



>>> SCHOOL OF TEACHER EDUCATION AND LEADERSHIP <<< **MATH TALKS** Mathematics Education and Leadership Newsletter



Math Ed Faculty in Logan
Drs. Frierson, Shumway, Vela, and Campbell
(left to right)



2025-2026 Graduate Research and
Teaching Assistants

TOP NEWS OF THE YEAR

The Math Ed Faculty are delighted to welcome the 2025 doctoral cohort. Four new scholars who bring diverse experiences, perspectives, and passions to our community. We look forward to the energy and insight they will contribute to the Mathematics Education & Leadership program. Read more on page 2.



THIS YEAR'S NEW SCHOLARS: THE 2025 MATH ED COHORT

CELEBRATING EXCELLENCE: MATH ED GRADUATE WINS TEAL DISSERTATION OF THE YEAR



Dr. Sandra Miles, recent Mathematics Education and Leadership Graduate, was awarded TEAL's Dissertation of the Year in April 2025. Read more about her research and this great achievement on page 4.

This year, the MEL Program launched a new seminar series designed to connect USU faculty and students with cutting-edge mathematics education research from scholars across the nation and world. Read more on page 5.



BRINGING MINDS TOGETHER: NEW SEMINAR SERIES BEGINS

THIS YEAR'S NEW SCHOLARS: THE 2025 MATH ED COHORT

We are pleased to welcome four new Mathematics Education and Leadership doctoral students! Pictured here are Donna Hall, Michelle Oldroyd, Jae (Janette) Stratton, and Staci Biolo. Donna lives in Francis, Utah and taught secondary mathematics for Park City High School and Treasure Mountain Junior High School as well as college mathematics for Utah Valley University. She is currently an online adjunct instructor for Columbia College's mathematics department. Donna is interested in research on students' readiness for college algebra. Michelle and Jae are secondary mathematics teachers at Career Tech High School in St. George, Utah, a unique public high school that offers students choices among 8 career pathways and various professional certificates. Michelle teaches Secondary Math 2, and her research interest is about the effects of math talk in 10th-grade mathematics classrooms. Jae is a co-teacher in Secondary Math 1 and 3 and aims to study inclusion in co-taught mathematics classrooms. Staci lives in Highland, Utah and is a mathematics instructor for BYU Online High School and Salt Lake Community College. Her research interest is mathematics teachers' curricular decisions.



DR. FRIERSON'S HIGHLIGHTS



DR. MICHELLE FRIERSON
ASSISTANT PROFESSOR

Dr. Michelle Frierson was honored to be named TEAL Faculty Researcher of the Year. This recognition highlights her ongoing work focused on equity, participation, and joy in mathematics and STEM education. In 2025, Dr. Frierson published two articles that reflect this line of work: "What Does That Mean in My Body? All of It?": Decolonizing Methodology Through an Embodied Noticing Approach in the *International Journal of Qualitative Methods*, and Re-authoring Mathematics Narratives Through a Participatory Approach in *Urban Education*. Both articles center participatory and embodied approaches to research and highlight the importance of lived experiences in mathematics education.

Additionally, Dr. Frierson submitted a proposal for the National Academy of Education/Spencer Postdoctoral Fellowship (2025) titled Mapping Media Influences on STEM Pathways and Student Choice. The proposed project examines how media representations shape students' perceptions of STEM, the educational pathways they see as possible, and how those perceptions influence student choice.

GRADUATE SCHOLARS LEAD THE WAY: SPOTLIGHT FROM 2025 CONFERENCES

Mathematics Education & Leadership graduate students and faculty had an exceptionally active year, sharing their research across local, national, and international stages. Their collective efforts highlight the depth, range, and impact of ongoing scholarship in our program.

At the Mathematical Views Conference in Sweden, Dr. **Tye Campbell**, along with co-authors Erin Rich, **Sehrish Jabeen**, **Melissa Barker**, and Mindy Green, shared *A Case Study of Teaching Practices That Promote Mathematical Wellbeing for Elementary Students in the United States*. Their work identified specific classroom practices linked to dimensions of mathematical wellbeing, offering valuable insights for teachers and researchers supporting students' emotional and intellectual flourishing in mathematics.

Patrick Ocran shared two important strands of his research this year. At the Empowering Teaching Excellence Conference at Utah State University, he presented a poster introducing a conceptual framework for identity-affirming mathematics pedagogy. His work highlights how teacher agency, intentional student positioning, and culturally responsive curriculum choices help build students' mathematical identities and sense of belonging. Later, at the University Council for Educational Administration Conference in San Juan, Puerto Rico, Patrick and Dr. Alyson Lavigne examined the importance of content-specific feedback in mathematics supervision, offering a model to strengthen instructional coaching through pedagogical content knowledge and reflective practice.

Denice Lingen also represented MEL at multiple conferences. At the Northwest Commission on Colleges and Universities Annual Conference, she and Tim Sloan shared Ensign College's transition from 14-week semesters to 7-week accelerated learning blocks, discussing the research, planning, and faculty development behind this institutional shift.

MEL faculty; Drs. **Katherine N. Vela**, **Tye Campbell**, **Michelle Frierson**, and **Jessica Shumway**, co-facilitated a highly attended session at UCTM, titled *Joyful learning in STEM: Research at USU*, highlighting research-informed strategies for fostering joy, engagement, and meaningful learning in mathematics classrooms.

Emmanuel Onyegu presented *Understanding Indices through an Inquiry-Based Approach* with Dr. **Michelle Frierson** at the National Place-Based Education Conference, demonstrating how combining inquiry-based learning with worked examples can strengthen students' engagement and understanding in foundational algebra topics.

Sehrish Jabeen shared her scholarship twice this year. At the ASEE Annual Conference & Exposition, she co-authored a systematized literature review titled *The Role of Context in Problem-Solving in STEM Education*, which explored how real-world, out-of-school experiences can strengthen students' problem-solving in formal STEM classrooms. Sehrish was also invited as a guest speaker for the Mathematics and Statistics Department at USU, where she presented *Exploring the Impact of Cognitively Guided Instruction*, a systematic review examining how CGI practices influence student learning, teachers' beliefs, and the instructional challenges that arise when implementing CGI in K–12 mathematics classrooms.

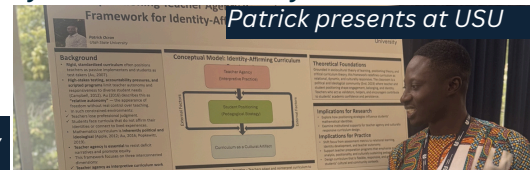
Graduate students **Camille Lund** and **Ana Ashineh**, postdoctoral researcher **Boram Lee**, and Dr. **Jessica Shumway** presented their work on multiplicative thinking with robot coding toys at the AERA conference in Denver. Camille also shared their design-based research curriculum with an international audience of teachers at the Content Language and Integrated Learning International Colloquium in Portugal, and Camille and Boram shared research on math learning with dynamic number lines and collective engagement at the PME-NA conference at Penn State.

Congratulations to our graduate students and faculty for their remarkable scholarly contributions this year!

Emmanuel at UCTM

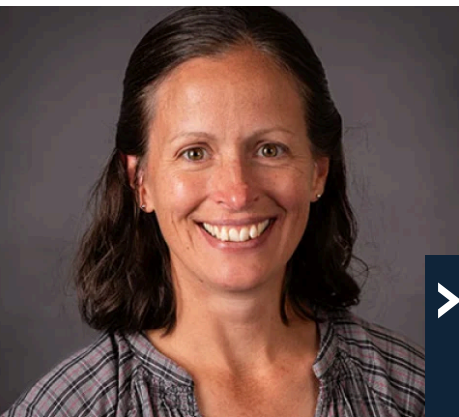


Lee, Ashineh, Shumway and Lund at AERA



Patrick presents at USU

CELEBRATING EXCELLENCE: MATH ED GRADUATE WINS TEAL DISSERTATION OF THE YEAR



DR. SANDRA MILES
VISITING FACULTY
BRIGHAM YOUNG UNIVERSITY- IDAHO

Though unable to attend the ceremony, Dr. Sandra J. Miles was graciously awarded the 2024-2025 TEAL Outstanding Dissertation Award from The School of Teacher Education and Leadership (TEAL). Dr. Miles graduated with her Ph.D. in April of 2024 through the kind support and mentorship of her dissertation co-chairs, Dr. Katherine Vela and Dr. Mario Suarez. Her dissertation, *How Relational Instruction and Caring Learning Environments Relate to Mathematics Self-Concept: A Multilevel Investigation of the High School Longitudinal Study Data* used advanced statistical methods to contradict the belief that students' self-concept in relation to mathematics is fixed by the time they reach high school. She showed that self-concept is not only dynamic, but that teaching which focused on building relational understanding in mathematics had long-term influence on strengthening students' self-concepts, especially for some historically marginalized groups. Dr. Miles received access, through Dr. Mario Suarez's license, to a large national data set which facilitated the use of longitudinal, multilevel models to examine the mathematics self-concept of high school students across the United States over a period of seven years. She was able to identify students whose ninth-grade math teachers had focused their instruction on building understanding of mathematical concepts, connections, and relationships, rather than focusing on procedures and memorization, and showed that those students showed significant increases in their self-concept when compared to other students. Additionally, she found that mathematics self-concept increased when students had math teachers who built caring and supportive classroom environments. She plans to build on this research by developing tools for professional development training and evaluation which will help mathematics teachers teach in ways that will improve student engagement and confidence in mathematics. In addition to her dissertation advisors, she is grateful to Drs. Moyer-Packenham, Brynja Kohler, Jessica Shumway, and Tye Campbell who provided her with advice, guidance, and support.

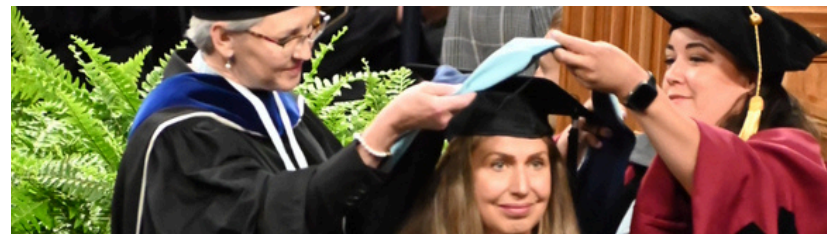
After graduation, Dr. Miles received a visiting faculty position in the Mathematics Department at Brigham Young University, Idaho. She teaches undergraduate mathematics courses for STEM and non-STEM majors, as well as mathematics courses in the teacher education program. She is actively involved in redesigning and revising courses to improve assessment and alignment with course objectives. One of Dr. Miles' greatest joys in teaching is when she can help a student who has struggled with mathematics to overcome any past trauma and actually enjoy her math class. She meets frequently with her students and values the strong mentorship role she is able to fulfill.

Dr. Miles and her husband have four children who have recently all left home to have their own life adventures. As a whole, they are serving in the armed forces and working hard on their university studies. Her youngest is a volunteer missionary for the Church of Jesus Christ of Latter-Day Saints serving in New Jersey.

At the beginning of 2025, we launched a new seminar in MEL. The purpose of the seminar is to provide faculty and students at USU with opportunities to learn about cutting-edge research in mathematics education across the nation and world. At the first seminar in February 2025, Dr. Julia Hill from RMIT University in Australia shared her research on Mathematical Wellbeing (MWB), an emerging construct that considers students' wellbeing experiences in mathematics. The seminar was well-attended and helped launch an exciting trajectory for future talks. The second seminar in November 2025, Dr. Vicki Hand, along with co-researchers Carla and Tiffani, discussed their research on equitable teaching in mathematics. Our third seminar was held in February 2026, we welcomed Lilach Shaham, a doctoral student, who shared her research in mathematics education from a communicational lens at the Technion University in Israel.

WITH PRIDE AND APPRECIATION: CONGRATS TO OUR GRADUATES

- **Dr. Jason Hart**, District Elementary Mathematics Specialist, Jordan School District
 - Dissertation: *Learning Intentions, Success Criteria, and Metacognition: The Influence of a Professional Development for Grades Three to Five Teachers*
- **Dr. Michelle Parslow**, Art and STEAM Teacher, Wahlquist Junior High
 - Dissertation: *A Case Study of Garden-Based STEAM Curriculum on Students STEM Career Interests*
- **Dr. Doug Weber**, Student Services Specialist, Logan City School District
 - Capstone: *Unveiling the Mathematics Divide: A Critical Map Analysis of Hispanic Student Experiences*





DR. TYE CAMPBELL
ASSISTANT PROFESSOR

Dr. Campbell had an exciting year in teaching and research. He had the opportunity to share his research on Mathematical Wellbeing (MWB) in September 2025 in Sweden at an international conference called the Mathematical Views (MAVI) Conference. Dr. Campbell highly recommends the conference to other students and faculty in mathematics education who explore affective aspects of learning mathematics. Dr. Campbell has been working on several other research projects related to MWB with doctoral students, Sehrish Jabeen and Missy Barker. In addition, Dr. Campbell collaborated with Dr. Vela and doctoral student, Tyler Powell, on a published article in *Large Scale Assessments in Education* (<https://link.springer.com/article/10.1186/s40536-025-00258-7>). In that paper, they examined patterns across time for students' affect in mathematics by exploring NAEP data from 2017 to 2024. Selected publications from the prior year for Dr. Campbell are provided below for anyone interested in his work.

- Campbell, T. G., Vela, K. N., *Powell, T. (2025). Interest, enjoyment, and confidence in mathematics in the United States: Exploring patterns across age, gender, race, and time. *Large Scale Assessments in Education*, 13, 1-23. <https://doi.org/10.1186/s40536-025-00258-7>
- Campbell, T. G., Kularajan, S., & *Miles, S. (2025). Psychometric evaluation of the mathematical well-being scale for children aged 9-14. *Mathematics Education Research Journal*. Advanced Online Publication. <https://doi.org/10.1007/s13394-025-00545-0>
- Campbell, T. G. (2025). Mathematical wellbeing: An emerging construct with exciting potential. *Mathematics Education Research Journal*. Advanced Online Publication. <https://doi.org/10.1007/s13394-025-00532-5>
- Campbell, T. G., & Bean, B. (2025). Factors influencing young children's mathematical wellbeing in the United States. *Social Indicators Research*. Advanced Online Publication. <https://doi.org/10.1007/s11205-025-03581-2>
- Campbell, T. G., & Green, J. (2025). Effective mathematics instruction in high-poverty middle schools: What are the "best" teachers saying? *Middle School Journal*, 56(3), 9-24. <https://doi.org/10.1080/00940771.2025.2472592>

In addition to research, Dr. Campbell has had a fun time integrating Thinking Classroom principles into his mathematics education courses at USU. In his classes, students often stand at whiteboards to work on math problems and collaborate with others in an engaging atmosphere. Dr. Campbell strives to build a positive classroom community where learners want to keep coming back to class.



Campbell presenting at UCTM 2026, Provo, UT

GRAD STUDENT MAKING A DIFFERENCE: EMMANUEL MATHS ACADEMY



EMMANUEL ONYEGU
FOUNDER OF
EMMANUEL MATHS ACADEMY

Emmanuel Maths Academy is an online mathematics learning platform whose mission is to teach young learners mathematics using strong instructional practices that promote active participation and engagement in the learning process. The academy has a growing online presence on YouTube and other social media platforms, with thousands of followers.

The academy has participated in several outreach activities, including leading a Mathematics Learning Activity that supported students' engagement and participation at USU's Science Unwrapped. Science Unwrapped is Utah State University's College of Science public outreach program that features a short science talk followed by hands-on learning activities. The program welcomes learners of all ages to explore STEM and mathematics. Emmanuel Maths Academy also organized an attempt at the Guinness World Record for the longest mathematics lesson, where the founder, Emmanuel Onyegu, who also teaches for the academy, taught mathematics for 40 hours and 17 minutes. This event involved USU students and covered foundational mathematics such as pre-algebra, algebra I, and algebra II, as well as more advanced topics, totaling more than 25 mathematics concepts. Members of the university community recognized the positive impact of this outreach in promoting mathematics education.

Emmanuel Maths Academy continues its outreach efforts and is currently developing online courses that are aligned with national core standards and curriculum expectations for various grade levels.



The Mathematics Education and Leadership Programs in the School of Teacher Education and Leadership in the Emma Eccles Jones College of Education and Human Services provide students with a variety of advanced study options in mathematics education at the graduate level. Students can select the Mathematics Education and Leadership Concentration in the PhD program, the Elementary Mathematics Endorsement emphasis in the Master of Education Degree in Elementary Education, professional development credit in the online Elementary Mathematics Teachers Academy, or the Secondary Mathematics Emphasis in the Master of Education Degree in Secondary Education. The Mathematics Education and Leadership Programs at Utah State University provide students with opportunities to focus on enhancing their mathematics education expertise and develop leadership skills for positions at all levels of mathematics teaching, learning, supervision, and research. Contact the director today to begin your graduate work in Mathematics Education and Leadership at Utah State University!

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Interested in writing a piece for the newsletter or have an idea for a story? Reach out to Katherine Vela - katherine.vela@usu.edu