.
37. Singletary, S., de Araujo, Z., & Connor, A. M. (2017). The transcription and analysis of practice to support prospective teachers' facilitation of student discussions. In S. Kastberg, A. Tyminski, A. Lischka, & W. Sanchez (Eds*.), Building support for scholarly practices in mathematics methods* (pp. 249–262). Charlotte, NC: Information Age Publishing.
38. Reys, B., Webel, C., & de Araujo, Z. (2017). What's next for the field?. In M. B. McGatha & N. R. Rigelman (Eds.), *Elementary mathematics specialists*: *Developing, refining, and examining programs that support mathematics teaching and learning* (pp. 221–234). Charlotte, NC: Information Age Publishing.
39. de Araujo, Z., Reys, B., & Webel, C. (2017). Preparing elementary mathematics specialists: Essential knowledge, skills, and experiences. In M. B. McGatha & N. R. Rigelman (Eds.), *Elementary Mathematics Specialists*: *Developing, refining, and examining programs that support mathematics teaching and learning* (pp. 19–32). Charlotte, NC: Information Age Publishing.
40. de Araujo, Z. (2016). Mathematicians and buttons: A commentary on Stickland's case. In D. White, S. Crespo, and M. Civil (Eds.) *Cases for teacher educators: Facilitating conversations about inequities in mathematics classrooms* (pp. 319–324). Charlotte, NC: Information Age Publishing.
41. de Araujo, Z. (2013). Ratios and proportions in everyday life. In M. Gottlieb & G. Ernst-Slavit (Eds.), *Academic language in diverse classrooms: Promoting content and language* (pp. 77–112). Thousand Oaks, CA: Corwin.

Peer Reviewed Proceedings

42.

43. Candela, A. G., Wonsavage, F. P., de Araujo, Z., & Otten, S. (2022). Rethinking classroom data collection. In A. E. Lischka, E. B. Dyer, R. S. Jones, J. N. Lovett, J. Strayer, & S. Drown (Eds.), Proceedings of the forty-fourth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 1896–1897). Nashville, TN: Middle Tennessee State University.

44. de Araujo, Z., Wambua, M. M., Wonsavage, F. P., Otten, S., & Candela, A. G. (2022). Conceptualizing high uptake practices. In A. E. Lischka, E. B. Dyer, R. S. Jones, J. N. Lovett, J. Strayer, & S. Drown (Eds.), Proceedings of the forty-fourth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 1507–1508). Nashville, TN: Middle Tennessee State University.

45. Otten, S., de Araujo, Z., Candela, A. G., Vahle, C., Stewart, M. E. N., Wonsavage, F. P., & Baah, F. (2022). Incremental change as an alternative to ambitious professional development. In A. E. Lischka, E. B. Dyer, R. S. Jones, J. N. Lovett, J. Strayer, & S. Drown (Eds.), *Proceedings of the forty-fourth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1445–1450). Nashville, TN: Middle Tennessee State University.

46. Otten, S., Ellis, R., Wang, Z., & de Araujo, Z. (2021). Comparing motivations for flipped instruction to data on flipped implementations in algebra. In D. Olanoff, S. Spitzer, & K. Johnson (Eds.), *Proceedings of the 43rd meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Philadelphia, PA: PME-NA.

47. Ellis, R. L., Han, J., de Araujo, Z., & Otten, S. (2020). Reviewing the literature on flipped mathematics instruction: A qualitative meta-analysis. 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. 2057-2061). Cinvestav /AMIUTEM / PME-NA. https:/doi.org/10.51272/pmena.42.2020

48. Han, J., Hirt, S., Kamuru, J., de Araujo, Z., Otten, S., & Zhao, W. (2019). Features of video in flipped algebra instruction. In S. Otten, A. Candela, Z. de Araujo, C. Haines, and C. Munter (Eds.), Proceedings of the 41st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (pp. 141-142). St. Louis, MO: University of Missouri.

49. Zhao, W., Han, J., Kamuru, J., de Araujo, Z., & Otten, S. (2019). Flipped instruction in Algebra 1: Is it an old idea in new clothes?. In S. Otten, A. Candela, Z. de Araujo, C. Haines, and C. Munter (Eds.), *Proceedings of the 41st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1669-1677). St. Louis, MO: University of Missouri.

50. de Araujo, Z. Roberts, S. A., Willey, C., & Zahner, W. (2018). Mathematics education and English learners. In T. E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), Proceedings of the 40thth annual meeting for the North American Chapter for the Psychology of Mathematics Education (pp. 1412-1421). Greenville, SC.

51. Otten, S., de Araujo, Z., & Sherman M. (2018). Capturing Variability in Flipped Mathematics Instruction. 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. 1052-1059), Greenville, SC.
52. Zhao, W., Han, J., Kamuru, J., de Araujo, Z., & Otten, S. (2018). Flipped Mathematics Instruction Observation Protocol. 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. 1288), Greenville, SC.
53. Otten, S., Munter, C., de Araujo, Z., Webel, C., & Empson, S. (2018). Competing views on preparing mathematics teachers for change. 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. 1364), Greenville, SC.
54. Otten, S. A., de Araujo, Z., & Webel, C. (2017). Analyzing claims about cognitive demand and student learning. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (pp. 1391-1398), Indianapolis, IN.
55. Smith, E., Dwiggins, A., & de Araujo, Z. (2017). Examining storylines of emergent bilinguals in algebra textbooks. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (p. 180), Indianapolis, IN.
56. Sakow, M.*, Smith, E.*, & de Araujo, Z. (2016, November). Examining preservice teacher task modifications for English language learners. In M. B. Wood, E. E., Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (pp. 909–912), Tucson, AZ.
57. McLeman, L., Vomvoridi-Ivonic, E., & de Araujo, Z. (2016, November). Facilitating conversations about equity through imagery. In M. B. Wood, E. E., Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (p. 1136), Tucson, AZ.
58. de Araujo, Z., Civil, M., Fernandes, A., Moschkovich, J., Roberts, S. A., Willey, C., & Zahner, W. (2016, November). Mathematics and English learners. In M. B. Wood, E. E., Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (pp. 1673–1681), Tucson, AZ.
59. de Araujo, Z., Otten, S., & Birisci, S. +(2016, November). Teachers' motivations and conceptualizations of flipped mathematics instruction. In M. B. Wood, E. E., Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (pp. 1313–1316), Tucson, AZ.
60. Otten, S., de Araujo, Z., & Birisci, S.+ (2016, November). A framework for homework in flipped mathematics classes. In M. B. Wood, E. E., Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (p. 1559), Tucson, AZ.
61. Smith, E.*, Sakow, M.,* & de Araujo, Z. (2015, November). Preservice teachers' selection of mathematical tasks for English language learners. In T. G. Bartell, K. N. Bieda, R. T. Putnam, K. Bradfield, & H. Dominguez (Eds.), *Proceedings of the 37th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (pp. 932–935), East Lansing, MI.

62. de Araujo, Z., I, J. Y., Smith, E.*, & Sakow, M.* (2015, November). Preservice teachers' strategies to support English learners. In T. G. Bartell, K. N. Bieda, R. T. Putnam, K. Bradfield, & H. Dominguez (Eds.), *Proceedings of the 37th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (pp. 648–655), East Lansing, MI.
63. de Araujo, Z. Roberts, S. A., Anhalt, C., Civil, M., Fernandes, A., Moschkovich, J., Willey, C., & Zahner, W. (2015, November). Mathematics education and English learners. In T. G. Bartell, K. N. Bieda, R. T. Putnam, K. Bradfield, & H. Dominguez (Eds.), *Proceedings of the 37th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (pp. 1384–1393), East Lansing, MI.
64. de Araujo, Z. (2013, November). Examining teachers' expectations for English language learners' construction and critique of viable arguments. In M. V. Martinez & A. C. Superfine (Eds.), *Proceedings of the 35th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (pp. 1045–1048), Chicago, IL.
65. de Araujo, Z. (2012, November). An examination of non-mathematical activities in the mathematics classroom. In L. R. Van Zoest, J. Lo, & J. L. Kratky (Eds.), *Proceedings of the 34th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (pp. 339–342), Kalamazoo, MI.
66. de Araujo, Z. (2012, November). Diminishing demands: Secondary teachers' modifications to tasks for English language learners. In L. R. Van Zoest, J. Lo, & J. L. Kratky (Eds.), *Proceedings of the 34th annual meeting for the North American Chapter for the Psychology of Mathematics Education* (pp. 76–79), Kalamazoo, MI.
67. de Araujo, Z., & Singletary, L. (2011, October). Secondary mathematics teachers' conceptions of worthwhile tasks. In L. R. Wiest & T. Lamberg (Eds.), *Proceedings of the 33rd annual meeting of the North American Chapter for the Psychology of Mathematics Education* (pp. 1207–1215), Reno, NV.
68. Jacobson, E., Singletary, L., & de Araujo, Z. (2011). Mathematical processes and U.S. secondary teachers' conceptions of integrated mathematics curricula. In B. Ubuz (Ed.), *Proceedings of 35th Conference of the International Group for the Psychology of Mathematics Education* (pp. 3-65–3-72). Ankara, Turkey: PME Program Committee.
69. Izsak, A., Jacobson, E., de Araujo, Z., & Orrill, C. (2010). Teachers' levels of units and fraction division. In P. Brosnan, D. B. Erchick, & L. Flevares (Eds.), *Proceedings of the 32nd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1087–1094), Columbus, OH: The Ohio State University.
70. Orrill, C. H., Izsák, A., Jacobson, E., & de Araujo, Z. (2010). Teachers' understanding of representations: The role of partitioning when modeling fraction arithmetic. In K. Gomez, L. Lyons, & J. Radinsky (Eds.) *Learning in the disciplines: ICLS 2010 conference proceedings* (Vol. 2, pp. 338–340). Chicago, IL: University of Illinois at Chicago

Invited Papers in Peer Reviewed Journals

71. Translanguaging Study Group. (2020). Translanguaging and the mathematics classroom. *Teaching for Excellence and Equity in Mathematics, 11*(2), 8-14.

    Note: This paper was published on behalf of the Translanguging Study Group and I was a co-author
72. Oppong, N., de Araujo, Z., Lowe, L., Marshall, A., & Singletary, L. (2009). In focus... Georgia's compensation model: A step in the right direction. *The Mathematics Educator, 19*(1), 3–7.

Reports

73. Orrill, C. H., Izsák, A, Lobato, J., Cohen, A., Templin, J., de Araujo, Z., Bradshaw, L., Brown, R., Caglayan, G., Druken, B., Jacobson, E., Lee, S. Stanton, S. S., & Wang, A. (2010). *Preliminary observations of teachers' multiplicative reasoning: Insights from Does it Work and Diagnosing teachers' multiplicative reasoning projects.* Fairhaven, MA: Kaput Center for Design and Innovation in STEM Education & University of Massachusetts Dartmouth.

Other Publications

74. TODOS. (2020). *The mo(ve)ment to prioritize antiracist mathematics: Planning for this and every school year*. Retrieved from https://www.todos-math.org/statements

    Note: This was a position paper of TODOS: Mathematics for All. I was a co-author of this paper. This paper received the 2021 Publication Award for Outstanding Journal from the National Council of Teachers of Mathematics

75. TODOS. (2020). *Equity considerations of access, use, and design of technologies for teaching mathematics*. Retrieved from https://www.todos-math.org/statements

    Note: This was a position paper of TODOS: Mathematics for All. I was the lead author of this paper.

76. de Araujo, Z. (2020). *Systems, conflicts, privilege, and power.* AMTE Connections, https://amte.net/connections/2020/05/feature-article-2020-amte-early-career-award-recipient

77. Civil, M., de Araujo, Z., LopezLeiva, C., Sylves, E., Zavala, M. (2020). What are the best approaches for teaching mathematics to newcomers to the U.S. who are English learners? https://theanswerlab.rossier.usc.edu/wp-content/uploads/2020/06/AnswerLab_Issue9_main-061120-draft-2.pdf

    Note: This was an invited research brief authored on behalf of TODOS: Mathematics for All.

78. de Araujo, Z. (2015). For your information: Review of applications of mathematics in economics. *Mathematics Teacher, 108,* 476 (Book Review).

79. de Araujo, Z. (2012). For your information: Review of Disrupting tradition: Research and practice pathways in mathematics education. *Mathematics Teacher, 105,* 554. (Book Review)

80. de Araujo, Z. (2011). For your information: Review of Dr. Stewart's hoard of mathematical treasures. *Mathematics Teacher*, *104*, 723. (Book Review)

SCHOLARLY WORK UNDER REVIEW

81.

SCHOLARLY WORK UNDER DEVELOPMENT/REVISION

1.

EXTERNAL AND INTERNAL FUNDING

External Grants (Funded)

Principal Investigator (2021-2025). *Practice-Driven Professional Development for Algebra Teachers.* Discovery Research PK12 Program: National Science Foundation. Co-Principal Investigator: Samuel Otten. Total value of grant: $2,716,522. [Percent Contribution/Shared Credit: 43%]

Principal Investigator. *Examining Relationships Between Flipped Instruction and Students' Learning of Mathematics: Postdoctoral Researcher Supplement*. Discover Research K12 program: National

Science Foundation. (2017 – July 2021). Co-Principal Investigators: Samuel Otten. Total value of grant: $89,012. [Percent Contribution/Shared Credit: 50%]

Principal Investigator. *Examining Relationships Between Flipped Instruction and Students' Learning of Mathematics*. Discover Research K12 program: National Science Foundation. (August 2017 – July 2021). Co-Principal Investigators: Samuel Otten, James Tarr, & Ze Wang. Total value of grant: $449,998. [Percent Contribution/Shared Credit: 37.5%]

Co-Principal Investigator (08/16-08/17) *Quality Elementary Science Teaching (QuEST) Postdoctoral Scholar Supplement.* Discovery Research K12 program: National Science Foundation. Grant No. DRL-1316683. Principal Investigator: Deborah Hanuscin. Total value of grant: $94,854. [Percent Contribution/Shared Credit: 50%]

Co-Principal Investigator (08/13-08/19) *Quality Elementary Science Teaching (QuEST).* Discovery Research K12 program: National Science Foundation. Grant No. DRL-1316683. Principal Investigator: Deborah Hanuscin. Co-Principal Investigators: Mark Ehlert, Cathy Thomas, & Delinda VanGarderen. Total value of grant: $2,600,000. [Percent Contribution/Shared Credit: 15%]

Principal Investigator. *Standards-based lesson planning project.* Student Affiliate Grant: National Council of Teachers of Mathematics' Mathematics Education Trust. $1500 (2011-2012). Co-Principal Investigators: Mathematics Education Student Association.

Principal Investigator. *Equity and Diversity Colloquium Series.* Student Affiliate Grant: National Council of Teachers of Mathematics' Mathematics Education Trust. $1500 (2010-2011). Co-Principal Investigators: Mathematics Education Student Association.

Principal Investigator. *Undergraduate Seminar Series*. Student Affiliate Grant: National Council of Teachers of Mathematics' Mathematics Education Trust. $1100 (2009-2010). Co-Principal Investigators: Mathematics Education Student Association.

Internal Grants (Funded)

Faculty Sponsor: *Examining Effective Instructional Practices in Secondary Math Classes.* $2569.60 awarded by the Missouri Partnership for Educational Renewal (2019-2020) Collaborators: Southern Boone Public Schools.

Principal Investigator. *The Two-Minute Teacher's Guide*. University of Missouri College of Education Office of Research Support (November 2017-May 2018). Co-Principal Investigator: Samuel Otten. Total value of grant: $2,600.

Principal Investigator. *Examining Relationships Between Flipped Instruction and Students' Learning of Mathematics*. University of Missouri PRIME Funds. (August 2017 – July 2021). Co-Principal Investigators: Samuel Otten, James Tarr, & Ze Wang. Total value of grant: $49,935. [Percent Contribution/Shared Credit: 37.5%]

Principal Investigator. *The Two-Minute Teacher's Guide*. University of Missouri College of Education Office of Research Support (January 2017-August 2017). Co-Principal Investigator: Samuel Otten. Total value of grant: $2,000.

Faculty Sponsor: *Taking Mathematics Conversations to the Next Level.* $5000 awarded by the Missouri Partnership for Educational Renewal (2017-2018) Collaborators: Maplewood Richmond Heights School District.

Faculty Sponsor: *Productive communication in mathematics.* $2000 awarded by the Missouri Partnership for Educational Renewal (2017-2018) Collaborators: New Franklin School District.

Principal Investigator. *Strategies or teaching English learners as presented in mathematics textbooks*. $4,207 awarded by the University of Missouri Cambio Center (2017).

Faculty Collaborator. *Elementary Mathematics Specialists Courses*. UM System Course-Sharing Funding. $23,200 awarded by the UM System. Collaborators: Amber Candela, Kathleen Fink, John Lannin, Helene Sherman, & Corey Webel. Awarded June 2016.

Faculty Sponsor: *Implementing a differentiated, inquiry-based mathematics workshop k-6.* $5000 awarded by the Missouri Partnership for Educational Renewal (2016-2017) Collaborators: Maplewood Richmond Heights School District.

Co-principal Investigator. *The CoLABorative Field Experience Model: Supporting Elementary Preservice Teachers in Math and Science.* University of Missouri ReSTEM Institute. 5/1/2016 – 4/30/2017; Principle Investigator: Dante Cisterna, Co-Investigators: Deborah Hanuscin, Ze Wang, and Laura Zangori. Total value of grant: $7,423.

Co-principal Investigator. *Fostering Learning by Increasing Participation in Discussions: An Exploratory Study*. University of Missouri ReSTEM Institute. 5/1/2015 – 4/30/2016; Principle Investigator: Samuel Otten. Total value of grant: $12,000.

Faculty Sponsor: *Learning & Collaboration to Develop Effective Mathematics Instructional Practice.* $1500 awarded by the Missouri Partnership for Educational Renewal (2015-2016) Collaborators: Benton STEM Elementary School, Troy Hogg (principal).

Faculty Sponsor: *Learning & Collaboration to Develop Effective Mathematics Instructional Practice.* $1500 awarded by the Missouri Partnership for Educational Renewal (2014-2015) Collaborators: Benton STEM Elementary School, Troy Hogg (principal).

Faculty Sponsor: *Continued Learning & Collaboration to Develop Effective Instructional Practices.* $1500 awarded by the Missouri Partnership for Educational Renewal (2013-2014) Collaborators: Angie Zapata, Deborah Hanuscin, Benton STEM Elementary School, Troy Hogg (principal).

Faculty Sponsor: *Beyond good teaching study group and professional development for teachers of ELLs.* $1500 awarded by the Missouri Partnership for Educational Renewal (2013-2014) Collaborators: Paxton Keeley Elementary School, Elaine Hassemer and Adrian Peterson (principals).

External Grants (not funded)

Principal Investigator (Submitted December 2020). *Bridging Innovative Synchronous and Asynchronous Algebra Instruction.* Gates Foundation Balance the Equation Competition. Co-Principal Investigators: Kathryn Chval, Samuel Otten, Isa Jahnke, and Amber Candela. [Percent Contribution/Shared Credit: 28%]

Co-Principal Investigator (Submitted November 2020) *The Lesson Plan Format Study: An Experimental Investigation of Teacher Preference and Curriculum Enactment in Algebra.* Discovery Research K12 program: National Science Foundation. Principal Investigator: Samuel Otten. Co-Principal Investigators: Amber Candela, Ze Wang. Total value of grant: $1,499,987. [Percent Contribution/Shared Credit: 38%]

Co-Principal Investigator (Under Review, Submitted November 2019) *The Lesson Plan Format Study: An Experimental Investigation of Teacher Preference and Curriculum Enactment in Algebra.* Discovery Research K12 program: National Science Foundation. Principal Investigator: Samuel Otten. Co-Principal Investigators: Ze Wang. Total value of grant: $2,646,221. [Percent Contribution/Shared Credit: 40%]

Principal Investigator (Under Review, Submitted November 2019). Practice-Driven Professional Development for Algebra Teachers. Discovery Research PK12 Program: National Science

Foundation. Co-Principal Investigator: Samuel Otten. Total value of grant: $2,406,269. [Percent Contribution/Shared Credit: 40&]

Key Personnel. (Under review, Submitted November 2019). *Designing for Statewide Mathematics Instructional Improvement in Missouri,* Discovery Research K12 program: National Science Foundation. Principal Investigator: Chip Sharp.

Co-Principal Investigator. (Submitted February 2019). The Lesson Plan Format Study: A National Survey of Teacher Preferences in Mathematics. Spencer Small Grant Program. Principal Investigator: Samuel Otten. Total value of grant: $49,729.17. [Percent Contribution/Shared Credit: 50%]

Co-Principal Investigator (Submitted November 2018) *The Lesson Plan Format Study: An Experimental Investigation of Teacher Preference and Curriculum Enactment in Algebra.* Discovery Research K12 program: National Science Foundation. Principal Investigator: Samuel Otten. Co-Principal Investigators: Ze Wang. Total value of grant: $2,463,164. [Percent Contribution/Shared Credit: 40%]

Principal Investigator. Examining Relationships Between Flipped Instruction and Students' Learning of Mathematics. Discover Research K12 program: National Science Foundation. (submitted December 2015). Co-Principal Investigators: Samuel Otten, James Tarr, & Ze Wang. Amount requested: $1,486,386.

Principal Investigator. Study of English Language Learners' Use of Mathematics Task Enhancements. Discover Research K12 program: National Science Foundation. (submitted December 2015). Co-Principal Investigators: Kathryn Chval, Isa Jahnke, Rose Marra, and Rachel Pinnow. Amount requested: $2,093,440.

Co-Principal Investigator. Examining Relationships Between Flipped Instruction and Students' Learning of Mathematics. Institute of Educational Studies. (submitted July 2015). Principal Investigator: Samuel Otten. Co-Principal Investigators: James Tarr & Ze Wang. Amount requested: $1,346,311.

Principal Investigator. Setup for Success. K-6 Classroom Grants: National Council of Teachers of Mathematics. (submitted November 2015). Amount requested: $5998.

Principal Investigator. Study of English Language Learners' Use of Mathematics Task Enhancements. Educational Core Research Program: National Science Foundation. (submitted February 2015). Co-Principal Investigators: Kathryn Chval, Rachel Pinnow, and Rose Marra. Amount requested: $1,222,554.

Co-principal Investigator. Fostering Learning through Increased Participation in Discussions (FLIP'D) (Submitted June 2014). Spencer Foundation Large Grants Program. University of Missouri, Columbia, MO. Principal Investigator: Samuel Otten. Amount requested $196,098.

Co-principal Investigator**.** *Science, Technology, Engineering & Mathematics Identity Trajectories in Elementary Students (STEM IdentiTIES).* REAL Program: National Science Foundation (Submitted January 2014). University of Missouri. Columbia, MO. Principal Investigator: Troy Sadler. Co-Principal Investigators: Barbara Dougherty, and William Romine. Amount requested $1,136,136.

Co-principal Investigator**.** *STEM IdeNtity Trajectories among Elementary Learners (STEM INTEL).* CORE Program: National Science Foundation. (Submitted July 2013). University of Missouri. Columbia, MO. Principal Investigator: Troy Sadler. Co-Principal Investigators**:** Barbara Dougherty, and William Romine. Amount requested $1,499,988.

Co-principal Investigator. *Studying the Impact of an Elementary Mathematics Specialists Program of Study on Teacher Knowledge, Practice, and Student Learning.* Discovery Research K12 program: National Science Foundation (submitted December 2012). University of Missouri, Columbia, MO.

Principal Investigator: Barbara Reys. Co-Principal Investigators: Larry Campbell, Ann McCoy, and James Tarr. Amount requested $2,670,061.

Internal Grants (not funded)

Co-principal investigator. (Submitted April 2020). A National Survey of Algebra Teachers. University of Missouri System Tier 3 Competition. Principal Investigator: Amber Candela, Co-Principal Investigator: Samuel Otten. Amount requested $68,693.

Co-principal Investigator. CoLABorative Field Experience Model. University of Missouri System Research Board. (Submitted 2015). Principal Investigator: Deborah Hanuscin, Co-Principal Investigator: Laura Zangori. Amount requested: $72,509.

Co-principal Investigator. CoLABorative Field Experience Model. University of Missouri System Research Board (Submitted February 2015). Principal Investigator: Deborah Hanuscin. Amount requested: $70,759.

Principal Investigator. *Supporting Teachers of ELLs to Achieve Reform (STELLAR).* University of Missouri System Research Board (Submitted October 2013). Principal Investigator Zandra de Araujo. Amount requested $45,393.

Principal Investigator. *An investigation of teacher preparation related to the mathematical needs of English language learners.* University of Missouri Summer Research Fellowship (Submitted March 2013). Amount requested $5,464.

Grant Consulting and Advisory Work

Advisory Board Member. *Fostering elementary School Students' Visuospatial Skills and Mathematical Competencies through an Origami-based Program.* EHR Core Research Program: National Science Foundation (2019-2022). Principal Investigator: Yaoran Li (University of San Diego). Total value of grant: $1,009,801.

Consultant. *Strengthening equity and effectiveness for teachers of English learners*. National Professional Development Grant: U.S. Department of Education (2017-2022). Principal Investigator: Kim Song. Total value of grant: $2,636,801.

REFEREED PRESENTATIONS

*Denotes graduate student, +Denotes Post-doctoral scholar

International

Han, J., Hirt, S., Kamuru, J., de Araujo, Z., Otten, S., & Zhao, W. (2019). Features of video in flipped algebra instruction. Poster presented at the 41st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, St. Louis, MO.

Zhao, W., Han, J., Kamuru, J., de Araujo, Z., & Otten, S. (2019). Flipped instruction in Algebra 1: Is it an old idea in new clothes?. Paper presented at the 41st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, St. Louis, MO.

de Araujo, Z. Roberts, S. A., Willey, C., & Zahner, W. (2018). Mathematics education and English learners. In T. E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), *Paper presented at the 40^{thth} annual meeting for the North American Chapter for the Psychology of Mathematics Education*. Greenville, SC.

Otten, S., de Araujo, Z., & Sherman M. (2018). Capturing Variability in Flipped Mathematics Instruction. In T. E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), *Paper presented at the 40th Annual Meeting of*

the North American Chapter of the International Group for the Psychology of Mathematics Education, Greenville, SC.

Zhao, W., Han, J., Kamuru, J., de Araujo, Z., & Otten, S. (2018). Flipped Mathematics Instruction Observation Protocol. In T. E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), *Poster presented at the 40th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1288), Greenville, SC.

Otten, S., Munter, C., de Araujo, Z., Webel, C., & Empson, S. (2018). Competing views on preparing mathematics teachers for change. In T. E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), *Poster presented at the 40th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1364), Greenville, SC.

Otten, S. A., de Araujo, Z., & Webel, C. (2017). *Analyzing claims about cognitive demand and student learning.* Paper to be presented at the 39th annual meeting for the North American Chapter for the Psychology of Mathematics Education, Indianapolis, IN.

Smith, E., Dwiggins, A., & de Araujo, Z. (2017). *Examining storylines of emergent bilinguals in algebra textbooks.* Poster to be presented at the 39th annual meeting for the North American Chapter for the Psychology of Mathematics Education, Indianapolis, IN.

Sakow, M.*, Smith, E.*, & de Araujo, Z. (2016, November). *Examining preservice teacher task modifications for English language learners.* Paper presented at the 38th annual meeting for the North American Chapter for the Psychology of Mathematics Education, Tucson, AZ.

McLeman, L., Vomvoridi-Ivonic, E., & de Araujo, Z. (2016, November). *Facilitating conversations about equity through imagery.* Poster presented at the 38th annual meeting for the North American Chapter for the Psychology of Mathematics Education, Tucson, AZ.

De Araujo, Z., Civil, M., Fernandes, A., Moschkovich, J., Roberts, S. A., Willey, C., & Zahner, W. (2016, November). *Mathematics and English learners.* Paper presented at the 38th annual meeting for the North American Chapter for the Psychology of Mathematics Education, Tucson, AZ.

De Araujo, Z., Otten, S., & Birisci, S.+ (2016, November). *Teachers' motivations and conceptualizations of flipped mathematics instruction*. Paper presented at the 38th annual meeting for the North American Chapter for the Psychology of Mathematics Education, Tucson, AZ.

Otten, S., de Araujo, Z., & Birisci, S.+ (2016, November). *A framework for homework in flipped mathematics classes*. Poster presented at the 38th annual meeting for the North American Chapter for the Psychology of Mathematics Education, Tucson, AZ.

De Araujo, Z. Roberts, S. A., Anhalt, C., Civil, M., Fernandes, A., Moschkovich, J., Willey, C., & Zahner, W. (2015, November). *Mathematics education and English learners*. Paper presented at the 37th annual meeting for the North American Chapter for the Psychology of Mathematics Education, East Lansing, MI.

Smith, E.*, Sakow, M.*, & de Araujo, Z. (2015, November). *Examining preservice teachers' selection of tasks for English learners.* Paper presented at the 37th annual meeting for the North American Chapter for the Psychology of Mathematics Education, East Lansing, MI.

de Araujo, Z., I, J. Y.*, Smith, E.*, & Sakow, M.* (2015, November). *Preservice teachers' strategies to support English learners*. Paper presented at the 37th annual meeting for the North American Chapter for the Psychology of Mathematics Education, East Lansing, MI.

de Araujo, Z. (2013, November*). Examining teachers' expectations for English language learners' construction and critique of viable arguments*. Paper presented at the annual meeting for the North American Chapter for the Psychology of Mathematics Education, Chicago, IL.

De Araujo, Z. (2012, November). *An examination of non-mathematical activities in the mathematics classroom.* Paper presented at the annual meeting for the North American Chapter for the Psychology of Mathematics Education, Kalamazoo, MI.

de Araujo, Z. (2012, November). *Diminishing demands: Secondary teachers' modifications to tasks for English language learners*. Paper presented at the annual meeting for the North American Chapter for the Psychology of Mathematics Education, Kalamazoo, MI.

de Araujo, Z., & Singletary, L. (2011, October). *Secondary mathematics teachers' conceptions of worthwhile tasks*. Paper presented at the annual meeting for the North American Chapter for the Psychology of Mathematics Education, Reno, NV.

Izsak, A., Jacobson, E., de Araujo, Z., & Orrill, C. (2010, October). *Teachers' levels of units and fraction division.* Paper presented at the annual meeting for the North American Chapter for the Psychology of Mathematics Education, Columbus, OH.

Orrill, C., Izsak, A., de Araujo, Z., & Jacobson, E. (2010, June). *Teachers' understanding of partitioning when modeling fraction arithmetic.* Presentation at the 9th International Conference of the Learning Sciences, Chicago, IL

National

de Araujo, Z., Otten, S., & Han, J. (2020, June). *Examples and non-examples as the foundation for rigorous and accessible mathematical activity*. Presentation at the TODOS: Mathematics for All annual conference, Scottsdale, AZ. (Conference Canceled)

Han, J., de Araujo, Z., Otten, S., Zhao, W. & Hirt, S. (2020, Apr 17 - 21) *An Examination of Video Content Delivery in Flipped Algebra Instruction* [Roundtable Session]. AERA Annual Meeting San Francisco, CAhttp://tinyurl.com/ruezsbm (Conference Canceled)

de Araujo, Z. & Otten, S. (2020, Apr 17 - 21) *Patterns in Empirical Studies of Flipped Mathematics Instruction: A Literature Review* [Symposium]. AERA Annual Meeting San Francisco, CA http://tinyurl.com/ukjtqk6 (Conference Canceled)

de Araujo, Z., Otten, S., & Han, J. P. (2020, April). *The art of creating examples and non-examples in mathematics*. Presentation at the annual meeting of the National Council of Teachers of Mathematics, Chicago, IL. (Conference Canceled)

Candela, A., & de Araujo, Z. (2020, February). *Sharing our way out of isolation*. AMTE Annual Conference, Phoenix, AZ.

Munter, C., Otten, S., Webel, C., de Araujo, Z., & Empson, S. (2019, February). *Competing perspectives on preparing mathematics teachers for change*. Presentation at the annual conference of the Association of Mathematics Teacher Educators, Orlando, FL.

de Araujo, Z., Otten, S., & Yeo, S. (2018, April). *Quadratic functions: Rethinking factored form and the leading coefficient*. Presentation at the annual meeting of the National Council of Teachers of Mathematics, Washington, DC.

Otten, S., de Araujo, Z., Zhao, W., & Yeo, S. (2018, February). *Meeting teachers where they go and where they are: A new form of professional development*. Presentation at the annual conference of the Association of Mathematics Teacher Educators, Houston, TX.

King, K., Hanuscin, D., van Garderen, D., Thomas, C. N., & de Araujo, Z. (2017, July). *Practicum based professional development.* Contributed talk at the annual meeting of the American Association of Physics Teachers (AAPT). Cincinnati, OH.

De Araujo, Z., & Otten, S. (2017, April). *Flipped mathematics teachers as curriculum developers*. Symposium paper presented at the annual meeting of the American Educational Research Association, Sig-RME, San Antonio, TX.

Hanuscin, D., de Araujo, Z., Cisterna, D., Ehlert, M., & Gillstrom, K. (2017, April). *Quality elementary science teaching (QuEST): A university-based elementary summer science camp*. Symposium paper presented at the annual meeting of the American Educational Research Association, Division K, San Antonio, TX.

De Araujo, Z. (2017, April). *Negotiating tensions that arise in teaching from a distance about issues of equity in mathematics.* Symposium paper presented at the annual meeting of the American Educational Research Association, Sig-RME, San Antonio, TX.

Sakow, M.*, Smith, E.*, & de Araujo, Z. (2016, June) *Imagawaki is my favorite dessert too! The influence of fieldwork on creating and adapting cognitively demanding tasks for English language learners.* Presentation at the TODOS 2016 Conference, Phoenix, AZ.

Smith, E.*, Sakow, M.*, & de Araujo, Z. (2016, June) *What is a stadium? Attention to, motivations for, and effectiveness of preservice teacher task modifications for English language learners.* Presentation at the TODOS 2016 Conference, Phoenix, AZ.

De Araujo, Z., Roberts, S., Willey, C., Zahner, W., & Dwiggins, A.* (2016, June). *A Closer look at courses that address issues of equity and diversity* in Mathematics Education. Presentation at the TODOS 2016 Conference, Phoenix, AZ.

Roberts, S. A., de Araujo, Z., Willey, C. J., Zahner, W. C. (2016, January). *Mathematics education and English learners: Reviewing literature to connect research to practice.* Presentation at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.

de Araujo, Z. (2016, January). *Adjusting the contrast: Helping make learners' knowledge ann skills more salient to preservice teachers.* Presentation at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.

de Araujo, Z., Roberts, S. A., Willey, C. J., Zahner, W. C. (2015, April). *Cognitively demanding task implementation and discourse with English learners.* Presentation at the annual Research Conference of the National Council of Teachers of Mathematics. Boston, MA.

I, J. Y.*, & de Araujo, Z. (2015, April) *Modifications to Make Challenging Mathematics Accessible*. Presentation at the annual Research Conference of the National Council of Teachers of Mathematics. Boston, MA.

I, J. Y.*, & de Araujo, Z. (2015, April) *Increasing strategies for English learners without decreasing cognitive demand.* Presentation at the annual Conference of the National Council of Teachers of Mathematics. Boston, MA.

De Araujo, Z., Dougherty, B. J., & Zenigami, F. (2015, April). *Modifications to Make Challenging Mathematics Accessible*. Presentation at the annual meeting of the National Council of Teachers of Mathematics. Boston, MA.

Hanuscin, D., de Araujo, Z., Lee, E. J.*, & Arnone, K. A.* (2015, April). *Conceptual Storylines: examining teachers' criteria for evaluating lessons.* Paper presented at the annual meeting of NASRT: A Worldwide Organization for Improving Science Teaching and Learning Through Research. Chicago, IL.

De Araujo, Z., & I, J. Y.* (2015, February). *Language really is the barrier: Supporting preservice teachers' strategies for working with ELLs.* Presentation at the annual meeting of the Association of Mathematics Teacher Educators. Orlando, FL.

Estapa, A., Amador, J., Kosko, K., Weston, T., de Araujo, Z., & Aming-Attai. (2015, February). *Noticing Exposed through Preservice Teachers' Video Animations.* Presentation at the annual meeting of the Association of Mathematics Teacher Educators. Orlando, FL.

Arnone, K. A.*, de Araujo, Z., & Hanuscin, D. (2015, January). *Assessing elementary teachers' PCK for magnetism: Challenges and insights.* Paper presented at the annual meeting of the Association for Science Teacher Education, Portland, OR.

I., J. Y.*, Arnone, K. A.*, & de Araujo, Z. (2014, December). Presentation at the annual meeting of the Missouri Council of Teachers of Mathematics. Columbia, MO.

De Araujo, Z., & I, J. Y.* (2014, June). *Modifications to Make Challenging Mathematics Accessible*. Presentation at the 1st Annual TODOS Mathematics for All Conference. Phoenix, AZ

de Araujo, Z., & I, J. Y.* (2014, June). *Modifications to Make Challenging Mathematics Accessible*. Presentation at the 1st Annual TODOS Mathematics for All Conference. Phoenix, AZ

de Araujo, Z., Roberts, S., & Zahner, W. (2014, April). *Understanding the implications of the common core mathematical practice standards for English learners: An interactive symposium.* Research Symposium at the annual meeting of the American Educational Research Association-SIG RME, Philadelphia, PA.

de Araujo, Z. & Reys, B. (2014, February). *Elementary mathematics specialists: The need for innovation and research.* Presentation at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.

de Araujo, Z., Lopez-Leiva, C., Willey, C., & Zahner, W. (2013, April). *Examining ideologies in mathematics teaching and learning practices with Latinas/as.* Research Symposium at the annual meeting of the American Educational Research Association, San Francisco, CA.

de Araujo, Z. (2013, April). *Unpacking aspects of task implementation that maintain cognitive demand.* Presentation presented at the annual Research Presssion of the National Council of Teachers of Mathematics.

De Araujo, Z. (2013, January). *Removing roadblocks: Selecting and implementing high cognitive demand tasks with English language learners*. Paper presented at the annual meeting for the Association of Mathematics Teacher Educators.

De Araujo, Z. (2012, April). *Teachers' selections of tasks for English language learners*. Paper presented at the Research Presession meeting of the National Council of Teachers of Mathematics, Philadelphia, PA.

Singletary, L., & de Araujo, Z. (2012, April). *Mathematics teachers' reflections on curriculum change: A critical perspective*. Paper presented at the annual meeting of the American Educational Research Association, Vancouver, Canada.

De Araujo, Z. (2011, April). *Mathematics reform and English language learners: Challenges and interventions*. Poster presented at the annual Research Presession meeting of the National Council of Teachers of Mathematics, Indianapolis, IN.

Singletary, L., & de Araujo, Z. (2011, April). *When the experience is not ideal: Implementing integrated mathematics curriculum.* Paper presented at the annual Research Presession meeting of the National Council of Teachers of Mathematics, Indianapolis, IN.

Singletary, L., de Araujo, Z., & Lowe, L. (2011, January). *Teachers' conceptions of worthwhile tasks.* Presentation at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.

Orrill, C., de Araujo, Z., & Jacobson, E. (2010, May). *Teachers' emerging understanding of fraction division as proportional reasoning in professional development.* Paper presented at the annual meeting of the American Educational Research Association, Denver.

De Araujo, Z., Jacobson, E., Lowe, L., Marshall, A., Singletary, L. & Wilson, P. (2010, May). *Teachers' conceptions of integrated mathematics: A search for understanding*. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.

de Araujo, Z., Jacobson, E., Lowe, L., Marshall, A., Singletary, L. & Wilson, P. (2010, January). *Integrated Mathematics: Conceptions and Implications*. Presentation at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.

Regional

Otten, S., de Araujo, Z., & Han, J. P. (2019, December). *Debating examples and non-examples: Prisms and trinomials*. Presentation at the annual meeting of the Missouri Council of Teachers of Mathematics, Columbia, MO.

Han, J. P., Otten, S., & de Araujo, Z. (2019, December). *Using reversals to turn procedures around*. Presentation at the annual meeting of the Missouri Council of Teachers of Mathematics, Columbia, MO.

de Araujo, Z., & Otten, S. (2019, February). Getting creative with systems of equations. Presentation given at the Missouri Department of Elementary and Secondary Education Conference, Osage Beach, MO.

de Araujo, Z., Otten, S., & Han, J. P. (2018, December). *Understanding variables in algebra*.Presentation at the annual meeting of the Missouri Council of Teachers of Mathematics, Columbia, MO.

de Araujo, Z., Otten, S., & Han, J. (2018, October). Creating "inciting incidents" for your mathematics lessons. Presentation give at the National Council of Teachers of Mathematics' Kansas City Regional, Kansas City, MO.

Zhao, W., Otten, S., & de Araujo, Z. (2018, October). A non-standard introduction to quadratic functions: Sorting and symmetry. Presentation give at the National Council of Teachers of Mathematics' Kansas City Regional, Kansas City, MO.

De Araujo, Z. & Kingsley, L. (2018, May). *Technology, purpose, creativity, and assessment: The purposeful quartet*. Presentation given at the 2018 Celebration of Teaching Conference, University of Missouri, Columbia, MO.

Otten, S., Zhao, W., & de Araujo, Z. (2018, February). *Two-Minute Teacher's Guide for quadratic functions*. Presentation given at the Missouri Department of Elementary and Secondary Education Interface conference, Osage Beach, MO.

Dwiggins, A., Smith, E., & de Araujo, Z. (2017, December). ELL supports in algebra textbooks: Their suggestions and our improvements. Presentation at the annual conference of the Missouri Council of Teachers of Mathematics, Columbia, MO.

De Araujo, Z., Otten, S., Yeo, S., & Zhao, W. (2017, December). *A graphical approach to quadratic functions*. Presentation at the annual conference of the Missouri Council of Teachers of Mathematics, Columbia, MO.

Otten, S., Zhao, W., & de Araujo, Z. (2017, December). *Making the most of flipped in-class time*. Presentation at the annual conference of the Missouri Council of Teachers of Mathematics, Columbia, MO.

De Araujo, Z., Dwiggins, A., & Smith, E. (2017, December). *Accessible and rigorous mathematics for English learners*. Presentation at the annual conference of the Missouri Council of Teachers of Mathematics, Columbia, MO.

De Araujo, Z., Otten, S., & Zhao, W. (2017, December). *Evaluating videos for flipped instruction*. Presentation at the annual conference of the Missouri Council of Teachers of Mathematics, Columbia, MO.

Otten, S., de Araujo, Z., & Yeo, S., Zhao, W., & Haines, C. (2017, November). *The Two-Minute Teacher's Guide: An accessible model for instructional support in the information age*. Presentation at the University of Missouri College of Education Research Day, Columbia, MO.

De Araujo, Z., Smith, E., & Dwiggins, A., I., J. Y., & Martinez, R. (2017, June*). Examining suggested accommodations for emergent bilinguals in algebra textbooks.* Presentation at the annual Cambio de Colores conference, St. Louis, MO.

De Araujo, Z., Smith, E., & Dwiggins, A., I., J. Y., & Martinez, R. (2017, June). *Making challenging mathematics accessible for emergent bilinguals.* Presentation at the annual Cambio de Colores conference, St. Louis, MO.

De Araujo, Z., & Otten, S. (2016, December). *Considerations for flipped instruction*. Presentation at the Abell conversation series at the University of Missouri, Columbia, MO.

De Araujo, Z., & Otten, S. (2016, July). *Flipped mathematics: Lessons learned from research*. Presentation at Columbia Public Schools Technopalooza, Columbia, MO.

De Araujo, Z., & Otten, S. (2015, October). *Fostering learning by increasing participation in discussions: An exploratory study*. Poster presented at Mizzou Ed Research Day, Columbia, MO.

I., J. I.*, Arnone, K.*, & de Araujo, Z. (2014, December). *Recreation of our solar system*. Presentation at the annual meeting of the Missouri Council of Teachers of Mathematics, Columbia, MO.

De Araujo, Z., Otten, S., Lannin, J. K., & Webel, C. (2014, October). *Mathematics education: Considering collaborative efforts*. Presentation at the operations council meeting of the Missouri Partnership for Educational Renewal, Columbia, MO.

De Araujo, Z. (2013, December). *Connecting representations of functions.* Presentation at the annual meeting of the Missouri Council of Teachers of Mathematics, Columbia, MO.

De Araujo, Z. (2012, November). *Ancient number systems and place value*. Presentation at the annual meeting of the Missouri Council of Teachers of Mathematics, Columbia, MO.

De Araujo, Z. & Singletary, L. (2011, October). *Place value and problem solving with ancient number systems*. Presentation at the annual meeting of the Georgia Council of Teachers of Mathematics.

Singletary, L., & de Araujo, Z. (2011, October). *Historical proofs of the Pythagorean Theorem.* Presentation at the annual meeting of the Georgia Council of Teachers of Mathematics.

De Araujo, Z., & DeGeorge, T. (2010, October). *Teaching mathematics for social justice: What is it and why do we care?* Presentation at the annual meeting of the Georgia Council of Teachers of Mathematics.

DeGeorge, T., & de Araujo, Z. (2010, October). *Bridging literacy and mathematics.* Presentation at the annual meeting of the Georgia Council of Teachers of Mathematics.

De Araujo, Z. (2010, October). *Challenges and rewards: Implementing the GPS with English language learners.* Presentation at the annual meeting of the Georgia Association of Mathematics Teacher Educators.

De Araujo, Z. & Singletary, L. (2009, September). *Mathematical integration and the process standards.* Presentation at the annual meeting of the Georgia Conference of Teachers of Mathematics.

INVITED PRESENTATIONS

National

de Araujo, Z. (2023, June). *Aligning our beliefs and actions in the mathematics classroom*. Keynote presented at the Advancing Content-Integrated Education for English Learners with a STEM Focus (ACE-STEM) Summer Institute. Georgie Mason University, Manassas, VA.

de Araujo, Z. (2023, June). *More language, more math.* Workshop facilitated at the Advancing Content-Integrated Education for English Learners with a STEM Focus (ACE-STEM) Summer Institute. Georgie Mason University, Manassas, VA.

de Araujo, Z. (panelist). (2020, May). *Delaying the Tenure Clock?* Math Ed Collective via Zoom.

Fulmore, L., de Araujo, Z., & Salgarino, M. B. (2020, November). *Actions towards antiracism in mathematics teaching: The mo(ve)ment is now!* NCTM Virtual Conference

Fulmore, L., de Araujo, Z., & Salgarino, M. B. (2020, November). *Actions towards antiracism in mathematics teaching: The mo(ve)ment is now!* CMC South (Virtual)

De Araujo, Z., LopezLeiva, C., & Zavala, M. (2020, February). Actions and accountability towards social justice in a mathematics de TODOS. AMTE Annual Conference, Phoenix, AZ.

De Araujo, Z. (2020, March). *Online Content Delivery: Lessons Learned from Studying Flipped Instruction.* Invited webinar for the AMTE. https://amte.net/content/asynchronous-online-instruction%E2%80%94special-two-part-webinar

De Araujo, Z. (2019, January). Invited Panelist for the National Academies of Sciences, Engineering, and Medicine release of English Learners in STEM Subjects: Transforming Classrooms, Schools, and Lives event.

de Araujo, Z. (2018, September). Navigating the job market. Guest lecture for the Mathematics Education Doctoral Students at the University of Georgia via Zoom.

De Araujo, Z. (2018 June). Re-centering our classrooms: What to decenter so that we can center language, literacy, and culture. Impact session given at the 2018 TODOS Conference. Scottsdale, AZ.

De Araujo, Z. (2017, March). *Teaching mathematics with ELs*. Virginia Tech University, Blacksburg, VA.

De Araujo, Z., Roberts, S., Willey, C. Zahner, W. (2016, February). *Implementing cognitively demanding mathematics tasks with English learners: Prior research and new directions*. CRMSE San Diego State University, San Diego, CA.

de Araujo, Z. (2016, February). *Mathematics education of ELLs*. Guest lecture given via Skype for the University of Massachusetts-Dartmouth.

Panelist, (2015, April). NCTM Research Conference Graduate Student, Junior Faculty, and Researcher Mentoring Session. Boston, MA.

De Araujo, Z. & I, J. Y. (2015, April). *Supporting ELLs in the mathematics classroom.* Guest lecture given via Google Hangout for the University of Georgia.

De Araujo, Z. (2014, November). *Mathematics education of ELLs*. Guest lecture given via Skype for the University of Georgia.

De Araujo, Z. (2014, April). *Mathematics education of ELLs*. Guest lecture given via Skype for the University of Georgia.

De Araujo, Z. (2013, September). *Project STELLAR: Supporting teachers of ELLs to achieve reform.* Poster presented at the 2nd University of Missouri & University of Georgia Conference Studying the Emerging Challenges of the Common Core State Standards in Mathematics in Athens, GA.

De Araujo, Z., & Singletary, L. (2010, November). *A framework for understanding integrated mathematics curricula.* Poster presented at the Enacted Mathematics Curriculum Conference, Tampa, FL.

Regional/Local

De Araujo, Z. (panelist). (2020, November). Teach to Live, Live to Teach. College of Education Student Success Workshop via Zoom.

De Araujo, Z. (Panelist) (2020, May). *First year scholars panel discussion*. Center of Inclusive Excellence at MU via Zoom.

De Araujo, Z. (2020, March). Keynote for Iowa AMTE Meeting. Canceled due to COVID-19.

de Araujo, Z. (2019, December). Missouri Council of Teachers of Mathematics Keynote Speaker. Columbia, MO.

de Araujo, Z. (2019, October). Panelist on the grad ESSENTIALS – Professional Development Series: Underrepresented in Academia: The Service Component. Columbia, MO

de Araujo, Z. (2019, September). *Fostering Receptive and Productive Language in the Mathematics Classroom.* Federal Programs Conference. Osage Beach, MO.

de Araujo Z. (2018, November). Guest panelist for College of Education Media Training Event, University of Missouri.

De Araujo, Z. (2018, October). MPER and purposeful assessment. WiPro Program at the University of Missouri.

De Araujo, Z. (2018, August). But I'm a math teacher! Presentation for the Mizzou College of Education Bridge, Columbia, MO.

Webel, C. & de Araujo, Z. (2018, July). Voting counts, counting votes. Carter Center Black History Conference, Columbia, MO.

De Araujo, Z. (2018, June). Emcee for the HerTomorrow Educator event. Columbia, MO.

Webel, C., Empson, S., de Araujo, Z., Otten, S., & Munter, C. (2018, April). If mathematics isn't political then why are math educators under attack? Presentation for the College of Education Bridge, Columbia, MO.

De Araujo, Z. (2016, March). *Reconsidering the role of mathematics*. Presentation for the University of Missouri College of Education's Bridge.

De Araujo, Z. (2014, December). *Evernote*. Technology mini-session for the Department of Learning, Teaching, and Curriculum. Columbia, MO.

De Araujo, Z., Adkins, D., Maras, M., Pinnow, R., & Zapata, M. (2014, November). *Publishing qualitative research*. Qualitative Conversations. Columbia, MO.

Hanuscin, D., & de Araujo, Z. (October, 2014). *Quality elementary science teaching (QuEST).* Colloquium for the College of Education, University of Missouri, Columbia, MO.

Hanuscin, D., de Araujo, Z., & Zapata, M. (2014, January). *CoLABorative Field Experience,* Colloquium given to Department of Learning, Teaching, and Curriculum, Columbia, MO.

De Araujo, Z. (2012, November). I*t's almost 2015, where's my hover car? Seeking innovation in teacher education*. Colloquium for the Mathematics Education-Science Education Research Colloquia Series. Columbia, MO.

De Araujo, Z. (2012, September). *An examination of mathematics teachers' efforts to build English language learners' academic language*. Poster presented at the University of Missouri & University of Georgia Conference Studying the Emerging Challenges of the Common Core State Standards in Mathematics in Columbia, MO.

Guest Teaching/Lecture

Curriculum Doctoral Course (2021, November). Guest lecture on teacher lesson planning with Sam Otten for Corey Webel and Amanda Jansen's Doctoral Curriculum Courses (jointly held with the University of Missouri and University of Delaware).

de Araujo, Z. (2020, January). *Math and ELLs*. Guest lecture for Equity and K-12 STEM Education. University of Santa Barbara via Zoom.

De Araujo, Z. (2018, March). Math tasks and English learners. Guest lecture for ED 9420 Studies of Curriculum and Instruction in Mathematics Education at Clemson University via Zoom.

de Araujo, Z. (2018, November). Panel participant on Skype Interviewing for the Preparing Future Faculty Course, University of Missouri, Columbia, MO.

De Araujo, Z. (2018, September). Panel participant for Social Theory Course at the University of Missouri, Columbia, MO.

De Araujo, Z. (2018, March). Radical constructivism. Guest lecture for LTC 8900 Learning Theories.

De Araujo, Z. (2017, December). *ELL supports in algebra textbooks*. Guest lecture given via Skype for Boston University's ME 703 Curriculum Research and Theory in Mathematics Education.

INVITED CONFERENCES

Attendee.(2018, May). Gathering of the Mathematics Education Scholars of Color (MESOC). Chicago, IL.

Attendee. (2017, March). Equitable Mathematics Classroom Observation Tools Conference (EMCOT) funded by Spencer.

AWARDS/HONORS

Received

2020	Association of Mathematics Teacher Educators' Early Career Award
2019	Lathisms Honoree
	University of Missouri System's President's Award for Early Career Excellence
	NACADA Region 7 Excellence in Advising Faculty Advisor Award
2018	University of Missouri Excellence in Advising Award
	Recognized Mentor, University of Missouri Honors Convocation
	Quality Course Review Faculty Incentive Award

2016	University of Missouri Outstanding Online Course Design Award sponsored by Mizzou Online
	College of Education Golden Apple Award for Outstanding Teaching
	Recognized Mentor, University of Missouri Honors Convocation
2015 – 2021	Cambio Center Fellow
2015	Recognized Mentor, University of Missouri Honors Convocation
	University of Missouri Excellence in Education Award
2014	Bess Schooling Professorship in Elementary Education
2013	University of Missouri Faculty Scholar
	Service, Teaching, and Research (StaR) Fellow, Association of Mathematics Teacher Educators
	Selected for AERA's Committee on Scholars of Color in Education Mentoring Lecture and Reception
	Selected for AERA's Division K New Faculty Mentoring Session
2012	University of Georgia, Outstanding Teaching Assistant Award
2008 – 2010	University of Georgia Graduate School Assistantship

Nominated

2019	Nominee, College of Education Faculty Diversity Award
2018	Nominee, AMTE Early Career Award
2016	Nominee, University of Missouri System Presidential Award for Innovative Teaching
2015	Nominee, College of Education Outstanding Early Career Teaching Award
	Finalist, Isabelle Lyda Professorship
	Nominee, College of Education Graduate Mentor of the Year
2013	Nominee, Instructor of the Year, College of Education Student Council
	Nominee, AACTE Dissertation Award
2012	Nominee, AACTE Dissertation Award
	Nominee, Division K Dissertation Award
	Nominee, University of Georgia Research Award
2011	Ford Foundation Dissertation Fellowship, Alternate/Honorable Mention

TEACHING

Undergraduate Courses

University of Missouri

LTC 4060 Connecting Geometry in Middle/Secondary School

- Spring 2019

LTC 4410 Teaching, Engaging, and Assessing Middle-Level Students

- Spring 2019

LTC 4360/4571/7360/7571 Introduction to Teaching Mathematics in Middle and Secondary Schools

- Fall 2018, 2019

LTC 1120 Orientation in Mathematics Education

- Fall 2018

LTC 4364/4574 Middle and Secondary Mathematics Education Field Experience

- Fall 2018, 2019

Course Coordinator: LTC 4300 Learning and Teaching Number and Operation in the Elementary School

- Fall Semesters 2013 – 2016

LTC 4300 Learning and Teaching Number and Operation in the Elementary School

- Fall Semesters 2012 – 2016

LTC 4310 Learning and Teaching Geometry and Measurement in the Elementary School

- Spring Semesters 2013, 2014, 2016, 2017

LTC 4590WI,4370WI

- Fall 2017, Fall 2019

University of Georgia

EMAT 3400 Children's Mathematical Learning

- Fall 2010, Spring 2011, Spring 2012
- Instructor of Record

EMAT 5460/7460 Student Teaching in Secondary School Mathematics

- Fall 2008, Spring 2010, Fall 2010, Spring 2011, Fall 2011, Spring 2012
- University Supervisor

EMAT 5320 Teaching Algebra in the Middle School

- Fall 2011
- Instructor of Record

EMAT 4650/6650 Historical and Cultural Foundations of Mathematics

- Summer 2011
- Assisted Dr. Ryan C. Smith

Athens Technical College

MATH 1111 College Algebra

- Fall 2011, Spring 2012

Valencia Community College

MAT 0012 Pre-Algebra

- Summer 2008

MAT 0024 Beginning Algebra

- Spring 2008, Summer 2008

Graduate Courses

University of Missouri

LTC 8910 Action Research

- Spring 2020

LTC 8915 Classroom Research

- Summer 2019, 2020

LTC 8883 Teaching and Learning Geometry and Measurement (Advanced)

- Spring 2019

LTC 8873 Internship in Teaching and Learning Geometry and Measurement (Advanced)

- Spring 2019

LTC 8900 Mathematics Education Research in Equity and Diversity

- Fall 2017

LTC 8085 Problems in Curriculum and Instruction

- Fall 2019

LTC 8900 Research in Mathematics Education Doctoral Seminar

- Fall 2017

LTC 8900 First Year Doctoral Student Professional Seminar

- Fall 2014, 2017-2019

LTC 8900 General Methods for Middle and Secondary Mathematics

- Summer & Fall 2013

LTC 8900 Advanced Mathematics Pedagogy for K-6 Teachers

- Summer & Fall 2012, 2013; Fall 2018, 2019

LTC 8880 Advanced Survey of Theories of Learning Mathematics

- Spring 2013, 2015

LTC 8900 Critical Readings in Mathematics Education Seminar

- Spring 2016

LTC 8886 Contemporary Issues of Equity and Diversity in Mathematics Education

- Spring 2016, 2018, 2020

University of Georgia

EMAT 6410 Mathematical Learning in PreK-Grade 5

- Fall 2009
- Assisted Dr. Chandra Orrill

EMAT 6680 Technology and Secondary School Mathematics

- Fall 2008
- Assisted Dr. James Wilson

COURSE DEVELOPMENT

Designed LTC 8910 Action Research Course (online), spring 2020

Re-Designed course for online format (*Advanced Elementary Methods*) for the MPER Early Career Scholars Master's Degree Program – Elementary Education, 2018

Co-designed new course (*Research in Equity and Diversity in Mathematics Education*) for the Mathematics Education Doctoral Program, 2017

Co-designed new course (*Learning Theories*) for the LTC Doctoral Program. 2016.

Designed new course (LTC 8900) *Critical Readings in Mathematics Education* a doctoral seminar in response to the Fall 2015 campus protests. 2015-2016.

Designed new course (LTC 8886) *Contemporary Issues of Equity and Diversity in Mathematics Education* an online graduate course. 2015-2016.

Co-designed new course (LTC 8900) *First-Year Doctoral Professional Seminar.* 2014.

Designed new course (LTC 8900) *Learning and Teaching Whole Number and Operation in the Elementary School* from an Advanced Perspective for the core of the new online Masters in Mathematics Education. 2012-2013.

Co-designed new course (LTC 2300 *Learning and Teaching Whole Number and Operation in the Elementary School*) for the core of the Elementary Mathematics Undergraduate Program. 2012-2013.

PROGRAM DEVELOPMENT

Design of the mathematics/science education alternative certification programs, 2020-present

Co-lead in the redesign of the mathematics education undergraduate programs. 2017-2018

Collaborated in the redesign of the mathematics education doctoral program. 2014-2017.

Program Development. Helped design and submit new graduate certificate program for elementary mathematics specialists. 2012-2013.

Contributed to the written documentation for the new graduate certificate program in qualitative research. 2012-2014.

PROFESSIONAL DEVELOPMENT

Extended Facilitation

Facilitator, New Franklin Elementary School, New Franklin, MO. (2017-2018).

Facilitator, Algebra 4 All Initiative in New York City Public Schools, NY. Contracted by the National Council of Teachers of Mathematics. (2016-2020).

Facilitator, Ferguson-Florissant Schools, St. Louis, MO. (Spring 2016).

Benton STEM Elementary School in Columbia, MO. The work was related to the use of elementary mathematics curriculum. (2014-2016).

Columbia Public Schools in Columbia, MO. The work was related to the use of elementary mathematics curriculum. (2016).

Facilitator, Grade 8 band of the National Council of Teachers of Mathematics' Algebra Readiness Institute in San Diego, CA (2014, July).

Columbia Public Schools in Columbia, MO. The work was related to effective practices for teaching mathematics to English language learners. (2014)

Sedalia Public Schools in Sedalia, MO. The work was related to effective practices for teaching mathematics to English language learners. (2014)

Facilitator, Grade 8 band of the National Council of Teachers of Mathematics' Algebra Readiness Institute in New Orleans, LA (2013, July).

Facilitator, Grade 8 band of the National Council of Teachers of Mathematics' Algebra Readiness Institute in Atlanta, GA (2012, July).

Clarke County Public Schools in Athens, GA. The work was related to teacher's content and pedagogical knowledge of number and operations in grades K-6 and was carried out in the summer of 2011.

Professional Development Presentations/Workshops

Facilitator, SEE-TEL Summer Institute, St. Louis, MO. (2018, June).

Facilitator, Phillipsburg, NJ. Contracted by the National Council of Teachers of Mathematics. (2018, February).

De Araujo, Z. (2017, July). Making challenging mathematics accessible for emergent bilinguals. DESE ELD Collaborative Workshop, Columbia, MO.

De Araujo, Z. & Otten, S. (2016, November). Considerations for flipped instruction. Abell Science Teaching Conversations, Columbia, MO.

De Araujo, Z. (2016, April). Talk about teaching math with ELs for the MU Ambassadors. Columbia, MO.

Otten, S., & de Araujo, Z. (2016, October). *The role of videos in high-quality flipped instruction*. Presentation to be given at the Kansas City Mathematics Technology Expo, Kansas City, MO.

De Araujo, Z. & I, J. Y. (2015, April). *The Universal Language? Supporting ELLs in the Mathematics Classroom*. Presentation for the Hook Center Performance Excellence Symposium, Columbia, MO.

De Araujo, Z. & Otten, S. (2015, September). Flipped instruction. Presentation at Mizzou EdCamp. Columbia, MO.

De Araujo, Z., Otten, S., Lannin, J. K., & Webel, C. (2014, October). *Mathematics education: Considering collaborative efforts*. Presentation at the operations council meeting of the Missouri Partnership for Educational Renewal, Columbia, MO.

De Araujo, Z., & Otten, S. A. (2016, July). *Flipped mathematics classrooms: Lessons learned from research*. Technopalooza, Columbia, Mo.

MEDIA MENTIONS/APPEARANCES

TODOS Podcast. (2020). *Episode S02e03 Research on Multilingual Learners in Mathematics*. September 25, 2020. https://www.podomatic.com/podcasts/todosmath/episodes/2020-09-25T10_59_57-07_00

Math Ed Podcast (2020). *Episode 2005: AERA Symposium on Flipped Instruction*. May 10, 2020, https://www.podomatic.com/podcasts/mathed/episodes/2020-05-10T04_23_54-07_00

Teaching Math Teaching Podcast. (2020). *Epidsode 10: Zandra de Araujo: Equity in synchronous online teaching*, April 19 2020. https://www.teachingmathteachingpodcast.com/guests/zandra-de-araujo

TODOS Podcast. (2020). *Episode S01e06 Multilingual Students in High School Math Classrooms*. February 4, 2020. https://www.podomatic.com/podcasts/todosmath/episodes/2020-02-04T13_05_26-08_00

McKinney, R. (2018). *MU research projects may help English language learners, students with disabilities.* Columbia Daily Tribune, September 29, 2018

https://www.columbiatribune.com/news/20180929/mu-research-projects-may-help-english-language-learners-students-with-disabilities

Otten, S. (2017). Episode 1715: Zandra de Araujo. *Math Ed Podcast*, December, 21, 2017, https://www.podomatic.com/podcasts/mathed/episodes/2017-12-03T07_01_45-08_00

Colville, W. (2017). UM researchers awarded $450,000 grant to study 'flipped classrooms'. *Columbia Daily Tribune*, December 31, 2017, http://www.columbiatribune.com/news/20171231/um-researchers-awarded-450000-grant-to-study-flipped-classrooms

*Reprinted in University of Missouri's IDENTITY Magazine (Spring 2018)

Delaney, R. (2017). Mizzou researchers study effectiveness of 'flipped' classroom instruction. *St. Louis Public Radio*, December 18, 2017, http://news.stlpublicradio.org/post/mizzou-researchers-study-effectiveness-flipped-classroom-instruction#stream/0

*Reprinted by *KBIA*

Will, M. (2017). Does flipped instruction work? New study looks to find the best tactics. *Education Week*, December 8, 2017, http://blogs.edweek.org/teachers/teaching_now/2017/12/how_well_does_flipped_instruction_work_researchers_are_trying_to_find_the_best_tactics.html

Riley, C. (2017). MU team to study flipped instruction in Missouri high school algebra classrooms. *University of Missouri News Bureau*, November 30, 2017, https://nbsubscribe.missouri.edu/news-releases/2017/1130-mu-team-to-study-flipped-instruction-in-missouri-high-school-algebra-classrooms/

*Reprinted in *St. Louis Globe-Democrat*

MENTORING

Faculty

Linda Helmick, 2019-2020

Post-Doctoral Scholars

Ruby Ellis, 2019-2021

Terrell Morton, 2017-2019

Dante Cisterna, 2015-2017

Salih Birisci, 2015-2016

ADVISING

Doctoral Advising

Erin Smith (Co-Advisor)	Graduated 2018	Univ. of Southern Mississippi
Jaepil Han	Expected Graduation 2021	
Courtney Vahle	Expected Graduation 2023	
Maria Stewart	Expected Graduation 2024	

Doctoral Student Committees

Dorcas Qu]ian	Expected Graduation 2022	
Mitchelle Wambua	Expected Graduation 2023	
Heather Linfors-Navarro	Expected Graduation 2022	
Alexandria Otis (ELPA)	Expected Graduation 2021	
Christina Sheffel	Expected Graduation 2021	
Jessica Kamuru (Special Ed.)	Graduated 2020	
Cara Haines	Graduated 2020	Vanderbilt University (Postdoc Fellow)
Wenmin Zhao (Math Ed.)	Graduated 2020	China
Julie Birt (Science Ed.)	Graduated 2018	Univ. of Missouri Writing Center
Ruveyda Karaman (Math Ed.)	Graduated 2017	Turkey
Nilay Muslu (Science Ed.)	Graduated 2017	Muğla Sıtkı Koçman Üniversitesi (Turkey)
Annie Arnone (El. Ed.)	Graduated 2017	NASA
Rebecca Darrough (Math Ed.)	Graduated 2015	Austin Peay University
Ji Yeong I (Math Ed.)	Graduated 2015	Iowa State University

Educational Specialist Committees

Logan Garrett, Anticipated Graduation 2020

Kristin Hawkins, Graduated 2018

Victor Soria, Graduated 2017

Carolyn Summers, Graduated 2016

Master's Degree Students

2020: 26 MPER Master's Degree Students

Taylor Ernst, Graduated 2020

Anthony Clynes, Graduated 2020

Katherine Mudd, Graduated 2020

Andrew Otten, Graduated 2020

Joseph Chalupny, 2018

Corinne Greear, Graduated 2016.

Christina Sheffel, Graduated 2015.

Master's Degree Committees

Anna Sims, Special Education, Graduated 2020

Cadence Schwandt, Special Education, Graduated 2020

Suzanne Schultz, Graduated 2020

Shelbly Smith, Special Education, Graduated 2019

Julie Bielicki, Graduated 2018

Jonathan Guilkey, Graduated 2016.

Kelly Bozzi, Graduated 2016.

Laura Quesal, Graduated 2015.

Kyle Christian, Graduated 2015.

Elementary Mathematics Specialist Certificate Students

Aubrey Ash, Graduated 2015.

LTC 8941 Internship in Curriculum & Instruction

Served as a mentor/instructor for doctoral students interning in my undergraduate mathematics methods courses and/or research

Fall 2012 (n=2), 2014 (n=1), 2015 (n=3), 2017 (n=2), 2018 (n=1), 2020 (n=1)

Spring 2014 (n=2), 2015 (n=1), 2018 (n=1), 2019 (n=1), 2020 (n=3)

Teaching Fellows Advising

Advisor to Master's students in the MU Teaching Fellows program, a fifth-year Master's degree program for classroom teachers.

2013-2014 (n=10), 2014-2015 (n=13)

Undergraduate Honor Student Researcher Advisor

Advised undergraduate honors students in research projects.

- Secondary Students' Perceptions of Mathematics, 2017 (n=1)
- Study of Flipped Mathematics Instruction, 2015-2016 (n=2), 2018 (n=1)
- Two-Minute Teacher's Guide, 2017-2018 (n=1)
- Study of Preservice Teachers' use of Cognitively Demanding Mathematics Tasks with English Learners, 2013-2014 (n=1)

Graduate Research Mentoring

Mentored graduate students on a research project.

- Study of Flipped Mathematics Instruction, 2015-2016 (n=1), 2017-2020 (n=5)
- Study of Preservice Teachers' use of Cognitively Demanding Mathematics Tasks with English Learners, 2014-2015 (n=3), 2015-2016 (n=2)
- Online Equity Course Study, 2015-2016 (n=1)

EDITORIAL AND REVIEW WORK

Guest Editor, Teaching for Equity and Excellence in Mathematics (TEEM) Special Issues on Multilingual Learners, 2019-2020

Member of the Editorial Panel, *Mathematics Teacher Educator*, 2019-2022

Member of the Consulting Editors Board, *Educational Technology Research and Development*, 2016-present

Associate Editor, *The Mathematics Educator,* 2009-2011

Manuscript/Book Reviews

2021	Book Review for Corwin
2020	International Journal of Education in Mathematics, Science and Technology
2020	Urban Education
2019	Journal of Curriculum Studies
2019	Catalyzing Change in Middle School Mathematics (NCTM, Forthcoming)
2018	Journal of Mathematical Behavior
2018	Mathematics Thinking and Learning in PK12
2018	Curriculum Inquiry
2018	Quantitative Measures in Mathematical Knowledge: Researching Instruments and Perspectives (Book Chapter)
2018	Pedagogies
2018	Bank Street Occasional Papers Series
2018	Teaching Children Mathematics
2017-2019	Journal of Mathematics Teacher Education
2017, 2020	Educational Studies in Mathematics
2016, 2018-2020	Review of Educational Research (RER)
2016-2020	Educational Technology, Research, & Design
2016	Toward Equity and Social Justice in Mathematics Education Book (Springer)
2016, 2020	ZDM Mathematics Education
2015-2017, 2020	Teaching for Excellence and Equity in Mathematics
2015-2016	Mathematics Teacher Education and Development
2014-2015	Journal of Mathematics Education Leadership
2013-2015, 2019-2020	Mathematics Teacher Educator
2012-2013, 2015, 2020	Journal for Research in Mathematics Education
2012	School Science and Mathematics
2011-2012	The Mathematics Educator

Conference Proposal Reviews

2019	AERA Special Interest Group for Research in Mathematics Education, Ad Hoc Review

2014	Annual Research Conference of the National Council of Teachers of Mathematics (NCTM), Boston, MA
2013	Annual Meeting of the American Educational Research Association (AERA), San Francisco, CA ● *Division K: Teaching and Teacher Education* ● *Special Interest Group for Research in Mathematics Education (SIG-RME)*
2010, 2012, 2014, 2017	Annual Meeting of the Association of Mathematics Teacher Educators (AMTE)
2010, 2012, 2015-2016, 2019	Annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)

ADMINISTRATIVE ROLES

- Director, MPER, 2020-present
- Interim Director, Hook Center, 2020-2021
- Co-Director, MPER, 2018-2020
- Director, MPER Early Career Scholars Program, 2018-present

PROFESSIONAL SERVICE

Leadership Roles

- Co-Chair (Appointed), TODOS Conference Committee, 2020-2023
- Chair (Appointed), TODOS Advocacy Committee, 2020-2021
- President-Elect (Elected), Missouri Mathematics Association for Advancement of Techer Training (MAT)^2 (2019-2021)
- Board of Directors (Elected), TODOS Mathematics for All (2018-2021)
- Chair and Associate Vice President (appointed), Emerging Issues Committee of the *Association of Mathematics Teacher Educators* (AMTE) (2020-2021)
- Chair and Associate Vice President (appointed), Emerging Issues Committee of the *Association of Mathematics Teacher Educators* (AMTE) (2019-2020)
- Department Representative (Elected), College of Education Faculty Advisory Council, Columbia, MO (2018-2021)
- College of Education Representative (Elected), MU Faculty Council, Columbia, MO (2019-2023)
- Co-Coordinator, Phase II Success Event, College of Education, Columbia, MO, 2017-2019
- Co-Chair, Art Education Search Committee, Columbia, MO, 2018
- Co-Founder and Organizer, LTC Studying Didactics Group (StuDi Group), 2018-present
- Faculty Mentor, MU College of Education Dorsey Scholars, 2014-2020
- Leadership Team, College of Education Dorsey Scholars Program, 2014-2019
- Leader. Elementary Education Orange Block Instructors, 2015
- Course Coordinator, LTC 4300, 2014-2016
- Program Coordinator. Elementary Mathematics Specialist Grad. Certificate. 2013-2015.

- Faculty Sponsor, Mathematics Education Doctoral Group (MERDS). 2012-2018.
- Faculty Leader, Elementary Mathematics for MU Teaching Fellows Program, 2013-2015
- Team Leader and Reviewer. Elementary Education Synthesis Projects, 2013-2014
- Member. Elementary Missouri Elementary Math Specialist Leadership Team. 2012-2013.
- President, Mathematics Education Student Association (MESA), 2009-2011

International

- Member, PMENA Steering Committee, 2018-2020
- Co-Chair, Local Organizing Committee for the 2019 PME-NA Annual Conference in St. Louis (2017-2019)

National

- Mentor, (Selected), AMTE BIPOC Mentoring Program, 2023
- Member (Appointed), NCTM Advocacy Task Force, 2022
- Mentor, AMTE Manuscript Review Group, 2020
- Member (Invited), TODOS Advocacy Committee, 2019-2020
- Member (Invited), 100kin10 Project Team, 2019-2020
- Member (Appointed), NSF DRK-12 PI Meeting Planning Committee. 2020
- External Reviewer, Math Snacks Early Algebra NSF Project (2018, August).
- Reviewer, NCTM CAEP Standards Task Force (2018, July).
- Review Panel Member (Invited), National Science Foundation (NSF) Division of Education and Human Resources (EHR) (2018)
- Member (appointed), Emerging Issues Committee of the *Association of Mathematics Teacher Educators* (AMTE) (2018-2020)
- Member (appointed), Awards Committee of the *Association of Mathematics Teacher Educators* (AMTE) (2015-2018)
- Review Panel Member (Invited), National Science Foundation (NSF) Division of Education and Human Resources (EHR) (2018)
- Review Panel Member (Invited), National Science Foundation (NSF) Division of Education and Human Resources (EHR) (2016)
- Ad-hoc reviewer, National Science Foundation (NSF) Division of Education and Human Resources (EHR) (2015)
- Review Panel Member (Invited), National Science Foundation (NSF) Division of Education and Human Resources (EHR) (2015)
- Member (appointed), Awards Committee of the *Association of Mathematics Teacher Educators* (AMTE) (2015-2018)
- Review Panel Member (Invited), National Science Foundation (NSF) Division of Education and Human Resources (EHR) (2014)
- Review Panel Member (Invited), National Science Foundation (NSF) Division of Education and Human Resources (EHR) (2010)

State

- Member (Invited), Missouri Department of Elementary & Secondary Education, Missouri Math Pathways Task Force (MOBEAM), (2020-2021)
- UM System Legislative Showcase, Represented the College of Education, Jefferson, MO, February 2019
- DESE ELL and Mathematics Resource Development, Conversations with the DESE ELL Director, 2017
- DESE Teacher Certification Revisions. Participated in meeting with DESE representatives to provide feedback on changes to state teacher certification requirements. 2014

Local

- Member (Invited), Benton Elementary STEM Advisory Committee, 2014-2015.

University

System

- Member (Invited), President's Award Committee, 2019-2021

Campus

- Member (Invited), Search Committee for the Vice Chancellor for Research and Economic Development, 2020
- Member (Invited), Search Committee for the Vice Chancellor for Advancement, 2019-2020
- Member (Appointed), Committee on Scholarship, Research, and Economic Development, 2019-2020
- Faculty Mentor, Graduate Student Association's CV Docs Event, 2016-2018
- Member, QuARC (Qualtiative Research Consortium), 2014-2016
- Member, MU Excellence in Education Award Selection Committee, 2016
- Table Discussant (Invited), Lessons Learned from Ferguson: A Panel Discussion on How Schools Can Address Issues of Race and Inequality, October, 2014

College/Division

Committees & Task Forces

- Member, Faculty Working Group for Teacher Education and Diversity, Equity, and Inclusion, 2019
- Member, Teaching and Curriculum Excellence Strategic Planning Task Force, 2018-2019
- Member, Key Assessment Working Group for CAEP, Summer 2018
- Represented mathematics education in a meeting with US Representative Hartzler's Staff, October, 2016
- Member, Fellows Leadership Search Committee. 2015

Other Service

- Co-Coordinator, Preservice Phase II Passport Series, 2018-present
- Facebook Live Event, College of Education, January 2019
- Reviewer. Elementary Fellows Applications. 2013-2019.
- Panelist. Phase 2 Orientation. College of Education Orientation Night. September 2013.

- Member of the Platform Party, College of Education's Undergraduate Commencement Ceremony. May 2013.

Department/Program Area

Committees & Task Forces

- Member, Phase II Tenure and Promotion Taskforce, 2019-2020
- Member, Fellows/MPER Scholars Master's Degree Taskforce, 2017-2020
- Member, Mathematics Education Master's Degree Admissions Committee, 2015-present
- Member, LTC Taskforce on Workload Policy, 2016
- Member, LTC Graduate Studies Committee, 2016-2018
- Member, LTC Core Doctoral Course Committee, 2015-2016
- Member. Faculty Awards Committee, 2012-2016
- Member, Early Childhood Education Faculty Member Search Committee, 2016
- Member. Mizzou Math Ed Homecoming Reunion Planning Committee, 2015
- Member. LTC Doctoral Core Course Task Force, 2015
- Member. Online Mathematics Education Master's Acceptance Committee, 2015-present
- Member. Mathematics Education Search Committee. 2013-2014
- Member. Elementary Phase 2 Field Revision Committee, 2013

Other Service

- Scorer, Missouri Professional Teaching Assessment, 2016, 2018
- Scorer, MU Teaching Fellows Applicants, 2016-2018
- Guest Speaker. University of Missouri Undergraduate Mathematics Teacher Organization, 2015
- Participant. Mizzou Ed iPad Challenge, 2015
- Reviewer. Elementary Education Phase 2 Applications, 2015
- Co-Organizer. Collaborative Field Experience at Benton Elementary. (Fall)
- Table Discussant. Lessons Learned from Ferguson, Missouri: A Panel Discussion on How Schools Can Address Issues of Race and Inequality, October, 2014
- Co-Organizer. Collaborative Field Experience at Benton Elementary, 2013-2016
- Co-Organizer. 2nd University of Missouri & University of Georgia Conference Studying the Emerging Challenges of the Common Core State Standards in Mathematics in Athens, GA. September, 2013
- Creator. University of Missouri Mathematics Education's Facebook Site. 2013-present
- Faculty Participant. COE Mark Twain Education Ice Cream Social. August, 2013
- Co-Organizer, University of Missouri & University of Georgia Conference Studying the Emerging Challenges of the Common Core State Standards in Mathematics in Columbia, MO. September, 2013

ORGANIZATIONAL MEMBERSHIPS

American Educational Research Association (AERA)

Association of Mathematics Teacher Educators (AMTE)

International Group for Psychology of Mathematics Education (North America)

Missouri Council of Teachers of Mathematics

Missouri Mathematics Association for the Advancement of Teacher Training

National Council of Mathematics Teachers (NCTM)

NCSM

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