

JEREMY F. STRAYER

PROFESSOR OF MATHEMATICS EDUCATION

ACADEMIC BACKGROUND

- 1999-2007 **The Ohio State University**, Columbus, OH
Ph.D., Mathematics Education
Dissertation Title: *The effects of the classroom flip on the learning environment: A comparison of learning activity in a traditional classroom and a flip classroom that used an intelligent tutoring system.*
- 1995-1997 **Mount Vernon Nazarene University**, Mount Vernon, OH
M.A., Education; Curriculum and Instruction
- 1990-1995 **Asbury University**, Wilmore, KY
B.S., Mathematics / Secondary Education.
(Magna Cum Laude)
- 1986-1990 **Portsmouth High School**, Portsmouth, OH

PROFESSIONAL EXPERIENCE

- 2019- **Full Professor**
Middle Tennessee State University, Department of Mathematical Sciences
- 2015-2019 **Associate Professor**
Middle Tennessee State University, Department of Mathematical Sciences
- 2011-2015 **Assistant Professor**
Middle Tennessee State University, Department of Mathematical Sciences
- 2010-2011 **Assistant Professor**
Indiana State University, Department of Mathematics and Computer Science
- 2008-2010 **Associate Professor**
Mount Vernon Nazarene University, Mathematics Department
- 2000-2008 **Assistant Professor**
Mount Vernon Nazarene University, Mathematics Department
- 1998-2000 **Full Time Instructor**
Mount Vernon Nazarene University, Mathematics Department
- 1996-1998 **Adjunct Professor**
Mount Vernon Nazarene University, Mathematics Department
- 1997-1998 **Instructional Computing/Support Specialist**
Mount Vernon Nazarene University, Mathematics Department
- 1995-1997 **Graduate Assistant**
Mount Vernon Nazarene University, Education Department

TEACHING

COURSES TAUGHT

Middle Tennessee State University

MATH1420	Informal Geometry	MATH7330	Ethics in Mathematics Education
MATH1630	College Mathematics for Managerial, Social, and Life Sciences	MATH6350	Probability and Statistics for Teachers
MATH1710	College Algebra	MSE7500	Directed Research in Mathematics and Science Education
MATH1730	Precalculus	MSE7840	Special Topics in Mathematics and Science Education
MATH2050	Probability and Statistics	MSE7845	Nature of Mathematics and Science
MATH3310	Functions: Connecting Algebra and Geometry for Middle Grades Teachers	MSE7001	Residency Seminar 1
MATH4540	Special Topics: Functions and Modeling	MSE7002	Residency Seminar 2
MATH6340	Geometry for Teachers	MSE7640	Dissertation Research in Mathematics and Science Education
		MSE7800	Teaching Internship

Indiana State University

MATH122	Analytic Geometry	MATH305	Math for Elem. Teachers II
MATH205	Math for Elem. Teachers I	MATH650	Topics in Mathematics

Mount Vernon Nazarene University

MAT0093	Intermediate Algebra		
MAT0083	Basic Algebra MAT4002 Content Area Teaching Methods in Mathematics	ITD1101	Introduction to the Christian Liberal Arts Experience
MAT1033	Introduction to Mathematical Systems	EDU143	Educational Technology
MAT1034	Calculus I	ITD131	Introduction to Microcomputing: Word Processing
MAT2034	Calculus II	OAD331	Topics in Microcomputer Applications: Using the Internet
MAT1023	Precalculus	BBA383	Data Development and Analysis
MAT2063	Introduction to Statistics	BBA453	Computing and Information Systems
MAT3002	History of Mathematics		
MAT3053	Modern Algebra	EDU6089	Special Topics in Education
MAT3073	Geometry for Educators	EDU6103	Collaborative Education Workshop
MAT4001	Technical Writing in Mathematics		

DISSERTATIONS AND THESES

Dissertations

2022-present	Kingsley Adamoah, <u>Chair</u>
2022-present	Chris Bonnesen, <u>Chair</u>
2022-2024	Fonya Crockett Scott, Committee Reader
2018-2022	Amdeberhan Tessema, <u>Chair</u>
2018-2020	Candice Quinn, <u>Co-chair</u> (transferred to another chair before completion)
2018-2020	Velta Napoleon-Fanis, Committee Reader
2018-2019	Lucy Watson, <u>Chair</u>
2017-2018	Amber Matuszewski, <u>Chair</u>
2014-2018	Candice Terry, Committee Reader

2016-2017	Jeffrey Pair, Co-chair
2013-2017	Brittany Smith, Committee Reader
2014-2015	Natasha Gerstenschlager, Committee Reader
2014	Yulia Melnikov, Committee Reader (Texas State University)
2012-2013	Brandon Banes, Committee Reader
2012-2013	Jennifer Yantz, Committee Reader

Undergraduate Honors Project Theses

2010	Tim Radcliffe, Mentor (History and philosophy of mathematics)
2008	Jason Barber, Mentor (Mathematics and exceptional learners)
2007	Ashleigh Stelter, Committee Member
2006	Mark Brauen, Committee Member
2004	Erin Daniels, Committee Member
2003	Lindsay Hess, Committee Member
2001	Carrie Waggy, Committee Member

RESEARCH

SELECTED PUBLICATIONS

- Carlson, M.P., O'Bryan, A.E., **Strayer, J.F.**, McNicholl, T.H., & Hagman, J.E. (2024). Considering, piloting, scaling and sustaining a research-based precalculus curriculum and professional development innovation, *The Journal of Mathematical Behavior*, 73, <https://doi.org/10.1016/j.jmathb.2024.101126>.
- Lai, Y., Wasserman, N., **Strayer, J.F.**, Casey, S.A., Weber, K., & Fukawa-Connelly, T. (2024). Making advanced mathematics work in secondary teacher education. In B. M. Benken (ed.), *AMTE Professional Book Series, Volume 5*. Information Age Publishing.
- Lai, Y., Lischka, A. E., **Strayer, J. F.**, & Adamoah, K. (2023). Characterizing prospective secondary teachers' foundation and contingency knowledge for definitions of transformations. *The Journal of Mathematical Behavior*, 70, <https://doi.org/10.1016/j.jmathb.2022.101030>.
- Lai, Y., **Strayer, J.F.**, Ross, A., Adamoah, K., Anhalt, C.O., Bonnesen, C., Casey, S., Kohler, B., & Lischka, A.E. (2023). Enhancing prospective secondary teachers' potential competence for enacting core teaching practices—through experiences in university mathematics and statistics courses. *ZDM Mathematics Education*, 55, 867–881. <https://doi.org/10.1007/s11858-023-01485-4>.
- Watson, L.A., Bonnesen, C.T., & **Strayer, J.F.** (2021). The nature of mathematics: Let's talk about it. *Mathematics Teacher: Learning and Teaching PK-12*, 114(5), 352-361, <https://doi.org/10.5951/MTLT.2020.0226>.
- Lischka, A. E., Lai, Y. Czap, L., & **Strayer, J.** (2021). Revealing prospective secondary teachers' mathematical knowledge for teaching in teacher-created representations of practice. *The Mathematician Educator*, 2(2), 86-106.
- Gerstenschlager, N., Barlow, A.T., Lischka, A. Watson, L., **Strayer, J.**, Stephens, D.C., Hartland, K., & Willingham, J.C. (2021). Double demonstration lessons: Authentically participating in an inquiry stance. *Mathematics Teacher Educator*, 9(2), 110-126.

- Lischka, A.E., Lai, Y.X., **Strayer, J.F.**, & Anhalt, C. O. (2020). Developing mathematical knowledge in and for teaching in content courses. In W.G. Martin, B.R. Lawler, A.E. Lischka, & W.M. Smith (Eds.), *The Mathematics Teacher Education Partnership: The Power of a Networked Improvement Community to Transform Secondary Mathematics Teacher Preparation* (Vol. 4). Charlotte: Information Age Publishing, Inc.
- Bleiler-Baxter, S.K., Warner, S., & **Strayer, J.F.** (2019). Because we love. *Mathematics Teacher*, *112*(7), 496-502.
- Strayer, J.F.**, Gerstenschlager, N.E., Green, L. B., McCormick, N., McDaniel, S., & Rowell, G. H. (2019). Toward a full(er) implementation of active learning. *Statistics Education Research Journal* *18*(1), 63-82. <https://doi.org/10.52041/serj.v18i1.150>
- Gerstenschlager, N.E. & **Strayer, J.F.** (2019). Number talks for statistics and probability. *Mathematics Teaching in the Middle School*, *24*(6), 362-367.
- Green, L.B., McCormick, N., McDaniel, S., Holmes, R., & Strayer, J. (2018). Implementing active learning department wide: A course community for a culture change, *Journal of Statistics Education*, *26*(3), 190-196. <https://doi.org/10.1080/10691898.2018.1527195>
- Willingham, J.C., **Strayer, J.F.**, Barlow, A.T., & Lischka, A.E. (2018). Examining mistakes to shift student thinking. *Mathematics Teaching in the Middle School*, *23*(6), 324-332.
- Barlow, A.T., Gerstenschlager, N.E., **Strayer, J.F.**, Lischka, A.E., Stephens, D.C., Hartland, K.S., & Willingham, J.C. (2018). Scaffolding for access to productive struggle. *Mathematics Teaching in the Middle School*, *23*(4), 202-207.
- Barlow, A.T., Watson, L, Tessema, A., Lischka, A.E., & **Strayer, J.F.** (2018). Inspection-worthy mistakes: Which? Why? How? *Teaching Children Mathematics*, *24*(6), 384-393.
- Lischka, A.E., Gerstenschlager, N.E., Stephens, D.C., **Strayer, J.F.**, & Barlow, A.T. (2018). Making room for inspecting mistakes. *Mathematics Teacher*, *111*(6), 432-439.
- Elrod, M. & **Strayer, J.F.** (2018). Standards-based mathematics instruction and sociomathematical norms: Facilitating change in an undergraduate classroom. *Investigations in Mathematics Learning*, *10*(4), 202-226. <https://doi.org/10.1080/19477503.2017.1414979>
- Strayer, J.F.** & Tessema, A. (2017). Using GeoGebra to help students understand the inverse cosine function. *Mathematics Teacher*, *111*(3), 227-231. <https://doi.org/10.5951/mathteacher.111.3.0227>
- Strayer, J. F.** (2017). Designing instruction for flipped classrooms. In C. M. Reigeluth, B. J. Beatty, & R. D. Myers (Eds.), *Instructional-design theories and models: The learner-centered paradigm of education* (Vol. IV). New York: Routledge, 321-349.
- Strayer, J.F.**, Barlow, A.T., Lischka, A.E., Gerstenschlager, N.E., Stephens, D. C., Willingham, J. C., & Hartland, K.S. (2017). Meeting the needs expressed by teachers: Adaptions of the traditional model for demonstration lessons. *NCSM Journal of Mathematics Education Leadership*, *18*(1), 18-26.
- Strayer, J.F.** & Matuszewski, A.L. (2016). Statistical literacy: Simulations with dolphins! *Mathematics Teacher*, *109*(8), 606-611.
- Strayer, J.F.**, Hart, J., & Bleiler-Baxter, S.K. (2016). Kick-starting discussions with the flipped classroom. *Mathematics Teacher*, *109*(9), 662-668.

- Edwards, T.M., Quinlan, J., **Strayer, J.F.** (2016). Reverse and add to 100: Explorations in place value, *Teaching Children Mathematics*, 22(7), 404-410.
- Strayer, J.F.**, Hart, J., & Bleiler-Baxter, S.K. (2015). Fostering instructor knowledge of student thinking using the flipped classroom, *PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies*, 25(8), 724-735.
- Elrod, M. & **Strayer, J. F.** (2015). Using an observational rubric to facilitate change in undergraduate classroom norms. In C. Suurtamm & A. R. McDuffie (Eds.), *Annual perspectives in mathematics education: Assessment to enhance learning and teaching*. Reston, VA: NCTM, 87-96.
- Strayer, J.F.** & Edwards, T.M. (2015). Smarter cookies. *Mathematics Teacher*. 108(8), 608–615.
- Strayer, J.F.** & Hanson, B.R. (2014). Flipped classrooms and task engagement: Beyond portable lectures. In K. Karp & A. R. McDuffie (Eds.), *Annual perspectives in mathematics education: Using research to improve instruction* (pp.55-63). Reston, VA: NCTM.
- Strayer, J.F.** (2013). Sample too small? Probably not! *Mathematics Teacher*, 107(3), 226-231.
- Strayer, J. F.** (2012). How learning in an inverted classroom influences cooperation, innovation and task orientation. *Learning Environments Research*, 15(2), 171-193. DOI: 10.1007/s10984-012-9108-4.
- Strayer, J.F.** & Brown, L. (2012). Teaching with high cognitive demand mathematical tasks helps students learn to think mathematically. *Notices of the American Mathematical Society*, 59(1), 55-57.
- Akpan, J. P. & **Strayer, J. F.** (2010). Which comes first the use of computer simulation of frog dissection or conventional dissection as academic exercise? *Journal of Computers in Mathematics and Science Teaching*, 29(2), 113-138.
- Foley, G. D., **Strayer, J. F.**, & Regan, B. (2010). High school mathematics teacher professional development in data analysis, probability, and statistics. *Journal of the Research Center for Educational Technology*, 6(2), 4-17.

SELECTED PEER-REVIEWED PRESENTATIONS AND CONFERENCE PROCEEDINGS

- Adamoah, K. & **Strayer, J.** (2024, Jan 12-13). Assessing elementary preservice teachers' knowledge for fraction division. *Paper presented at the 2024 Southeastern STEM Education Research Conference*. Murfreesboro, TN.
- Adamoah, K. and **Strayer, J.** (2024, Feb 22-24). Preservice teachers' knowledge and understanding of fraction division. *Annual Conference on Research in Undergraduate Mathematics Education, Omaha, Nebraska*.
- Bonnesen, C., **Strayer, J.**, Ross, A., & Lai, Y. (2024, Jan 12-13). Examining relationships between secondary teachers' content knowledge and attitudinal traits. *Paper presented at the 2024 Southeastern STEM Education Research Conference*. Murfreesboro, TN.
- Bonnesen, C., Ross, A., **Strayer, J.**, Lai, Y., White, D., & Myers, A. (2024, Feb 22-24). In the presence of gains, what relationships are there among aspects of secondary teachers' potential competence and instructional characteristics of their university mathematics course? *Paper presented at the 2024 Annual Conference on Research in Undergraduate Mathematics Education*. Omaha, NE.

- Lai, Y., Wasserman, N., **Strayer, J. F.**, Casey, S., Weber, K., Fukawa-Connelly, T., & Lischka, A. E. (2024, Feb 22-24). Representing learning in advanced mathematics courses for secondary mathematics teachers. *Paper presented at the 2024 Annual Conference on Research in Undergraduate Mathematics Education*. Omaha, NE.
- Adamoah, K., Bonnesen, C., & **Strayer, J.** (2023, Jan 13-14). Prospective secondary mathematics teachers' expectancy and value for enacting core teaching practices. *Paper presented at the 2023 Southeastern STEM Education Research Conference*. Cookeville, TN.
- Lai, Y., **Strayer, J.**, Anhalt, C., Bonnesen, C., Casey, S., Kohler, B., Lischka, A., Ross, A., & Young, C. (2023, Feb 23-25). What instructional factors do prospective secondary teachers attribute to their learning? *Proceedings of the 2023 Annual Conference on Research in Undergraduate Mathematics Education*. Omaha, NE.
- Lai, Y., **Strayer, J.**, Ross, A., Adamoah, K., Anhalt, C., Bonnesen, C., Casey, S., Kohler, B., & Lischka, A. (2023, Feb 23-25). The potential impact of opportunities to apply mathematics to teaching on prospective secondary teachers' competence. *Proceedings of the 2023 Annual Conference on Research in Undergraduate Mathematics Education*. Omaha, Nebraska.
- Casey, S., Ross, A., & **Strayer, J.** (2022, Nov 17-20). Development and measurement of statistical knowledge for teaching. In A. Lischka, E. Dyer, R. Jones, J. Lovett, J. Strayer, & S. Drown (Eds.) *Proceedings of the forth-fourth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 633-637). Nashville, TN: Middle Tennessee State University.
- Casey, S., Kohler, B., Anhalt, C., & **Strayer, J.** (2022, June 1-3). *Developing pre-service teachers' equity literacy in content courses*. IUSE Summit, Washington, DC.
- Strayer, J.**, Adamoah, K., & Lai, Y. (2021, Jun 28-29). Prospective secondary mathematics teachers' expectancy and value for teaching practices: comparing across content areas. *Proceedings of the Mathematics Teacher Education Partnership (MTE-P) Annual (Virtual) Conference*, Washington, DC: Association of Public and Land-grant Universities. <https://scimath.unl.edu/mtep/10thAnnualMTE-PartnershipConferenceProceedings.pdf>.
- Lischka, A., **Strayer, J.**, & Lai, Y. (2021, Oct 14-17). Characterizing prospective secondary teachers' foundation and contingency knowledge for definitions of transformations. In D. Olanoff, K. Johnson, & S.M. Spitzer (Eds.), *Proceedings of the 43rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Philadelphia, PA.
- Lai, Y., Lischka, A., & **Strayer, J.** (2020, Apr 17-21). *Is the medium the message? Video-recording and writing for approximations of practice*. AERA Annual Meeting, San Francisco, CA (in-person conference cancelled and moved to virtual).
- Strayer, J. F.** (2020, Apr 17-21). *Characterizations of Flipped Instruction: Mathematics Teaching Practices and Teachers' Enactment Zones* [Symposium]. AERA Annual Meeting, San Francisco, CA <http://tinyurl.com/vparm7s> (Conference Canceled, but symposium was conducted over Zoom and released on the MathEd podcast).

- Bleiler-Baxter, S.K., **Strayer, J. F.**, & Kirby, J.E. (2020, Jan 15 - 18). *Teaching TRIOs: A peer observation model for sharing teaching practice and initiating department change*. Joint Mathematics Meetings, Denver, CO.
- Lai, Y., **Strayer, J.**, & Anhalt, C. (2020, Jan 15 - 18). *Purposeful use of simulations of teaching practice to uncover Mathematical Knowledge for Teaching*. Joint Mathematics Meetings, Denver, CO.
- Strayer, J. F.**, Lischka, A., & Haynes, J. (2019, Oct 2 – 4). *Developing mathematical and statistical knowledge for teaching—let’s SEE it happen!* NCTM Regional Conference & Exposition, Nashville, TN.
- Strayer, J. F.** (2019, Oct 2 – 4). *Infinity Bar*. NCTM Regional Conference & Exposition, Nashville, TN.
- Lischka, A., Gerstenschlager, N., & **Strayer, J.** (2019, Oct 2 – 4). *Moving beyond the homework review: Ways to leverage “mistakes” as tools for learning*. NCTM Regional Conference & Exposition, Nashville, TN.
- Strayer, J. F.**, Lai, Y., Lischka, A. E., Quinn, C. M. & Anhalt, C. O. (January 17, 2019). *A Working Framework for Observing and Interpreting Preservice Secondary Teachers’ Development of MKT in Undergraduate Mathematics Courses*. Presentation given at Joint Mathematics Meetings, Baltimore, MD.
- Strayer, J.**, Lischka, A., Gobstein, H., Casey, S., Ross, A., Aubrey, J., Anhalt, C., Lai, Y., Kohler, B., & Alibegovic, E. (January 17, 2019). *Mathematics of Doing, Understanding, Learning and Educating for Secondary Schools - MODULE(S2)*. Poster presentation given at Joint Mathematics Meetings, Baltimore, MD.
- Quinn, C. M., Reid, J., **Strayer, J.**, & Gardner, G. (January 17, 2019). *Exploring integration through a biocalculus task: Implications for STEM education*. Presentation given at Joint Mathematics Meetings, Baltimore, MD.
- Lai, Y., **Strayer, J.**, & Lischka, A. E. (2018, November). Analyzing the development of MKT in content courses. In *Proceedings of the 40th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Charleston, SC.
- Strayer, J.F.**, Lai, Y., Lischka, A. & Anhalt, C. (2018, June). *An emerging framework for understanding the development of mathematical knowledge for teaching*. Presentation at the MTE-Partnership 2018 Annual Conference, Denver, Colorado.
- Strayer, J.F.**, Lischka, A.E., Quinn, C.M. & Watson, L.A. (2018, February). *MODULE(S²): Mathematics of doing, understanding, learning and educating for secondary schools*. Presentation at the 12th Annual Tennessee STEM Education Research Conference, Murfreesboro, Tennessee.
- Strayer, J.**, Lischka, A., Quinn, C. & Watson, L. (2018, January). Developing preservice teachers’ mathematical knowledge for teaching in content courses. In *Proceedings of the 21st Annual Conference of the Special Interest Group of the Mathematical Association of America on Research in Undergraduate Mathematics Education*, San Diego, California. http://sigmaa.maa.org/rume/crume2018/Schedule/2018_Program_with_Papers.htm
- Lischka, A., Ross, A., Lai, Y, Kohler, B., Aubrey, J., **Strayer, J.F.**, Casey, S., Anhalt, C., & Gobstein, H. (2018, January). *MODULE(S²): Mathematics of doing, understanding,*

- learning and educating for secondary schools*. Presentation at the Joint Mathematics Meetings, San Diego, California.
- Lischka, A.E., **Strayer, J.F.**, Watson, L.A. & Quinn, C.M. (2017, October). Building mathematical knowledge for teaching in a geometry course for preservice teachers. In T.E. Hodges, G. J. Roy, & A. M. Tyminski (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, Indianapolis, IN.
- Strayer, J.F.**, Lovett, J.N., & Matuszewski, A.L. (2017, April). *Using simulations to make inferences: Come learn how!* Workshop presentation to the annual meeting of the National Council of Teachers of Mathematics, San Antonio, Texas.
- Tessema, A., **Strayer, J.F.**, & Watson, L. (2017, April). *Using GeoGebra to support student learning during problem-solving tasks*. Workshop Presentation at the annual meeting of the National Council of Teachers of Mathematics, San Antonio, Texas.
- Lischka, A.E., **Strayer, J.F.**, Watson, L., & Quinn, C.M. (2017, February). *Building mathematical knowledge for teaching in content courses for secondary teachers: Geometry and beyond*. Presentation at the annual meeting of the Association of Mathematics Teacher Educators, Orlando, FL.
- Barlow, A.T., Lischka, A.E., **Strayer, J.F.**, Willingham, J.C., Hartland, K., Gerstenschlager, N.E., & Watson, L. (2017, February). *Adapting professional learning models to attend to teachers' levels of appropriation of practice*. Presentation at the annual meeting of the Association of Mathematics Teacher Educators, Orlando, FL.
- Barlow, A.T., Lischka, A.E., Stephens, D.C., **Strayer, J.F.**, Hartland, K., & Watson, L. (2017, February). *Meeting Teachers' Expressed Needs: Adaptations of the Traditional Model for Demonstration Lessons*. Presentation at the Tennessee STEM Education Center STEM Education Research Conference, Murfreesboro, Tennessee.
- Darrell, M., Giles, L., Gorta, M., Smith, J., Green, L., McDaniel, S., McCormick, N., **Strayer, J.**, & Rowell, G. (2017, February). *Creating a collaborative environment with four-year institutions and community college faculty to engage students in learning statistics*. Presentation at the Tennessee STEM Education Center STEM Education Research Conference, Murfreesboro, Tennessee.
- Watson, L., Quinn, C., Lischka, A., & **Strayer, J.** (2017, February). *Building mathematical content knowledge for teaching in a geometry content course for secondary teachers*. Presentation at the Tennessee STEM Education Center STEM Education Research Conference, Murfreesboro, Tennessee.
- Strayer, J.F.**, Gerstenschlager, N.E., Rowell, G.H., Green, L., McCormick, N., & McDaniel, S. (2016). University statistics instructors' border crossings: From lecture to active learning. 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* (p. 1013). Tuscon, AZ: The University of Arizona.
- Matuszewski, A. L., Hanson, B.R., & **Strayer, J.F.** (2016, September). *A modern approach to teaching big picture statistics*. Presentation at the Tennessee Mathematics Teachers Association Annual Conference, Murfreesboro, Tennessee.

- Strayer, J.F.**, Hodgson, T., & Watson, L. (2016, April). *Focusing flipped classroom research on enacted teaching practices*. Presentation at the National Council of Teachers of Mathematics Research Conference, San Francisco, CA.
- Strayer, J.F.** & Matuszewski, A.L. (2015, November). *Teaching statistical inference using randomization techniques? One teacher's journey*. Presentation at the National Council of Teachers of Mathematics Regional Conference, Nashville, TN.
- Strayer, J.F.**, Hart, J.B., & Bleiler-Baxter, S. (2015, November). *Supporting classroom discourse with the flipped classroom*. Presentation at the National Council of Teachers of Mathematics Regional Conference, Nashville, TN.
- Hart, J.B., & **Strayer, J.F.** (2015, February). *Kickstarting classroom discussions: The flipped classroom and conceptual understanding*. Presentation at the Tennessee STEM Education Center STEM Education Research Conference, Murfreesboro, Tennessee.
- Green, L., McDaniel, S., McCormick, N., Strayer, J.F., Rowell, G., & Gerstenschlager, N. (2015, February). *Changing the teaching of applied statistics to incorporate activities which promote student engagement for success*. Presentation at the Tennessee STEM Education Center STEM Education Research Conference, Murfreesboro, Tennessee.
- Strayer, J.F.**, McCormick, N., Gerstenschlager, N., Green, L., McDaniel, S., & Rowell, G. (2014). Observations of implementation of an active learning module in introductory statistics. In *Proceedings of the 9th International Conference on Teaching Statistics*. Flagstaff, AZ.
- Hanson, B. R., **Strayer, J. F.**, Mangione, K., Brown, J., & Pair, J. Implementing GAISE recommendations through “doing statistics” tasks. In *Proceedings of the 9th International Conference on Teaching Statistics*. Flagstaff, AZ. http://iase-web.org/icots/9/proceedings/pdfs/ICOTS9_3E3_HANSON.pdf
- Gerstenschlager, N., Rowell, G., McCormick, N., Green, L., **Strayer, J.F.**, McDaniel, S., & Hanson, B.R. (2013). *Introductory statistics students' achievement in a flipped-concept classroom using active learning*. Presentation at the Joint Statistical Meetings, August 3-8, 2013 Montreal, Canada.
- Strayer, J.F.**, & Hanson, B.R. (2013, August). *Using technology to support in-service teachers' conjecturing in statistics professional development*. Presentation at the Joint Statistical Meetings, August 3-8, 2013 Montreal, Canada.
- Strayer, J.F.** (2013). *Flipped classrooms*. Presentation at the Project NeXT: New Experiences in Teaching 2012-2013 Fellows, July 31, 2013.
- Strayer, J.F.**, & Hanson, B. (2013, April). *Teaching statistics with the TI-Nspire*. Presentation at the Middle Tennessee Mathematics Teachers' Annual Conference, April 27, 2013 Brentwood, Tennessee.
- Strayer, J.F.** (2013, April). *How can the classroom flip support standards-based mathematics learning?* Presentation at the National Council of Teachers of Mathematics Research Presession April 15-17, 2013 Denver, Colorado.
- McDaniel, S., McCormick, N., **Strayer, J.F.** Rowell, G. (2013). *Tools to assist teachers' transition to using active learning in introductory statistics: An initial assessment*. Presentation at the Mathematics & Science Education Ph.D. Program Seminar Series April 11, 2013 Murfreesboro, Tennessee.

- Strayer, J.F.** (2013, February). *How can the classroom flip support standards-based mathematics learning?* Presentation at the 40th Research Council for Mathematics Learning Conference, February 28 – March 2, 2013 Tulsa, Oklahoma.
- Strayer, J.F.** (2013, February). *Developing key statistics concepts in a dynamic technological learning environment.* Presentation at the 40th Research Council for Mathematics Learning Conference, February 28 – March 2, 2013 Tulsa, Oklahoma.
- Strayer, J.F.** (2013). Student conceptions of “best” sampling methods: Increasing knowledge of content and students (KCS) in statistics classrooms. In Reeder, S. L. and Matney, G.T. (Eds.). *Proceedings of the 40th Annual Meeting of the Research Council on Mathematics Learning.* Tulsa, OK.
- Green, L.B., McCormick, N., McDaniel, S., & **Strayer, J.F.** (2013). *Tools to assist teachers’ transition to using active learning in introductory statistics: An initial assessment.* Presentation at the 7th Annual STEM Education Research Conference February 7-8, 2013 Murfreesboro, Tennessee.
- Gerstenschlager, N., Rowell, G., McCormick, N., Green, L. **Strayer, J.**, McDaniel, S., & Hanson, B. (2013, August). *Introductory statistics students’ achievement in a flipped-concept classroom using active learning.* Presentation at the Joint Statistical Meetings, Montréal, Québec, Canada.
- Green, L.B., McDaniel, S., McCormick, N., **Strayer, J.**, Rowell, G.H., Gerstenschlager, N., & Hanson, B. (2013, May). *Modules for teaching statistics with pedagogies using active learning.* Presentation at United States Conference on Teaching Statistics, Raleigh-Durham, North Carolina.
- Huang, R., Xu, S., Su, H., Tang, B., & **Strayer, J.** (2012, July). Teaching researchers in China: Hybrid functions of researching, supervising and consulting. In *Proceedings of the 12th International Conference on Mathematics Education*, July 8-15, 2012 Seoul, Korea.
- Strayer, J.F.** (2012). *Exploring statistical thinking and reasoning in Middle Tennessee.* Presentation at the annual meeting of Middle Tennessee Mathematics Teachers, Franklin, TN.
- Strayer, J.F.** (2012). *The impact of professional development on teachers’ perceptions of their classroom learning environment.* Presentation at the annual meeting of the Research Council on Mathematics Learning, Charlotte, NC.
- Strayer, J.F.** (2012). *Developing statistical proficiency for teaching: Research results from the QUANT institute.* Presentation at the 6th Annual STEM Education Research Conference, Murfreesboro, TN.
- Strayer, J.F.** (2011). *Tasks and tools that promote reasoning and sense making in introduction to statistics.* Presentation at the annual meeting of the Research Council on Mathematics Learning. Cincinnati, OH.
- Strayer, J.F.** (2011). *Reasoning and sense making in mathematics learning environments.* Presentation at the faculty and students of the Indiana State University Mathematics and Computer Science Department.
- Strayer, J.F.** (2010). *QUANT: Teaching probability and statistics.* Presentation at the annual meeting of the Ohio Council of Teachers of Mathematics. Akron, OH.

- Foley, G.D., Regan, B., & **Strayer, J.F.** (2010). *Quantifying uncertainty and analyzing numerical trends (QUANT): Professional development in data analysis, probability, and statistics*. Presentation at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.
- Strayer, J.F.** (2009). *Addressing the Ohio core curriculum in mathematics - special interest group*. Organizational session presented at the Ohio Council of Teachers of Mathematics Annual Meeting, Cincinnati, OH.
- Strayer, J. F.** (2007). *The effects of the classroom flip on the learning environment*. Presentation at the MVNU School of Natural and Social Sciences Colloquium.
- Strayer, J. F.** (2004). *Does combining ALEKS and workshop statistics improve statistics learning?* Presentation at the NCTM Regional Conference, Baltimore, MD.
- Strayer, J. F.** (2003). *Using intelligent tutoring systems as a teaching tool*. Presentation at the Mathematics, Science, and Technology Educators & Researchers of The Ohio State University's Seventh Annual Conference, Columbus, OH.

GRANTS

- 2017-2023 Collaborative Research: MODULE(S²); IUSE Grant, National Science Foundation - \$2M (MTSU portion was \$727,437; NSF Grant No. 1726723)
- 2017-2018 Project IMPACT-Legacy; MSP Grant, TN Dept. of Education - \$448,741
- 2016-2017 Project IMPACT4; MSP Grant, TN Dept. of Education - \$631,476
- 2013-2016 MTStatPAL; TUES Grant, National Science Foundation Grant No. 1245393 - \$209,883
- 2015 Scaling Up Success in Pathways Precalculus; TBR Grant - \$12,000
- 2015 Scaling Up the Flipped Classroom for Precalculus; FRCAC MTSU - \$2,800
- 2012-2013 StaRT Project; STEM PD Grant, Tennessee Higher Education Commission - \$199,988
- 2011 MTSU ITDC Grant Dynamic Statistics Technology Project - \$6,598
- 2011 ISU Instructional Technology Funding - \$8,615 (total for two projects)
- 2010 Central OH QUANT; Ohio Board of Regents *Improving Teacher Quality* Grant - \$95,595.
- 2008 MVNU Mini-Grant to fund professional development opportunities - \$400
- 2004 MVNU Mini-Grant to fund qualitative research analysis and software - \$400

CONTRACTS

- 2021-5 Practice-Driven Professional Development for Algebra Teachers—Advisory Board Member (NSF Award #2206774)
- 2023-5 Developing a Statewide Professional Development Network for Effective Teaching of Undergraduate Quantitative Reasoning Course—Advisory Board Chair (NSF Award #2216197)
- 2022-3 Developing a Statewide Professional Development Network for Effective Teaching of Undergraduate Quantitative Reasoning Course—Advisory Board Member (NSF Award #2216197)

- 2012-5 Pathways to Calculus: Disseminating and Scaling a Professional Development Model for Algebra Through Precalculus Teaching and Learning—Consultant (NSF Award #1050721)
- 2015 Kentucky Flipped Classroom Consultant
- 2013 GAST Researcher
- 2012 QUANT Summer Institute (a 12 day professional development institute on the teaching and learning of introductory statistics), Columbus, OH (lead instructor)
- 2011 QUANT Summer Institute, Columbus, OH (lead instructor)
- 2009 QUANT Summer Institute, Columbus, OH (lead instructor)

SERVICE

UNIVERSITY SERVICE

Middle Tennessee State University

College (CBAS) Promotion and Tenure Committee, 2022-2025

Departmental Promotion and Tenure Committee, 2015 - present

Mathematics Education Curriculum Group Committee, 2011-

Departmental Teaching Advancement Committee 2018 -

Calculus Committee 2018 -

Search Committee Chair for MSE PhD Program Director, AY 2017-2018

MTSU ITDC Award Committee, 2016-2017

Mathematics Education Curriculum Group Committee Co-Chair, 2015-2017

LT&ITC Workshop Leader: *Flipped classroom designs for student-centered learning*, August 2016

Algebra Readiness Workshop Leader (3 days), August 2016

UNIV1010 Instructor Workshop Leader: *Beyond student-centered: Building instruction on student thinking*, August 2016

Precalculus Redesign Committee Co-Chair 2012-2016

MTSU University Standing Committee, Traffic Committee, 2013-2015

Department of Mathematical Sciences Strategic Planning Committee Chair, 2014-2015

College of Basic & Applied Sciences Strategic Planning Committee, 2013-2014

Mathematics Education Faculty Search Committees, 2011, 2012, 2015

Departmental Undergraduate Program Policy Committee, 2011-2012

Departmental Liaison for McNair Post-baccalaureate Achievement Program, 2011-2012

Tennessee High School Mathematics Competition Coordinator 2011-2012

Indiana State University

Developed Mathematics Teaching Assessment for SPA Report

Mathematics Department College Challenge Lead Faculty Member
Affiliated Faculty Member with the Center for Mathematics Education
McNair Panel – Graduate School Experience
Provide Support for Indiana Mathematics Teacher Coaches for Math Bowl

Mount Vernon Nazarene University
Served as Interim Mathematics Department Chair in Spring 2008
Teacher Education Council
Nominating Committee
Faculty Activity Committee
Undergraduate Academic Council
Authored NCTM SPA Reports for the NCATE accreditation
Math Club Advisor
Took students to MAA Ohio section and Ohio Council of Teachers of Mathematics Conferences

PROFESSIONAL SERVICE

MTE Partnership Team Member for MTSU, 2013 – present
MTSU Scholars Day Judge, 2012 – present
MathEdPodcast contributor, 2017 – 2019
NCTM Regional Local Planning Committee (Nashville) 2018 – 2019
Journal Manuscript Reviewer for: *Mathematics Teaching in the Middle School*, *Mathematics Teacher*, *Learning Environments Research*, *Journal for Research in Mathematics Education*, *PRIMUS*, *CITE (Contemporary Issues in Technology and Teacher Education) Journal*, *NCSM Journal of Mathematics Education Leadership* 2012 - present
MTE Partnership Conference Proceedings Editorial Board, 2018-2019
Presentation Proposal Reviewer for RUME, 2017, 2018
Presentation Proposal Reviewer for AMTE and PME-NA Annual Meetings, 2010, 2012, 2016
Mini-grant Chair and Board Member for Middle Tennessee Mathematics Teachers, 2013 – 2014
Web Page Coordinator for Tennessee Association of Mathematics Teacher Educators, 2012
Co-chair for Tennessee Mathematics Teachers Association High School mathematics Contest, 2012
Reviewed SPA reports for NCATE, 2012, 2013
Guest-lectured in Dr. Butler's Advanced Technology class (a core course for the MSE Ph.D. program), 2012
Guest Lectured in Dr. Chappell's MSE7500 Directed Research class, 2012
Guest Lectured in Dr. Chappell's MST6360 Tech Tools class, 2012

Gave a talk to entitled *Ready, Set, StaRT: Investigating Statistical Reasoning and Thinking* in MSE7820 Doctoral Seminar, 2012

COMMUNITY SERVICE RELATED TO THE PROFESSION

Co-Sponsored the 2nd Annual March for Black Women in STEM at Vanderbilt, Fall 2018

Co-Sponsored the 1st Annual March for Black Women in STEM at Vanderbilt, Fall 2017

Taught Camp Prism lesson at MTSU, Summer 2013

Read to Succeed reading volunteer at Northfield Elementary School, Fall 2013

AWARDS AND HONORS

2018 CBAS Teaching Excellence Award: College of Basic and Applied Sciences – MTSU

2011 Outstanding Dedication to First Year Student Success Award (Indiana State University)

2005 AGS Outstanding Faculty Award for Group 141 – MVNU

2003 AGS Outstanding Faculty Award for Group 95 – MVNU

AFFILIATIONS

National Council of Teachers of Mathematics

American Statistical Association

Association of Mathematics Teacher Educators

Research Council on Mathematics Learning

Tennessee Association of Mathematics Teacher Educators

Middle Tennessee Mathematics Teachers