Jennifer Nickell Lovett
Assistant Professor of Mathematics Education
Department of Mathematical Sciences
Middle Tennessee State University
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EDUCATION

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

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

K – 12 TEACHING EXPERIENCE

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

HONORS & AWARDS

2018	**National Technology Leadership Initiative (NTLI) Award**, Association of Mathematics Teacher Educators

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

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

Refereed Journal Articles

**Lovett, J. N., McCulloch, A. W., Patterson, B. A., & Martin, P. S. (In Press). Is this vending machine FUNCTIONing correctly? *Mathematics Teacher: Learning and Teaching PK-12.*

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.

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). 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.

Refereed Book Chapters

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

*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 22nd 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 22nd 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.

*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 21st 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 21st 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

*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

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.

MANUSCRIPTS UNDER REVIEW/IN PREPARTION

Dick, L. K., **Lovett, J. N.,** & McCulloch, A. W. (Under Review). Coordinating understanding and engagement: Noticing in a tool-mediated learning environment. Submitted to *Journal of Mathematics Teacher Education*.

Lee, H. S., Mojica, G. M., & **Lovett, J. N.** (Under Review). Examining impacts of online professional development on teachers' beliefs and perspectives about teaching statistics. Submitted to *Technology, Knowledge, and Learning*.

Lovett, J. N., Jones, R. S., & Duncan, M. (Under Review). Teachers' engagement with a competing models task: The case of schoolopoly. Submitted to *Statistics Education Research Journal*.

Lovett, J. N., McCulloch, A. W., Dick, L. K., & Cayton, C. (Under Review). Design principles for examining student practices in a technology-mediated environment: The function concept module. Submitted to *Mathematics Teacher Educator.*

McCulloch, A. W., Leatham, K., **Lovett, J. N.,** Bailey, N., & Reed, S. (Under Review). How we are preparing secondary mathematics teachers to teach with technology: Findings from a nationwide survey. Submitted to *Journal for Research in Mathematics Education*.

McCulloch, A. W., **Lovett, J. N.,** Meagher, M., & Sherman, M. F. (Under Review) Transforming preservice secondary mathematics teachers' conceptions of function. Submitted to *Mathematical Thinking and Learning*.

McCulloch, A. W., **Lovett, J. N**., Dick, L. K., Sherman, M. F., & Edgington, C. (Under Review). Eliciting the coordination of preservice secondary mathematics teachers' concept images and definitions of function. Submitted to *International Journal of Mathematical Education in Science and Technology*.

Dick, L. K., **Lovett, J. N.,** McCulloch, A. W., Casey, S. A., Edgington, C. (In Preparation). Predicting students' mathematical thinking in a technological environment: Use of noticing to decompose the practice. To be submitted to *Journal of Mathematics Teacher Education*.

*Jones, R. S., **Lovett, J. N.,** Google, A., & Mueller, A. (Under Review). Mathematizing variability: Teacher learning through invented statistical measures. Submitted to *Journal of Mathematical Behavior*.

PRESENTATIONS

Invited Presentations

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 10th 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 30th 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 13th 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 9th 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

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 22nd 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 22nd 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 40th 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 40th 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 40th 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 21st 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 21st 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

Kelley, M., **Lovett, J. N., & Hart, J. (February 2019). *Analyzing students' understanding of isomorphism*. Poster presented at the 13th 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 13th 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 12th 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 12th 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.

GRANT ACTIVITY

External

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: Hollylynne 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)**

COLLABORATIVE SCHOLARLY ACTIVITIES

External

Consultant
2017   The Mathematical Education of Teachers as an Application of Undergraduate Mathematics (META Math), NSF-funded

Co-Designer
2016   Teaching Mathematics with Technology MOOC-Ed
2015   Teaching Statistics Through Data Investigations MOOC-Ed

TEACHING AND MENTORING

Middle Tennessee State University

MATH 1420   Informal Geometry for Elementary Teachers
MATH 1710   College Algebra
MATH 3320   Teaching Mathematics in the Middle Grades
MATH 6360   Technology Tools for School Mathematics
MATH 6611   Middle School Mathematics from an Advanced Perspective
MATH 7900
MSE 7820   Mathematics and Science Education Seminar
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 or Co-chair:
Current: Candice Quinn

Committee Member:
Current: Lucy Watson
Graduated: Matthew Duncan (2018), Amber Matuszewski (2018)

Undergraduate Research:
Marilin Kelley, Honors Thesis Advisor

FACILIATION OF PROFESSIONAL DEVELOPMENT

K-12 Teachers
Advancing all students' mathematical understandings: Eliciting and using student thinking.
Math Teacher Circle of Middle Tennessee Summer Institute
Engaging Students in Data Modeling.

University Faculty
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

Field of Mathematics and Statistics Education

2018 – Present	**Association of Mathematics Teacher Education Task Force,** Online Mathematics Education
2017 – Present	**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
2018 – Present	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
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
2017 – Present   Research Committee
2016 – Present   Mathematics Education Curriculum Group
2016 – Present   Undergraduate Program Policy Committee
2016 – Present   TMTA Contest Committee

College Service
2018   Ad Hoc Mentoring Committee

Faculty Search Committees
2018-2019   Director of Mathematics and Science Education Program

PROFESSIONAL AFFLIATIONS

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