Grace Morrell

EDUCATION

Texas State University — **San Marcos, TX**
Doctor of Philosophy — *Expected graduation 2027*
Mathematics Education

Furman University — **Greenville, SC**
Bachelor of Science — *May 2023*
Major: Mathematics; Minor: Middle Eastern and Islamic Studies

Budapest Semesters in Mathematics Education — **Budapest, Hungary**
August to December 2022

ACADEMIC AWARDS AND SCHOLARSHIPS

- National Science Foundation Graduate Research Fellowship Program Honorable Mention – *2025*
- Texas State Doctoral Retention Scholarship – *2024-2025*
- Texas State Dreeben Doctoral Merit Fellowship – *2023-2024*
- Furman University Faculty Award for Excellence in Mathematics – *2023*
- Furman University Earl Scholarship – *2019-2023*
- Furman University Bell Tower Scholarship – *2019-2023*

RESEARCH EXPERIENCE

Department of Mathematics, Texas State University — **San Marcos, TX**
Graduate Research Assistant — *January 2026 to present*

- Supported by Dr. Kate Melhuish's NSF Grant
- Under Dr. Melhuish, investigated undergraduate student's participation in proof based classes
- Primary roles: analyzing data using quantitative and qualitative methods, disseminating results through manuscripts and conference papers

Department of Mathematics, Texas State University — **San Marcos, TX**
Graduate Research Assistant — *August 2024 to present*

- Supported by Dr. Hwa Young Lee's NSF CAREER grant
- Under Dr. Lee, researching middle school student's graphical thinking with the goal of producing a student-centered curriculum for teaching graphs
- Primary roles: collecting data through clinical task-based interviews, analyzing video data, surveying relevant literature, maintaining organization of data, schedules, and progress reports

Department of Mathematics, Texas State University — **San Marcos, TX**
Graduate Researcher — *July 2024 to present*

- Under the supervision of Dr. Cody Patterson, investigated instructional practices present during the MathWorks honors summer math camp
- Assembled categories of instructional decisions leveraging prior frameworks on equity and inquiry in undergraduate mathematics education
- Co-authored conference paper under review for RUME 2025

Department of Mathematics, Texas State University — **San Marcos, TX**
Graduate Researcher — *February 2024 to present*

- Under Dr. Suho Oh, researched and successfully bounded the gap between the order polytope and chain polytope of a poset
- Co-wrote manuscript with the results, which is now posted on arXiv and under review by the *Electronic Journal of Combinatorics*

Department of Mathematics, Furman University — **Greenville, SC**
Undergraduate Research Fellow — *June to August 2021*

- Under Drs. Casey Hawthorne and Grace Stadnyk, investigated collective productive struggle for mathematics researchers
- Assembled framework for how students and professors confront and identify and name concepts in order to solve challenging mathematical problems and improve mentoring
- Developed questions, conducted and transcribed taped interviews, and contributed to findings
- Presented findings at national RUME conference, 2022

Budapest Semesters in Mathematics Education **Budapest, Hungary**
Undergraduate Researcher *August 2022 to December 2023*

- Under Professor Márta Barbarics, investigated discovery-based learning in classrooms at Budapest Semesters in Mathematics
- Developed questions, conducted and transcribed interviews, contributed to findings
- Presented findings at Tamás Varga Days conference, 2022
- Presented findings at Nebraska Conference for Undergraduate Women in Mathematics, 2023

PUBLICATIONS AND PRESENTATIONS

Hawthorne C., Stadnyk G., Morrell G., Harris E. (2022). The Practice of Naming and its Role in the Collective Productive Struggle of an Undergraduate Summer Research Community. *Proceedings of the 24th Annual Conference on Research in Undergraduate Mathematics Education* (pp. 237-234)

Bennett C., Morrell G., Nicolescu B. (2022) Attitudes Toward Discovery Based Learning at BSM. Tamás Varga Days conference, ELTE University, Budapest Hungary

Morrell G., (2023, February) Reactions to discovery based learning: A case study at BSM. *Nebraska Conference for Undergraduate Women in Mathematics,* Lincoln Nebraska.

Patterson C., Morrell G. (2024, September 15) Inquiry and Equity: Synergies and tensions in a number theory course in a summer mathematics program. *AMS Fall Central Sectional Meeting*, University of Texas San Antonio.

Bhandari B., Cunningham D., Morrell G., Oh S., Smith P. (2025). Gap between the number of facets of the two poset polytopes. *The Online Journal of Combinatorics* for publication.

Morrell G., Patterson C., (2025) At the Crossroads of Inquiry and Equity: Synergies and Tensions in Instructor Decision Making. *RUME Conference,* Alexandria, VA.

Lee, H. Y., Gaspard, B. R., Morrell, G., & Bui, M. (2025, March). *A workshop: Using an analytical framework to characterize students' graph creations* [Seminar presentation]. Presented at Texas State University Mathematics Education Seminar, San Marcos, TX, United States.

Lee, H. Y., Gaspard, B. R., Zolt, H., Morrell, G., Bui, M., Hardison, H. L. (2025, October). *Explicating the retrospective analysis process for characterizing students' thinking in a graphing task* [Brief research report presentation]. The 47th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), State College, PA, United States.

Gaspard, B. R., Lee, H. Y., Morrell, G., Zolt, H., Bui, M. Hardison, H. L., & Paoletti, T. (2025, October). *Middle grade students' interpretations of cartesian axes labels* [Research report presentation]. The 47th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), State College, PA, United States.

Morrell G., Patterson C., (in press) The Nature of a Community of Practice: Social Expectations at an Informal Summer Mathematics Program. *RUME Conference,* Alexandria, VA.

WORK EXPERIENCE

MathWorks Honors Summer Math Camp **San Marcos, TX**
Lead Counselor, Staff member, Graduate Researcher *July 2024 to August 2025*

- Responsible for assisting in academic activities such as problem sessions, study sessions, and class activities as well as residential tasks such as food and medical organization and general camper supervision
- Helped counselors develop lesson plans for their problem sessions
- Conducted a pilot study for dissertation

Texas State University Department of Mathematics **San Marcos, TX**

Instructor of Record *August 2025 to present*

- *Responsible for independently instructing courses including, Calculus for Life Sciences, Elementary Statistics, and Informal Geometry for Pre-service Teachers*

Undergraduate Instructional Assistant Coordinator *August 2024 to present*

- *Responsible for training undergraduate lab instructors on best practices for instruction including how to design lessons, manage the classroom, grade, and address student concerns*
- *Maintain a mentoring relationship with the undergraduate instructional assistants and support them in their roles*

Graduate Instructional Assistant *August 2023 to May 2024*

- *Responsible for overseeing 80+ students per semester in Calculus II by instructing labs, planning activities, administering and grading assignments, and holding office hours*
- *Continue to collaborate with faculty members on improving all levels of the calculus curriculum*

John's Hopkins Center For Talented Youth **Los Angeles, CA**

Assistant Academic Dean *June to August, 2022*

- Responsible for assisting in administration of over 75 classes for students from 4th to 11th grade
- Oversaw and edited evaluation letters for over 300 students, facilitated provision for classroom and lab materials for all classes, substituted in instructional roles when needed, co-led weekly staff meetings with teachers and teaching assistants

Teaching Assistant *June to August, 2023*

- Responsible for assisting in instructing 16 upper-level students in the Mathematical Logic course by planning activities and lessons, assisting with classroom management, and overseeing nightly classes.

Furman University **Greenville, SC**

Mathematics Resource Center Tutor *August 2021 to May 2022*

- Tutor Furman math students in all undergraduate classes up to differential equations

Help Desk & IT Student Assistant *August 2021 to May 2023*

- Trouble shoot campus computer issues and assist professional staff with IT and computer problems

Housing and Residence Life Resident Assistant *January to May 2021*

- Supervised 20 women residents, served as a resource for support, planned activities to foster a cohesive community
- Performed rounds of dorms, worked in Residence Life office and wrote weekly reports on resident activity

VOLUNTEER LEADERSHIP EXPERIENCE

Texas State Academic Freedom Committee **San Marcos, TX**

Graduate Student Representative *January 2025 to August 2025*

- Attend all committee meetings and provide input regarding issues related to the academic freedom of graduate students and faculty at the university

Texas State Mathematics **San Marcos, TX**

SUPER Mentor and Vice President *August 2024 to present*

- Mentor undergraduate math majors by providing advice regarding challenges they may face in their studies and by introducing them to opportunities for undergraduates in mathematics

Graduate Student Representative on Academic Freedom Committee *August 2024 to present*

Furman University **Greenville, SC**

'Dins and Dogs Mentor *January 2022 to June 2022*

- While paired with two middle schoolers, explored patterns in pascals triangle and drew connections to other branches of math
- Mentored the two students and inspired them to take more challenging math classes
- Presented our work to faculty at Furman University