

**Jennifer Nickell Lovett**  
Associate Professor of Mathematics Education  
Department of Mathematical Sciences  
Middle Tennessee State University  
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## EDUCATION

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- 2016                    **Ph.D., Mathematics Education**  
North Carolina State University, Raleigh, NC  
Chair: Hollylynne S. Lee  
Dissertation: The Preparedness of Preservice Secondary Mathematics  
Teachers to Teach Statistics: A Cross-Institutional Mixed Methods Study
- 2007                    **M.A.T., Mathematics**  
Miami University, Oxford, OH
- 2005                    **B.S., Mathematics Education 7 – 12**  
**B.A., Mathematics and Statistics**  
Miami University, Oxford, OH

## UNIVERSITY EXPERIENCE

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- 2022 – Present                    **Middle Tennessee State University, Murfreesboro, TN**  
Associate Professors of Mathematics Education, Department of  
Mathematical Sciences
- 2016 – 2022                    Assistant Professor of Mathematics Education, Department of  
Mathematical Sciences
- 2013 – 2015                    **North Carolina State University, Raleigh, NC**  
Mathematics Education Instructor, Department of STEM Education
- 2014 – 2015                    Teaching Assistant, Department of Statistics

## K – 12 TEACHING EXPERIENCE

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- 2007 – 2012                    **Lakota West Freshman School, West Chester, OH**  
High School Mathematics Teacher
- 2008 – 2012                    Associate Mathematics Department Head  
Instructional Technology Representative
- 2005 – 2007                    **Edgewood Middle School, Trenton, OH**  
Middle School Mathematics Teacher

## HONORS & AWARDS

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2021	<b>National Technology Leadership Initiative (NTLI) Award</b> , Association of Mathematics Teacher Educators
2018	<b>National Technology Leadership Initiative (NTLI) Award</b> , Association of Mathematics Teacher Educators
2017	<b>STaR Fellowship</b> , Association of Mathematics Teacher Educators
2015 – 2016	<b>Friday Institute Graduate Student Fellow</b> , Friday Institute for Educational Innovation, NC State University
2015 – 2016	<b>Norman Anderson – J. Conrad Glass, Jr. Graduate Fellowship</b> , NC State University
2015	<b>National Technology Leadership Initiative (NTLI) Award</b> , Association of Mathematics Teacher Educators
2015	<b>College of Education Dissertation Support Award</b> , NC State University
2015	<b>1<sup>st</sup> Place Poster</b> at Graduate Research Symposium in Education, NC State University
2014	<b>Thank-a-Teacher Award</b> , NC State University
2012 – 2013	<b>University Graduate Fellowship</b> , North Carolina State University
2006 – 2007	<b>Alberta Wolfe Fellowship</b> , Miami University
2005	<b>Mathematics Education Trust CAPE Award</b> , National Council of Teachers of Mathematics
2005	<b>H.C. Christofferson Mathematics Education Award</b> , Miami University
2003	<b>Pi Mu Epsilon, Honor Society</b> , Miami University

## SCHOLARSHIP

\*Denotes with a Graduate Student    \*\* Denotes with an Undergraduate Student

### Refereed Journal Articles

- Dick, L. K., McCulloch, A. W., & Lovett, J. N. (Accepted). A framework for teacher noticing of students' mathematical thinking in a technology-mediated environments. *School of Science and Mathematics*.
- Meagher, M., Lovett, J. N., & McCulloch, A. W. (Accepted). Middle school students' development of an understanding of function using an applet with no algebraic representations. *School of Science and Mathematics*.
- Bailey, N.G.\*, Yalman Ozen, D.\*, Lovett, J.N., McCulloch, A.W., Dick, L, & Cayton, C. (2022). Using a framework to develop preservice teacher noticing of students' mathematical thinking within technology-mediated learning environments. *Contemporary Issues in Technology and Teacher Education*, 22(1). <https://citejournal.org/volume-22/issue-3-22/mathematics/using-a-framework-to-develop-preservice-teacher-noticing-of-students-mathematical-thinking-within-technology-mediated-learning/>
- \*Dick, L. K., Lovett, J. N., McCulloch, A. W., Cayton, C., Bailey, N. G., & Yalman Ozen, D. (2022). Preservice teacher noticing of students' mathematical thinking in a technology-mediated learning environment. *International Journal for Technology in Mathematics Education*, 29(3), 129-142. 10.1564/tme\_v29.3.02
- McCulloch, A. W., Lovett, J. N., Dick, L. K., Sherman, M. F., Edgington, C., & Meagher, M. (2022). Eliciting the coordination of preservice secondary mathematics teachers' concept

- images and definitions of function. *International Journal of Mathematical Education in Science and Technology*, 53(6), 1387-1412.
- McCulloch, A. W., **Lovett, J. N.**, Meagher, M., & Sherman, M. F. (2022). Challenging preservice secondary mathematics teachers' conceptions of function. *Mathematics Education Research Journal*, 34, 343-368. doi.org/10.1007/s13394-020-00347-6
- \*Bailey, N. G., Yalman Ozen, D., **Lovett, J. N.**, McCulloch, A. W., & Cayton, C. (2021). Parameters, sliders, marble slides, oh my! *Mathematics Teacher: Learning and Teaching PK-12*, 114(5), 386-394.
- Dick, L. K., McCulloch, A. W., & **Lovett, J. N.** (2021). When students use technology tools, what are you noticing? *Mathematics Teacher: Learning and Teaching PK-12*, 114(4), 272-283.
- \*McCulloch, A. W., Leatham, K., Bailey, N., Cayton, C., Fye, K., & **Lovett, J. N.** (2021). Theoretically framing the pedagogy of learning to teach mathematics with technology. *Contemporary Issues in Technology and Teacher Education*, 21(2). Retrieved from <https://citejournal.org/volume-21/issue-2-21/mathematics/theoretically-framing-the-pedagogy-of-learning-to-teach-mathematics-with-technology/>
- \*McCulloch, A. W., Leatham, K., **Lovett, J. N.**, Bailey, N. G., & Reed, S. (2021). How we are preparing secondary mathematics teachers to teach with technology: Findings from a nationwide survey. *Journal for Research in Mathematics Education*, 52(1), 94-107.
- McCulloch, A. W., **Lovett, J. N.**, Dick, L. K., & Cayton, C. (2021). Positioning each and every student as a mathematical explorer with technology. *Mathematics Teacher: Learning and Teaching PK-12*, 114(10), 738-749.
- \*Bailey, N., Reed, S. D., Fye, K., McCulloch, A. W., & **Lovett, J. N.** (2020). #WODB: The power of dynamic representations. *Mathematics Teacher: Learning and Teaching PK-12*, 113(10), 845-850.
- Dick, L. K., **Lovett, J. N.**, McCulloch, A. W., Casey, S. A., Edgington, C. (2020). Predicting Students' Mathematical Thinking in a Technology-Mediated Environment. *Journal of Technology and Teacher Education*, 28(3), 89-112.
- Lee, H. S., Mojica, G. M., & **Lovett, J. N.** (2020). Examining impacts of online professional development on teachers' beliefs and perspectives about teaching statistics. *Online Learning Journal*, 24(1) 5-27. Retrieved from <https://olj.onlinelearningconsortium.org/index.php/olj/article/view/1992>
- Lovett, J. N.**, McCulloch, A. W., Dick, L. K., & Cayton, C. (2020). Design principles for examining student practices in a technology-mediated environment: The function concept module. *Mathematics Teacher Educator*, 8(3), 120-133.
- \*\***Lovett, J. N.**, McCulloch, A. W., Patterson, B. A., & Martin, P. S. (2020) Is this vending machine FUNCTIONing correctly? *Mathematics Teacher: Learning and Teaching PK-12*, 113(2), 132-139.
- Harrell-Williams, L. M., **Lovett, J. N.**, Lee, H. S., Pierce, R. L., Lesser, L. M., Sorto, M. A. (2019). Validation of scores from the high school version of the Self-efficacy to Teach Statistics (SETS-HS) instrument using pre-service mathematics teachers. *Journal of Psychoeducational Assessment*, 37(2), 194-208.
- \***Lovett, J.N.**, Dick, L.K., McCulloch, A.W., Sherman, M.F. & Martin, K. (2019). Preservice Mathematics Teachers' Professional Noticing of Students' Mathematical Thinking with Technology. *Journal of Computers in Mathematics and Science Teaching*, 38(4), 305-319. Retrieved from <https://www.learntechlib.org/primary/p/183521/>.

- McCulloch, A. W., **Lovett, J. N.**, Edgington, C. (2019). Designing to provoke disorienting dilemmas: Transforming preservice teachers' understanding of function using a vending machine applet. *Contemporary Issues in Technology and Teacher Education*, 19(1), 4-22. Retrieved from <https://www.citejournal.org/volume-19/issue-1-19/mathematics/designing-to-provoke-disorienting-dilemmas-transforming-preservice-teachers-understanding-of-function-using-a-vending-machine-applet/>
- Lovett, J. N.**, & Lee, H. S. (2018). Preservice secondary mathematics teachers' statistical knowledge: A snapshot of strengths and weaknesses. *Journal of Statistics Education*, 26(3), 214-222.
- Lovett, J. N.**, & Lee, H. S. (2017). Incorporating multiple technologies into teacher education: A case of developing preservice teachers' understanding in teaching statistics with technology. *Contemporary Issues in Technology and Technology Education*, 17(4). Retrieved from <http://www.citejournal.org/volume-17/issue-4-17/mathematics/incorporating-multiple-technologies-into-teacher-education-a-case-of-developing-preservice-teachers-understandings-in-teaching-statistics-with-technology/>
- Lovett, J. N.** & Lee, H. S. (2017). New standards require teaching more statistics: Are preservice secondary mathematics teachers ready? *Journal of Teacher Education*, 68(3), 299-311.
- McCulloch, A. W., Whitehead, A., **Lovett, J. N.**, & Whitley, K. (2017). Tuning out the world with noise-cancelling headphones. *Mathematics Teacher*, 110(8), 606-611.
- Lee, H. S., Doerr, H. M., Tran, D., & **Lovett, J. N.** (2016). The role of probability in developing learners' models for simulation approaches to inference. *Statistics Education Research Journal*, 15(2), 216-238.
- Lovett, J. N.**, & Lee, H. S. (2016). Making sense of data: Context matters. *Mathematics Teaching in the Middle School*, 21(6), 338-346.
- Wanko, J. J., & **Nickell, J. V.** (2013). Reinforcing geometric properties with shapedoku puzzles. *Mathematics Teacher*, 107(3), 188-194.

### Books

- McCulloch, A. W. & **Lovett, J. N.** (2024). Exploring math with technology: Practices for secondary math teachers. Routledge.

### Refereed Book Chapters

- Lovett, J. N.**, McCulloch, A. W., Dick, L. K., Cayton, C., Lee, H. S., & Hollebrands, K. H. (In Press). Preparing secondary prospective teachers to teach mathematics with technology. In *AMTE Book Vol 5*.
- Harrell-Williams, L. M., **Lovett, J. N.**, Lesser, L.M., Lee, H. S., Pierce, R. L., Murphy, T.J, & Sorto, M. A. (2019). Measuring self-efficacy to teach statistics in grades 6-12 mathematics teachers. In J. Bostic, E. Krupa, & J. Shih (Eds.), *Assessment in mathematics education contexts: Theoretical frameworks and new directions*, (pp.147-171). New York, NY: Routledge.
- Lovett, J. N.**, Dick, L. K., McCulloch, A. W., & Sherman, M. F. (2019). Preservice mathematics teachers' professional noticing of students' mathematical thinking with technology. In L. Liu, & D. Gibson (Eds.), *Research highlights in technology and teacher education 2018* (pp.71-79). Waynesville, NC: AACE - Association for the Advancement of Computing in Education. Retrieved from: <https://www.learntechlib.org/primary/p/207261/>.

- \***Lovett, J. N.**, Dick, L. K., McCulloch, A. W., Sherman, M. F., Edgington, C., Wanner, C. A., & Reed, S. D. (2019). Eliciting preservice mathematics teachers technological pedagogical function knowledge. In M. L. Niess, H. Gillow-Wiles, & C. Angeli (Eds.), *Handbook of research on TPACK in the digital age* (pp.365-389). Hershey, PA: IGI Global.
- Avineri, T., Lee, H.S., Tran, D., **Lovett, J. N.**, Gibson, T. (2018). Design and impact of MOOCs for mathematics teachers. In V. Hoyos, J. Silverman, R. Barcelos-Amaral, & R. Vogel (Eds.), *Distance learning, e-learning and blended learning of mathematics: Advances in the research of distance mathematics education mediated by technology* (pp.185-200). Cham: Springer.
- Maloney, A. P., Confrey, J., Ng, D., & **Nickell, J.** (2014). Learning trajectories for interpreting the K-8 CCSS-M: Middle grades statistics standards as an example. In K. Karp & A. R. McDuffe (Eds.), *Annual perspectives in mathematics education 2014: Using research to improve instruction* (pp.23-34). Reston, VA: NCTM.

### Refereed Proceedings

- \*Yalman Ozen, D., Bailey, N. G., Fletcher, S., Sanei, H. R., McCulloch, A. W., **Lovett, J. N.**, & Cayton, C. (2021). Preservice secondary teachers' reasoning about static and dynamic representations of function. In D. Olanoff, K. Johnson, & S. M. Spitzer (Eds.), *Proceedings of the 43<sup>rd</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1639–1648). Philadelphia, PA.
- \*Bailey, N. G., Yalman Ozen, D., McCulloch, A. W., Dick, L., **Lovett, J. N.**, & Cayton, C. (2021). AMTE's 2021 NTLI Fellowship: Using a framework to teach preservice mathematics teachers how to professionally notice within technology-mediated learning environments. In E. Langran & L. Archambault (Eds.), *Proceedings of the 32nd annual conference of the Society for Information Technology and Teacher Education* (pp. 1359-1368).
- Fye, K.\*, Bailey, N.G.\*, **McCulloch, A.W.**, & Lovett, J.N. (2021). Preparing faculty to teach with technology: A focus on self-efficacy. In Olanoff, D., Johnson, K., & Spritzer, S. (Eds.) *Proceedings of the forty-third annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 1780-1781). Philadelphia, PA.
- Meagher, M., **Lovett, J.N.**, & McCulloch, A.W. (2020). Middle school students' development of an understanding of the concept of function. In A.I. Sacristan, J.C. Cortes-Zavala, & R.M. Ruiz-Arias (Eds.), *Proceedings of the forty-second annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp. 2183-2191). Mazatlán, Mexico.
- Lovett, J. N.**, Jones, R. S., & Duncan, M. (2019). Teachers' engagement with a competing models informal inference task. In S. Otten, A. G. Candela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp.333-342). St. Louis, MO: University of Missouri.
- \*McCulloch, A. W., **Lovett, J. N.**, Leatham, K. R., Bailey, N. G., & Reed, S. D. (2019). Preparing secondary mathematics teachers to teach with technology: Findings from a nationwide survey. In S. Otten, A. G. Candela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the forty-first annual meeting of the North American Chapter of*

- the International Group for the Psychology of Mathematics Education*, (pp.1126-1130). St. Louis, MO: University of Missouri.
- Meagher, M., McCulloch, A. W., **Lovett, J. N.**, & Sherman, M. F. (2019). A transformative learning experience for the concept of function. In S. Otten, A. G. Candela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp.1029-1038). St. Louis, MO: University of Missouri.
- Sherman, M. F., Meagher, M., **Lovett, J. N.**, & McCulloch, A. W. (2019). Transforming pre-service teachers' definition of function. In S. Otten, A. G. Candela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp.1039-1047). St. Louis, MO: University of Missouri.
- Watson, L. A., **Lovett, J. N.**, McCulloch, A. W., Cayton, C., & Dick, L. K. (2019). Preservice teachers' approximations of practice: Planning for and practicing whole class discussions. In S. Otten, A. G. Candela, Z. de Araujo, C. Haines, & C. Munter (Eds.), *Proceedings of the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (pp.1372-1373). St. Louis, MO: University of Missouri.
- \*Bailey, N. G., Quinn, C. M., Reed, S. D., Wanner, C. A., McCulloch, A. W., **Lovett, J. N.**, & Sherman, M. F. (2019). Calculus II students' understanding of the univalence requirement of function. In A. Weinberg, D. Moore-Russo, H. Soto, & M. Wawro (Eds.), *Proceedings of the 22<sup>nd</sup> Annual Conference on Research in Undergraduate Mathematics Education*, (pp.18-26). Oklahoma City, OK: The Special Interest Group of the Mathematical Association of America (SIGMAA) for Research in Undergraduate Mathematics Education.
- \*\*Kelley, M. A., **Lovett, J. N.**, & Hart, J. (2019). Analyzing students' understanding of isomorphism. In A. Weinberg, D. Moore-Russo, H. Soto, & M. Wawro (Eds.), *Proceedings of the 22<sup>nd</sup> Annual Conference on Research in Undergraduate Mathematics Education*, (pp.308-315). Oklahoma City, OK: The Special Interest Group of the Mathematical Association of America (SIGMAA) for Research in Undergraduate Mathematics Education.
- McCulloch, A. W., **Lovett, J. N.**, Cayton, C., Dick, L. K., & Lee, H. S. (2018). Design principles for the development of professional noticing of students' technological mathematical practices. 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.1195-1202). Greenville, SC: University of South Carolina & Clemson University.
- Mojica, G. F., Lee, H. S., & **Lovett, J. N.** (2018). Designing spaces to support teacher learning about teaching statistics. 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. 410-413). Greenville, SC: University of South Carolina & Clemson University.
- \*Reed, S. D., Wanner, C. A. Bailey, N., Quinn, C., **Lovett, J. N.**, McCulloch, A. W., & Sherman, M. F. (2018). Calculus II students' definitions of function: Attention to correspondence. 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.1284). Greenville, SC: University of South Carolina & Clemson University.
- Harrell-Williams, L.M., **Lovett, J. N.**, Sorto, M. A., Pierce, R. L., Lesser, L.M. & Murphy, T.J. (2018). "Using the SETS Level A Items to Classify Pre-service Teachers' Self-Efficacy to Teach Statistics: An Application of the Mixture Rasch Model". In M. A. Sorto, A. White, & Ly. Guyout (Eds.), *Looking back, looking forward. Proceedings of the Tenth International Conference on Teaching Statistics (ICOTS10, July 2018) Kyoto, Japan*. Voorburg, The Netherlands: International Statistical Institute. Retrieved from: [http://iase-web.org/icots/10/proceedings/pdfs/ICOTS10\\_C220.pdf](http://iase-web.org/icots/10/proceedings/pdfs/ICOTS10_C220.pdf).
- \***Lovett, J. N.**, Dick, L. K., McCulloch, A. W., Sherman, M. F., & Martin, K. (2018). Preservice mathematics teachers' professional noticing of students' mathematical thinking with technology. In E. Langran & J. Borup (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1802-1811). Washington, D.C., United States: Association for the Advancement of Computing in Education (AACE). Retrieved from <https://www.learntechlib.org/primary/p/182772/>.
- \*\*Martin, P., Soled, H., **Lovett, J. N.**, & Dick, L. K. (2018). Students' Engagement with a Function Vending Machine Applet. In A. Weinberg, C. Rasmussen, J. Rabin, M. Wawro, & S. Brown (Eds.), *Proceedings of the 21<sup>st</sup> Annual Conference on Research in Undergraduate Mathematics Education* (pp.1572-1573). San Diego, CA: The Special Interest Group of the Mathematical Association of America (SIGMAA) for Research in Undergraduate Mathematics Education.
- Sherman, M. F., **Lovett, J. N.**, McCulloch, A. W., Dick, Lara K., Edgington, C., & Casey, S. A. (2018). Transforming students' definitions of function using a vending machine applet. In A. Weinberg, C. Rasmussen, J. Rabin, M. Wawro, & S. Brown (Eds.), *Proceedings of the 21<sup>st</sup> Annual Conference on Research in Undergraduate Mathematics Education* (pp. 752-760). San Diego, CA: The Special Interest Group of the Mathematical Association of America (SIGMAA) for Research in Undergraduate Mathematics Education.
- Harrell-Williams, L. M., **Lovett, J. N.**, Pierce, R. L., Sorto, M. A., Lee, H. S., & Lesser, L. M. (2017). The middle grades SETS instrument: Psychometric comparison of middle and high school preservice mathematics teachers. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1064-1067). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.
- \*Jones, R. S., **Lovett, J. N.**, Google, A., & Matuszewski, A. (2017). Integrating face-to-face professional development and a MOOC-Ed to develop teachers' statistical knowledge for teaching. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 541). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.
- Lee, H.S., **Lovett, J. N.**, & Mojica, G. (2017). Characterizing impacts of online professional development on teachers' beliefs and perspectives about teaching statistics. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 407-414). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.
- Lovett, J. N.**, & Lee, H. S. (2017). Preservice secondary mathematics teachers' statistical knowledge: A snapshot of strengths and weaknesses. In E. Galindo & J. Newton (Eds.),

- Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1048-1055). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.
- McCulloch, A. W., **Lovett, J. N.**, & Edgington, C. (2017). Developing preservice teachers' understanding of function using a vending machine metaphor applet. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1281-1288). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.
- Lovett, J. N.**, & McCulloch, A. W. (2016). Preservice teachers' development of an understanding of function using different metaphors. In M. B. Wood, E. E. Turner, M. Civil, & J. A. Eli (Eds.), *Proceedings of the 38th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp.949). Tucson, Arizona: The University of Arizona.
- Lee, H. S., Tran, D., **Nickell, J.** & Doerr, H. M. (2015). Simulation approaches for informal inference: Models to develop understanding. In K. Krainer & N. Vondrova (Eds.), *Proceedings of the Ninth Congress of the European Society for Research in Mathematics Education* (pp.707-714). Prague, Czech Republic. Retrieved from <https://hal.archives-ouvertes.fr/hal-01287093/document>
- Nickell, J.** (2015). Incorporating technology to enhance teacher education lessons and preservice teachers' learning. In *Proceedings of Society for Information Technology & Teacher Education International Conference 2015* (pp. 2453-2459). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE).
- Thrasher, E., Starling, T., **Lovett, J. N.**, Doerr, H. M., & Lee, H. S. (2015). The influence of a graduate course on teachers' self-efficacy to teach statistics. In T. G. Bartell, K. N. Bieda, R. T. Putnam, K. Bradfield, & H. Dominguez (Eds.), *Proceedings of the Thirty-seventh annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 447-454). East Lansing, MI: Michigan State University.

### **Non-Refereed Publications**

- Lee, H. S., Lovett, J. N., Mojica, G. (2018). Designing for educators in a teaching statistics MOOC: Design principles, use of multimedia, participant engagement and reflection. In M. A. Sorto, A. White, & Ly. Guyout (Eds.), *Looking back, looking forward. Proceedings of the Tenth International Conference on Teaching Statistics (ICOTS10, July 2018) Kyoto, Japan*. Voorburg, The Netherlands: International Statistical Institute. Retrieved from: [http://iase-web.org/icots/10/proceedings/pdfs/ICOTS10\\_9G3.pdf](http://iase-web.org/icots/10/proceedings/pdfs/ICOTS10_9G3.pdf)
- \*Mojica, G. F., Lee, H. S., Lovett, J. N., Azmy, C. (2018). Impacts of a teaching statistics MOOC on educators' perspectives and practices. In M. A. Sorto, A. White, & Ly. Guyout (Eds.), *Looking back, looking forward. Proceedings of the Tenth International Conference on Teaching Statistics (ICOTS10, July 2018) Kyoto, Japan*. Voorburg, The Netherlands: International Statistical Institute. Retrieved from: [http://iase-web.org/icots/10/proceedings/pdfs/ICOTS10\\_C159.pdf](http://iase-web.org/icots/10/proceedings/pdfs/ICOTS10_C159.pdf)
- Chandler, K., Fortune, N., & **Lovett, J. N.**, & Scherrer, J. (2016). What should Common Core assessments measure? *Kappan*, 97(5), 60-63. Retrieved <http://www.kappancommoncore.org/what-should-common-core-assessments-measure/>



- Edwards, M. T., & **Nickell, J.** (2014). Teaching students about functions with DynaGraphs. *MTMS Blog: Blogarithm*. Retrieved from <http://www.nctm.org/Publications/Mathematics-Teaching-in-Middle-School/Blog/Teaching-Students-about-Functions-with-Dynagraphs/>
- Lee, H. S., & **Nickell, J.** (2014). How a curriculum may develop technological statistical knowledge: A case of teachers examining relationships among variables using Fathom. In K. Makar, B. de Sousa & R. Gould (Eds.), *Sustainability in statistics education. Proceedings of the Ninth International Conference on Teaching Statistics (ICOTS9, July 2014) Flagstaff, Arizona, USA*. Voorburg, The Netherlands: International Statistical Institute.
- Nickell, J.**, & Lee, H. S. (2014). Designing opportunities for students to reason about the relationship between sources and structures of data. In K. Makar, B. de Sousa & R. Gould (Eds.), *Sustainability in statistics education. Proceedings of the Ninth International Conference on Teaching Statistics (ICOTS9, July 2014) Flagstaff, Arizona, USA*. Voorburg, The Netherlands: International Statistical Institute.
- Nickell, J.** (2012). Word clouds in math classrooms. *Mathematics Teaching in the Middle School*, 17(9), 564–566.
- Nickell, J.** (2007). Technology tips: Useful online and teacher production tools of the Geometer’s Sketchpad. *Mathematics Teacher*, 100(8), 565-567.

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## PRESENTATIONS

### Invited Presentations

- McCulloch, A.W., **Lovett, J. N.**, & Cayton, C. (October 2021). Positioning ALL Students as Mathematics Explorers with Technology Tools. **Invited webinar** for Mathematics Teacher: Teaching and Learning PK-12 Webinar Digital Equity and the Digital Divide, NCTM.
- \*Bailey, N. G., Yalman Ozen, D., McCulloch, A. W., Dick, L., **Lovett, J. N.**, & Cayton, C. (March 2021). Using a framework to teach preservice mathematics teachers how to professionally notice within technology-mediated learning environments. **Invited featured research paper** presented at the *Annual International Conference of the Society for Information Technology and Teacher Education*, Online. Paper presented was based on the National Technology Leadership Initiative Fellowship Award.
- Lovett, J. N.**, McCulloch, A. W., Dick, L. K., & Cayton, C. (September 2020). *Design principles for examining student practices in a technology-mediated environment: The function concept module*. **Invited presentation** for Wisconsin Association of Mathematics Teacher Educators.
- Lovett, J. N.**, Dick, L. K., McCulloch, A., & Cayton, C. (August 2020) **Invited podcast** for the Mathematics Teacher Educator Journal: <https://mtepodcast.amte.net/18>
- Lovett, J. N.**, & McCulloch, A. W. (September 2018). *Designing for dilemmas: Understanding the concept of function*. **Invited presentation** for Bucknell University Mathematics Department Distinguish Visiting Professor Series, Lewisburg, PA.
- Lee, H. S., **Lovett, J. N.**, Mojica, G. (July 2018). *Designing for educators in a teaching statistics MOOC: Design principles, use of multimedia, participant engagement, and reflection*.

- Invited paper** presented at the 10<sup>th</sup> International Conference on Teaching Statistics, Kyoto, Japan.
- Lovett, J. N., Dick, L. K., McCulloch, A. W., & Sherman, M. F.** (April 2018). *Examining student practices on technological tasks through a lesson of professional noticing*. **Invited webinar** presentation for the Association of Mathematics Teacher Educators.
- \***Lovett, J. N., Dick, L. K., McCulloch, A. W., Sherman, M. F., & Martin, K.** (March 2018). *Preservice mathematics teachers' professional noticing of students' mathematical thinking with technology*. **Invited featured research paper** presented at the annual international conference of the Society for Information Technology and Teacher Education, Washington, D.C. Paper presented was based on the National Technology Leadership Initiative Fellowship Award.
- Lovett, J. N.** (June 2017). *Beyond the graphing calculator: Incorporating technology into statistics lessons*. **Invited presentation** at the East Tennessee State University STEM Education Conference, Johnson City, TN.
- Lovett, J. N.** (July 2016). *Rethinking how statistics is taught in mathematics classrooms*. **Invited featured presentation** at the 30<sup>th</sup> annual High Schools That Work Staff Development Conference, Louisville, KY.
- Lee, H. S., Lovett, J. N., Peters, S., Franklin, C.** (April 2016). *Teacher development in statistics education: A critical examination of how teachers' experiences impact their knowledge beliefs, and practices for teaching statistics*. **Invited presentation** at the annual National Council of Teachers of Mathematics Research Conference, San Francisco, CA.
- Nickell, J.** (May 2015). *Incorporating technology to enhance preservice teachers' statistical reasoning and TPCK*. **Invited webinar** presentation for the Association of Mathematics Teacher Educators.
- Nickell, J.** (March 2015). *Incorporating technology to enhance teacher education lessons and preservice teachers' learning*. **Invited featured research paper** presented at the annual international conference of the Society for Information Technology and Teacher Education, Las Vegas, NV. Paper presented was based on the National Technology Leadership Initiative Fellowship Award.

## International

- Harrell-Williams, L.M., Lovett, J.N., Pierce, R.L., Sorto, M.A., Lesser, L.M. & Murphy, T.J.** (2018, July). Using the SETS Level A Items to Classify Pre-Service Teachers' Self-Efficacy to Teach Statistics: An Application of the Mixture Rasch Model. Paper to be presented at the International Conference of Teaching Statistics (ICOTS), Kyoto, Japan.
- Avineri, T. A., Lee, H. S., Tran, D. Lovett, J. N., & Gibson, T.** (July 2016). *Design and impact of MOOCs for mathematics teachers*. Paper presented at the 13<sup>th</sup> International Congress on Mathematics Education. Hamburg, Germany.
- Lee, H. S., Tran, D., Nickell, J., & Doerr, H. M.** (February 2015). *Simulation approaches for informal inference: Models to develop understanding*. Paper presented at the 9<sup>th</sup> Congress of European Research in Mathematics Education, Prague, Czech Republic.
- Lee, H., & Nickell, J.** (July 2014). *How a curriculum may develop technological statistical knowledge: A case of teachers examining relationships among variables using Fathom*. Paper presented at the International Conference on Teaching Statistics, Flagstaff, AZ.

**Nickell, J., & Lee, H.** (July 2014). *Designing opportunities for students to reason about the relationship between sources and structures of data*. Paper presented at the International Conference on Teaching Statistics, Flagstaff, AZ.

### **National**

- Lovett, J.N., McCulloch, A.W., Cayton, C., Dick, L., Yalman Ozen, D.\*, Fletcher, S.\*, Bailey, N.G\*, Muthitu, P.\*, & Brown, A.\*** (February 2023). Incorporating video cases into secondary methods, content, and technology courses. Presented at *the 27th Annual Meeting of the Association of Mathematics Teacher Educators*, New Orleans, LA.
- Meyer, D., McCulloch, A.W., & **Lovett, J.** (February 2023). Approximating the “Five Practices” using Desmos technology. Presented at *the 27th Annual Meeting of the Association of Mathematics Teacher Educators*, New Orleans, LA.
- Lovett, J.N., **McCulloch, A.W.**, Cayton, C., Lee, H.S., Bailey, N.G.\*, Ozen, D.Y.\*, Fletcher, S.\*, (February 2022). Leveraging the five practices and teacher noticing in preparing secondary teachers to teach mathematics with technology. Presented at the *2022 Annual Meeting of the Association of Mathematics Teacher Educators*, Henderson, NV.
- McCulloch, A.W.**, Meyer, D., & Lovett, J.N. (February 2022). Designing Approximations of Practice for Learning to Teach with Technology. Presented at the *2022 Annual Meeting of the Association of Mathematics Teacher Educators*, Henderson, NV.
- \*Bailey, N. G., Yalman Ozen, D., McCulloch, A. W., Dick, L., **Lovett, J. N.**, & Cayton, C. (February 2021). Using a framework to teach preservice mathematics teachers how to professionally notice within technology-mediated learning environments. Presented at the *Twenty-Fifth Annual Conference of the Association of Mathematics Teacher Educators*, Virtual.
- \*McCulloch, A. W., **Lovett, J. N.**, Bailey, N. G., Yalman Ozen, D., & Sanei, H. R. (February 2021). Learning to teach mathematics with technology through engaging with video artifacts of secondary students’ work. Presented at the *Twenty-Fifth Annual Conference of the Association of Mathematics Teacher Educators*, Virtual.
- \*Bailey, N., McCulloch, A.W., Leatham, K.R., **Lovett, J.N.**, Cayton, C., Reed, S., & Fye, K. (February 2020). Theoretically Framing the Pedagogy of Learning to Teach Mathematics with Technology. Presented at the *2020 Annual Meeting of the Association of Mathematics Teacher Educators*. Phoenix, AZ.
- \*McCulloch, A.W., Leatham, K.R., **Lovett, J.N.**, Bailey, N., & Reed, S. (February 2020). Addressing the SPMTs: Critical conversations about preparing mathematics teachers to utilize technology in their instruction. Presented at the *2020 Annual Meeting of the Association of Mathematics Teacher Educators*. Phoenix, AZ.
- Lovett, J. N.**, Jones, R. S., & Duncan, M. (November 2019). *Teachers’ engagement with a competing models informal inference task*. Paper presented at the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, St. Louis, MO.
- \*McCulloch, A. W., **Lovett, J. N.**, Leatham, K. R., Bailey, N. G., & Reed, S. D. (November 2019). *Preparing secondary mathematics teachers to teach with technology: Findings from a nationwide survey*. Paper presented at the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, St. Louis, MO.

- Meagher, M., McCulloch, A. W., **Lovett, J. N.**, & Sherman, M. F. (November 2019). *A transformative learning experience for the concept of function*. Paper presented at the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, St. Louis, MO.
- Sherman, M. F., Meagher, M., **Lovett, J. N.**, & McCulloch, A. W. (November 2019). Transforming pre-service teachers' definition of function. Paper presented at the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, St. Louis, MO.
- \*Watson, L. A., **Lovett, J. N.**, McCulloch, A. W., Cayton, C., & Dick, L. K. (November 2019). *Preservice teachers' approximations of practice: Planning for and practicing whole class discussions*. Poster presented at the forty-first annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, St. Louis, MO.
- Dick, L. K., **Lovett, J. N.**, & McCulloch, A. W. (April 2019). *Is this vending machine FUNCTIONing correctly?* Session presented at the annual conference of the National Council of Teachers of Mathematics, San Diego, CA.
- \*Bailey, N. G., Quinn, C. M., Reed, S. D., Wanner, C. A., McCulloch, A. W., **Lovett, J. N.**, & Sherman, M. F. (February 2019). *Calculus II students' understanding of the univalence requirement of function*. Session presented at 22<sup>nd</sup> Annual Conference on Research in Undergraduate Mathematics Education, Oklahoma City, OK
- \*Google, A., Jones, R. S., Duncan, M. D., & **Lovett, J. N.** (February 2019). *Middle school teachers' statistical inventions and inferences about variability*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Orlando, FL.
- \*Jones, R. S., **Lovett, J. N.**, Google, A., & Matuszewski, A. (February 2019). *Blending traditional professional development with a MOOC-Ed to support middle school teachers in teaching statistics*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Orlando, FL.
- \*\*Kelley, M. A., **Lovett, J. N.**, & Hart, J. (February 2019). *Analyzing students' understanding of isomorphism*. Session presented at 22<sup>nd</sup> Annual Conference on Research in Undergraduate Mathematics Education, Oklahoma City, OK.
- Lovett, J. N.**, McCulloch, A. W., & Cayton, C. (February 2019). *Modules for examining students' mathematical practices on technological tasks*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Orlando, FL.
- McCulloch, A. W., **Lovett, J. N.**, Cayton, C., Dick, L. K., & Lee, H. S. (November 2018). *Design principles for the development of professional noticing of students' technological mathematical practices*. Paper presented at the 40<sup>th</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Greenville, SC.
- Mojica, G. F., Lee, H. S., & **Lovett, J. N.** (November 2018). *Designing spaces to support teacher learning about teaching statistics*. Paper presented at the 40<sup>th</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Greenville, SC.
- \*Reed, S. D., Wanner, C. A. Bailey, N., Quinn, C., **Lovett, J. N.**, McCulloch, A. W., & Sherman, M. F. (November 2018). *Calculus II students' definitions of function: Attention to correspondence*. Poster presented at the 40<sup>th</sup> annual meeting of the North American

- Chapter of the International Group for the Psychology of Mathematics Education, Greenville, SC.
- Harrell-Williams, L.M., **Lovett, J.N.**, Sorto, M.A., Pierce, R.L., Lesser, L.M. & Murphy, T.J. (April 2018). *Applying the mixture Rasch model to the middle grades self-efficacy to teach statistics (SETS-MS) Instrument*. Paper presented at the International Objective Measurement Workshop (IOMW), New York City, NY.
- Lee, H. S., Mojica, G., & **Lovett, J. N.** (February 2018). *Designing effective professional development in an online environment to support teachers' learning*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Houston, TX.
- \***Lovett, J. N.**, Dick, L., McCulloch, A. W., Sherman, M., & Martin, K. (February 2018). *Developing Preservice Teachers' TPACK of Function using a Vending Machine Metaphor Applet*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Houston, TX.
- \*\*Martin, P., Soled, H., **Lovett, J.N.**, & Dick, L. K. (February 2018). *Students' Engagement with a Function Vending Machine Applet*. Poster presented at 21<sup>st</sup> Annual Conference on Research in Undergraduate Mathematics Education, San Diego, CA.
- Sherman, M. F., **Lovett, J. N.**, McCulloch, A. W., Dick, Lara K., Edgington, C., & Casey, S. A. (February 2018). *Transforming students' definitions of function using a vending machine applet*. Paper presented at 21<sup>st</sup> Annual Conference on Research in Undergraduate Mathematics Education, San Diego, CA.
- Harrell-Williams, L. M., **Lovett, J. N.**, Pierce, R. L., Sorto, M. A., Lee, H. S., & Lesser, L. M. (October 2017). *The middle grades SETS instrument: Psychometric comparison of middle and high school preservice mathematics teachers*. Paper presented at the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Indianapolis, IN.
- \*Jones, R. S., **Lovett, J. N.**, Google, A., Matuszewski, A. (October 2017). *Integrating face-to-face professional development and a MOOC-Ed to develop teachers' statistical knowledge for teaching*. Poster presented at the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Indianapolis, IN.
- Lee, H.S., **Lovett, J. N.**, & Mojica, G. (October 2017). *Characterizing impacts of online professional development on teachers' beliefs and perspectives about teaching statistics*. Paper presented at the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Indianapolis, IN.
- Lovett, J. N.**, & Lee, H. S. (October 2017). *Preservice secondary mathematics teachers' statistical knowledge: A snapshot of strengths and weaknesses*. Paper presented at the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Indianapolis, IN.
- McCulloch, A. W., **Lovett, J. N.**, & Edgington, C. (October 2017). *Developing preservice teachers' understanding of function using a vending machine metaphor applet*. Paper presented at the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Indianapolis, IN.
- \*Lee, H.S., **Lovett, J. N.**, Casey, S., Hudson, R., Mojica, G., Azmy, C., & Akoglu, K. (May 2017). *Bringing data and tools into classrooms through online large-scale teacher*

- education*. Session presented at the United States Conference on Teaching Statistics, Happy Valley, PA.
- Harrell-Williams, L. M., **Lovett, J. N.**, Koklu, O., Lee, H.S., Sorto, M. A., Pierce, R. L., Lesser, L. M., & Franklin, C. (May 2017). *Using self-efficacy data to inform teacher preparation and professional development*. Session presented at the United States Conference on Teaching Statistics, State College, PA.
- Lovett, J. N.**, & Gibson, T. (April 2017). *MOOC-Eds: Free online professional development on your schedule*. Session presented at the annual conference of the National Council of Teachers of Mathematics, San Antonio, TX.
- \*Strayer, J. E., **Lovett, J. N.**, & Matuszewski, A. L. (April 2017). *Using simulations to make inferences: Come learn how!* Session presented at the annual conference of the National Council of Teachers of Mathematics, San Antonio, TX.
- Lovett, J. N.** (February 2017). *Increasing the preparation of preservice secondary teachers to teach statistics*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Orlando, FL.
- McCulloch, A. W., **Lovett, J. N.**, & Edgington, C. (February 2017). *Developing preservice teachers' understanding of function using a machine metaphor applet*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Orlando, FL.
- Lovett, J. N.**, McCulloch, A. W. (November 2016). *Preservice teachers' development of an understanding of function using different metaphors*. Poster presented at the annual conference of the North American Chapter of Psychology of Mathematics Education, Tucson, AZ.
- Lovett, J. N.** (April 2016). *Preparedness of preservice secondary mathematics teachers to teach statistics*. Session presented at the annual National Council of Teachers of Mathematics Research Conference, San Francisco, CA.
- McCulloch, A., Lee, H. S., Hollebrands, K., Chandler, K., & **Lovett, J. N.** (January 2016). *Preparing teachers to plan and implement technology-based algebra tasks using open access tools*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Irvine, CA.
- Thrasher, E., **Lovett, J. N.**, Starling, T., Doerr, H. M., & Lee, H. S. (November 2015). *Influence of a graduate course on teachers' self-efficacy to teach statistics*. Paper presented at the annual conference of the North American Chapter of Psychology of Mathematics Education, East Lansing, MI.
- Lee, H. S., Doerr, H. M., Jacob, B., Starling, T. T., Pulis, T., Tran, D., **Nickell, J.**, & Thrasher, E. (April 2015). *Development of teachers' statistical reasoning and confidence in teaching statistics*. Session presented at the annual National Council of Teachers of Mathematics Research Conference, Boston, MA.
- Nickell, J.**, Lee, H. S., & Doerr, H. M. (April 2015). *Teachers' visual representations of a simulation approach to inference*. Poster presented at the annual National Council of Teachers of Mathematics Research Conference, Boston, MA.
- Whitely, K., **Nickell, J.**, Whitehead, A., & McCulloch, A. (April 2015). *Modeling noise-cancelling headphone with trigonometric functions*. Session presented at the annual meeting of the National Council of Teachers of Mathematics, Boston, MA.

- Nickell, J.** (February 2015). *Incorporating technology to enhance teacher education lessons and preservice teachers' learning*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Orlando, FL.
- Thrasher, E., **Nickell, J.**, & Keene, K. A. (February 2015). *The gas problem: Preservice teachers approaches to mathematical modeling in methods courses*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Orlando, FL.
- Cayton, C., Sherman, M., McCulloch, A., **Nickell, J.**, & Chandler, K. (April 2014). *Technological tasks, cognitive demand in secondary classrooms and teacher education*. Session presented at the annual National Council of Teachers of Mathematics Research Conference, New Orleans, LA.
- Lee, H. S., Bos, B., Ozgun-Koca, A., **Nickell, J.**, & Chandler, K. (February 2014). *Supporting teachers in developing technology-based mathematics tasks*. Session presented at the annual conference of the Association of Mathematics Teacher Educators, Irvine, CA.
- Chandler, K., Avineri, T., & **Nickell, J.** (May 2013). *Developing informal inference in the middle grades through exemplary tasks*. Poster presented at the United States Conference on Teaching Statistics, Raleigh, NC.
- Maloney, A., Confrey, J., Avineri, T., Ng, D., & **Nickell, J.** (May 2013). *Using learning trajectories to interpret the Common Core Math Standards*. Session presented at the United States Conference on Teaching Statistics, Raleigh, NC.
- Nickell, J.**, & Carlin, K. (April 2010). *Promoting higher-level geometric thinking through constructions and writing assignments*. Session presented at the annual meeting of the National Council of Teachers of Mathematics, Indianapolis, IN.
- Harper, S. R., Driskell, S. O. & **Nickell, J.** (April 2008). *Exploring probabilities by simulating card games using Fathom*. Session presented at the annual meeting of the National Council of Teachers of Mathematics, Salt Lake City, UT.
- Nickell, J.**, Harper, S. R. & Driskell, S. O. (April 2008). *Using technology-based projects to foster geometric thinking in the middle grades*. Session presented at the annual meeting of the National Council of Teachers of Mathematics, Salt Lake City, UT.
- Nickell, J.**, Sosko, S. & Broering, A. (April 2005). *Math worth skipping cartoons for: Have a kids mathematics conference!* Session presented at the annual meeting of the National Council of Teachers of Mathematics, Anaheim, CA.

### **Regional/State**

- Reider, S., Dunleavy, T., Metts, E., & **Lovett, J. N.** (October 2019). *Liar's bingo with the Math Teachers' Circle of Middle Tennessee*. Session presented at the regional conference of the National Council of Teachers of Mathematics, Nashville, TN.
- Dick, L. K., **Lovett, J. N.**, & McCulloch, A. W. (October 2019). *Is this vending machine FUNCTIONING correctly?* Session presented at the regional conference of the National Council of Teachers of Mathematics, Nashville, TN.
- \*\*Kelley, M., **Lovett, J. N.**, & Hart, J. (February 2019). *Analyzing students' understanding of isomorphism*. Poster presented at the 13<sup>th</sup> Annual Tennessee STEM Education Research Conference, Murfreesboro, TN.
- Lovett, J. N.** (February 2019). *Data is everywhere! How should we all be teaching it*. Session presented at the Tennessee STEM/STEAM Summit IV, Murfreesboro, TN.
- \*Quinn, C. M., Reed, S. D., Wanner, C. A., Bailey, N., **Lovett, J. N.**, McCulloch, A. W., & Sherman, M. F. (February 2019). *Calculus II students and the function machine: Making*

- sense of the two can scenario*. Session presented at the 13<sup>th</sup> Annual Tennessee STEM Education Research Conference, Murfreesboro, TN.
- \*Google, A., Jones, R. S., & Lovett, J. N. (February 2018). *Getting dirty with statistics: Integrating statistical and scientific investigations using soil pH*. Session presented at the 12<sup>th</sup> Annual Tennessee STEM Education Research Conference, Murfreesboro, TN.
- \*Jones, R. S., Lovett, J. N., & Google, A. (February 2018). *Integrating face-to-face professional development and a MOOC-Ed to develop teachers' statistical knowledge for teaching*. Session presented at the 12<sup>th</sup> Annual Tennessee STEM Education Research Conference, Murfreesboro, TN.
- Lovett, J. N.** (September 2016). *Transforming how statistics is taught in middle grades*. Session presented at the annual conference of the Tennessee Mathematics Teachers Association, Murfreesboro, TN.
- Chandler, K., Whitehead, A., & **Nickell, J.** (November 2014). *"There's an app for that!" Geometer's Sketchpad on the iPad*. Session presented at the regional conference of the National Council of Teachers of Mathematics, Richmond, VA.
- Nickell, J.**, Chandler, K., & Whitehead, A. (November 2014). *Developing students' abilities to describe and reason about data*. Session presented at the regional conference of the National Council of Teachers of Mathematics, Richmond, VA.
- Chandler, K., Cayton, C., & **Nickell, J.** (October 2014). *Designing technological tasks*. Session presented at the annual meeting of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Nickell, J.** & Whitehead, A. (October 2014). *Understanding measurement units of data*. Session presented at the annual meeting of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Whitehead, A., & **Nickell J.** (October 2014). *Using measurement tasks to foster statistical thinking*. Session presented at the annual meeting of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Carlin, K., & **Nickell, J.** (November 2013). *Flip your classroom! Give it a try for a chapter!* Session presented at the regional conference of the National Council of Teachers of Mathematics, Louisville, KY.
- Nickell, J.**, Chandler, K., Bell, A., & Leak, M. (November 2013). *New teacher resources: Games*. Session presented at the annual meeting of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Nickell, J.**, & Chandler, K. (November 2013). *Stats & CCSSM. Where to begin?* Session presented at the annual meeting of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Nickell, J.**, & Maloney, A. (November 2013). *Navigating middle school statistics learning in CCSS-M*. Session presented at the regional conference of the National Council of Teachers of Mathematics, Louisville, KY.
- Chandler, K., & **Nickell, J.** (October 2013). *How to use GSP on the iPad*. Session presented at the annual meeting of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.
- Panorkou, N., Confrey, J., & **Nickell, J.** (October 2012). *Unpacking shapes and angles in the CCSS-M*. Session presented at the annual meeting of the North Carolina Council of Teachers of Mathematics, Greensboro, NC.



**Nickell, J., & Carlin, K.** (November 2009). *Promoting higher level thinking in a geometry classroom through constructions, projects and writing assignments*. Session presented at the annual meeting of the Ohio Council of Teachers of Mathematics, Cincinnati, OH.

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## GRANT ACTIVITY

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### External

*Workshop on Undergraduate Teaching with Mathematics and Statistics Action Technologies.*

Grant awarded by the National Science Foundation (August 2020 – July 2021).

Grant is focused on developing, implementing, and facilitating a professional development for mathematics and mathematics educators to use mathematical and statistical action technologies. The grant is awarded to University of North Carolina at Charlotte with a subaward to MTSU. PI: Allison McCulloch, Co-PI: Jennifer Lovett. (Total - \$99,801, MTSU - **\$21,432**)

*Preparing to Teach Mathematics with Technology – Examining Student Practices [PTMT-ESP].*

Grant awarded by the National Science Foundation (October 2018 – September 2023).

PTMT-ESP is focused on designed modules of secondary students' authentic technological algebraic work to deepen preservice teachers Technological Pedagogical Content Knowledge (TPACK). This is a collaborative grant with University of North Carolina at Charlotte, NC State University, and East Carolina University. Lead PI: **Jennifer Lovett**, PI: Allison McCulloch, PI: Hollylynn Lee, PI: Charity Cayton. (Total – \$1,741,485, MTSU – **\$594,112**)

*Engaging Students in Data Modeling.* Grant awarded by the Tennessee Higher Education Commission (January 2017 – December 2017). Grant is focused on providing professional development on statistical knowledge and pedagogy to middle school teachers in Rutherford and Davidson counties in Tennessee. Teachers will engage in a one-week summer institute, Teaching Statistics Through Data Investigations MOOC-Ed, and a professional learning community. PI: **Jennifer Lovett**, Co-PI: Seth Jones. (**\$74,570**)

### Internal

*Examining Preservice Mathematics Teachers' Understanding of Function.* Grant awarded by the Faculty Research and Creative Activity Awards Committee of Middle Tennessee State University (May 2018 – December 2018). Grant is focused on analyzing screencasts from 80 preservice teachers from five different universities. (**\$8,600**)

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## COLLABORATIVE SCHOLARLY ACTIVITIES

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### External

	<b>Consultant</b>
2017	The Mathematical Education of Teachers as an Application of Undergraduate Mathematics (META Math), NSF-funded
	<b>Co-Designer</b>
2016	Teaching Mathematics with Technology MOOC-Ed
2015	Teaching Statistics Through Data Investigations MOOC-Ed

**Middle Tennessee State University**

MATH 1420 Informal Geometry for Elementary Teachers  
MATH 1530 Applied Statistics  
MATH 1630 College Mathematics for Managerial, Social, and Life Sciences  
MATH 1710 College Algebra  
MATH 3320 Teaching Mathematics in the Middle Grades  
MATH 3340 Statistics and Probability for Teachers  
MATH 6360 Technology Tools for School Mathematics  
MATH 6611 Middle School Mathematics from an Advanced Perspective  
MATH 6900 Research in Mathematics Education  
MATH 7330 Ethics in Mathematics Education  
MATH 7900 Teaching and Learning Mathematics  
MSE 7820 Mathematics and Science Education Seminar  
MSE 7840 Nature of Mathematics and Science  
YOED 4400 Residency II

**North Carolina State University**

EMS 204 Introduction to Mathematics Education  
EMS 480 Teaching Mathematics with Technology

**Mentoring of Students**

*Doctoral*

*Chair:*

Demet Yalman Ozen

*Committee Member:*

Current: Samantha Fletcher

Graduated: Nina Bailey (UNC-Charlotte), Olena James (2022), Lucy Watson (2019),  
Matthew Duncan (2018), Amber Matuszewski (2018)

*Master's*

*Chair:*

Current: Courtney Garrison, Mimi Black, Ciera Dobbins

Graduated: Samantha Drown (2023), Reid Woods (2022)

*Undergraduate Research:*

Ciera Dobbins, URECA Mentor  
Gracy Lanier, URECA Mentor  
Magen Williams, URECA Mentor  
Emma Bowmer, URECA Mentor  
Hannah Belcher, URECA Mentor  
Marilyn Kelley, Honors Thesis Advisor

## FACILITATION OF PROFESSIONAL DEVELOPMENT

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### **K-12 Teachers**

*Advancing all students' mathematical understandings: Eliciting and using student thinking.*

(June 2019). Planned and facilitated a two-day workshop for middle school Rutherford County mathematics teachers, Murfreesboro, TN. Focused on increasing teachers' knowledge of strategies for increasing mathematically-focused classroom discourse.

*Math Teacher Circle of Middle Tennessee Summer Institute* (July 2018). Planned and facilitated a two-day workshop for Rutherford County and Metro Nashville mathematics teachers, Nashville, TN. Focused on improving teachers' content knowledge, use of technology to support students' learning, and equitable teaching practices.

*Engaging Students in Data Modeling* (June 2017 – December 2017). Planned and facilitated a week-long summer workshop and a professional learning community (PLC) during Fall 2017 for Rutherford County and Metro Nashville middle school mathematics teachers, Murfreesboro, TN. Focused on developing the statistical knowledge for teaching for middle school teachers.

### **University Faculty**

*Preparing Future Secondary Mathematics Teachers to Teach with Technology.* (invited, July 2023). Computing-Integrated Teacher Education at the City University of New York Summer Camp Workshop Series. Twenty-hour workshop for teacher preparation faculty in the 17 campus CUNY system.

*Preparing to Teach Mathematics with Technology- Examining Student Practices AMTE Preconference Workshop.* (Feb 2023). Facilitated a half-day workshop for mathematics educators on the PTMT-ESP materials.

*Workshop on Undergraduate Teaching with Mathematics and Statistics Action Technologies.* (June 2021). Facilitated a six-day online workshop for mathematics, statistics, mathematics education, and education instructors. Focused on developing instructors' knowledge of mathematics and statistics action technologies to use in their classrooms.

*Preparing to Teach Mathematics with Technology Summer Institute.* (June 2013). Facilitated a three-day workshop for mathematics teacher educators, held at the William & Ida Friday Institute for Educational Innovation, Raleigh, NC. Focused on developing MTE's knowledge of teaching algebra with technology.

## PROFESSIONAL SERVICE

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### **Field of Mathematics and Statistics Education**

2019 – 2023                    **Co-chair**, Psychology for Mathematics Education – North America Chapter Annual Conference, Nashville 2023

2019                            **TMTA Contest Writer**

2018 – Present **Association of Mathematics Teacher Education Task Force**, Online Mathematics Education  
 2017 – 2022 **Facilitator**, Middle Tennessee Math Teacher Circle  
 2017 **Editorial Panel**, Contemporary Issues in Technology and Teacher Education (CITE) Journal  
 2014 – 2017 **Associate Editor**, Statistics Education Web (STEW)  
 2012 – 2014 **Graduate Student Advisor**, North Carolina Council of Teachers of Mathematics: Kappa Chapter  
 2004 – 2005 **President**, Miami University Council of Teachers of Mathematics  
 2003 – 2004 **Vice President**, Miami University Council of Teachers of Mathematics

**Proposal Reviewer**

2021 **Strand Leader**, Psychology of Mathematics Education North American Chapter Annual Conference  
 2018 – 2020 Conference on Research in Undergraduate Mathematics Education  
 2015 International Congress on Mathematics Education  
 2015 – Present Psychology of Mathematics Education North American Chapter Annual Conference  
 2014 – Present Association of Mathematics Teacher Educators Conference  
 2014 – 2016 National Council of Teachers of Mathematics Research Conference

**Manuscript Referee**

2019 – Present Journal of Statistics Education  
 2018 – Present Contemporary Issues in Technology and Teacher Education – Math  
 2017 – Present Journal of Mathematics Teacher Education  
 2016 – Present Journal of Teacher Education  
 Journal of Research in Mathematics Education  
 School Science and Mathematics  
 2014 – Present Statistics Education Research Journal  
 2016 NCSM Journal of Mathematics Educational Leadership  
 Ohio Journal of School Mathematics  
 2013 – 2018 Teaching Children Mathematics  
 2011 – 2018 Mathematics Teacher  
 Mathematics Teaching in the Middle School

**Middle Tennessee State University**

*Departmental Service*

2019 – Present Research Committee – Chair  
 2017 – Present Research Committee  
 2016 – Present Mathematics Education Curriculum Group  
 2016 – Present Undergraduate Program Policy Committee  
 2016 – Present TMTA Contest Committee

*College Service*

2020 – 2022 CBAS Awards Committee  
 2018 Ad Hoc Mentoring Committee

*Faculty Search Committees*

2018-2019

Director of Mathematics and Science Education Program

PROFESSIONAL AFFILIATIONS

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Psychology of Mathematics Education – North American Chapter

Association of Mathematics Teacher Educators

National Council of Teachers of Mathematics

American Statistical Association

Tennessee Mathematics Teachers Association