

MEGAN BOTELLO

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EDUCATION

- 2021–Present **Ph.D., Learning Sciences - Education**, expected graduation May, 2026
University of Delaware, School of Education
Learning Sciences Specialization
Mathematics Education Secondary Specialization
Advisors: Dr. Teomara Rutherford, Dr. Nancy Jordan
- 2019-2021 **B.A., Psychology**
Nevada State University
Minor in Counseling
Major GPA: 3.98
Advisor: Dr. Laura Naumann
- 2016-2018 **Associate of Science**
Southern Utah University

RESEARCH EXPERIENCE

- 2021–Present **Graduate Research Assistant**, University of Delaware
Math Sense Lab, Dr. Nancy Jordan
- Developing an intervention for middle school students who struggle with fraction understanding.
 - Aid in preparing many aspects of the intervention through PowerPoint lessons, iPad assessments, and teacher training materials. Collecting data, overseeing undergraduate research assistants, presenting at conferences, and training teacher participants. Quantitatively and qualitatively collect, code, and interpret data, transcription, and research writing.
 - Development and piloting a survey to measure student motivation, implemented it along with fraction assessments
- 2024-Present **Graduate Research Assistant**, University of Delaware
Motivating Mathematics in the Middle Grades by Learning Through Rough Drafts and Revising
- Material and survey development
 - Contributed to the design phase of the project
- 2024 - Present **Graduate Summer Labor Research**, University of Delaware
Rough Draft Math, Dr. Amanda Jansen

- Qualitative analysis of interview data (transcription, memos, cross-memo analysis)
- Manuscript writing

2023-Present

Graduate Summer Labor Research, University of Delaware
M³ Lab, Dr. Christina Barbieri

- Assisted in materials and study design focused on enhancing fraction materials with attentional supports and metacognitive scaffolds to support middle-schoolers' fraction learning, engagement, and use of metacognitive strategies. Plan to prepare a conference proposal and a manuscript on this research.

2023

Graduate Student Labor, University of Delaware
Dr. Teomara Rutherford

- Research aimed to understand third grade student emotions and motivation as they engage with ST math, as well as how teacher practices in the classroom associate with student motivation.
- Conducted teacher observations in multiple elementary classrooms and data entry

2022

Graduate Labor Research, University of Delaware
Dr. Bryan VanGronigen

- Assisted in a professional learning initiative comprised of vendors offering services to prepare principals to give high-quality feedback to teachers.
- synthesized literature to frame and substantiate the rationale for the study; organized data for analysis; devised coding schemes for data analysis; coded data qualitatively in NVivo; wrote a conference proposal.

2020–2021

Undergraduate Research Assistant, Nevada State College
Social Psychology Lab, Dr. Laura Naumann

- Investigated gender and racial differences in faculty service work and scholarly productivity among tenure-track faculty at NSC.
- Created and managed Qualtrics surveys, coded and interpreted qualitative data, presented at a national conference, conducted literature review for manuscript and grant proposal.

2020

Undergraduate Capstone Project, Nevada State College
What Impacts Math Anxiety: Examining Growth Mindset, Parental Support, & Teacher Support
Research under the direction of Laura Naumann, Ph.D.

- Conducted an independent research study examining how a growth mindset and positive parent/teacher interaction affect math anxiety, coordinated participant recruitment through multiple platforms, programmed online survey using Qualtrics software and analyzed data using SPSS, prepared, and presented findings through a national poster presentation.

AWARDS AND SCHOLARSHIPS

2021	Won 1st and 3rd place for my research presentations at Nevada State College
2019-2020	President's Honor List every semester at NSC (4 semesters)
2019-2020	Silver State Opportunity Grant (a merit-based scholarship; 4 semesters)
2020	Barnes and Noble Scholarship
2019	Nevada State College General Scholarship
2019-2020	Nevada State Access Grant
2016-2020	Presidents Scholarship
2016-2018	Regents Scholarship Award
2016-2017	Federal Supplemental Educational Opportunity Grant
2016	Utah Education Disadvantaged Scholarship

PEER-REVIEWED PUBLICATIONS

Jordan, N. C., Dyson, N., Guba, T. P., **Botello, M.**, Suchanec-Cooper, H., & May, H. (2024). Exploring the impact of a fraction sense intervention in authentic school environments: An initial investigation. *Journal of Experimental Child Psychology*.

Rutherford, T., **Botello, M.**, Lam A., & Schenke, K. (2023). Cross-domain within- and between-students antecedents to help seeking. *Psychology in the Schools*.

Jordan, N. C., Devlin, B. L., & **Botello, M.** (2022). Core foundations of early mathematics: Refining the number sense framework. *Current Opinion in Behavioral Sciences*, 46, 101181.

Manuscripts in Preparation

Jansen, A., **Botello, M.**, & Silla, E.M. (revision under review). Rough draft math as an evolving practice: Incremental changes in mathematics teachers' thinking and instruction.

Botello, M., Dyson, N., Rutherford, T., Jordan, N. (revision under review). Teachers' use of motivational messages while teaching fractions.

Botello, M., Barbieri, C., & McGinn, K.M. (under review). Elementary students' motivation for and attitudes toward mathematics while using example-based instructional tools.

Rutherford, T., **Botello, M.**, & Duck, K. (in preparation). Supporting preservice teacher confidence in facilitating motivation with technology using an interactive ebook.

Miller-Cotto, D., Chawla, K., **Botello, M.**, Barbieri, C. (in preparation). Meta-analysis on motivation and executive function relations.

VanGronigen, B. A., Meyers, C. V., & **Botello, M.** (in preparation). Professional learning for transformation? Educational leaders and a new teacher evaluation system [working title].

PROCEEDINGS

Botello, M. & Rutherford, T. (2023). Student help-seeking through utilization of professor office hours. In Blikstein P., Van Aalst, J., Kizito, R., & Brennan, K. (Eds.). (2023) *Proceedings of the 17th International Conference of the Learning Sciences – ICLS 2023*. (pp. 1850). Montreal, Canada: International Society of the Learning Sciences.

CONFERENCE PRESENTATIONS

Jordan, N.C., Dyson, N., Guba, T. P., Suchanec, H., **Botello, M.** (2024, September). Evaluating a fraction sense intervention conducted by teachers in 6th grade math support classes. Paper presented at the National Council for Teachers of Mathematics (NCTM) Annual Meeting, Chicago, Illinois.

Dyson, N., Jordan, N.C., Guba, T. P., Suchanec, H., **Botello, M.** (2024, September). A fraction sense intervention grounded in principles from the science of learning for students with mathematical difficulties. Paper presented at the meeting of the Society for Research Effective Education (SREE), Baltimore, MD.

Botello, M., Rodrigues, A., Ryan, S., Rutherford, T. (submitted) The role of executive function in math and reading for English learner students. American Educational Research Association 2025, Denver, CO.

Dyson, N., Guba, T. P., **Botello, M.**, Suchanec-Cooper, H., & Jordan, N. C. (2024) Evaluating a fraction sense intervention conducted by teachers in 6th grade math support classes. Submitted to National Council for Mathematics Teachers Research Conference, Chicago, IL.

Botello, M., Guba, T. P., Dyson N., Suchanec-Cooper, H., Rutherford, T., & Jordan, N. (2024). Assessing the impact of a fraction sense intervention on middle school students' achievement and motivation. The Mathematical Cognition and Learning Society, Washington D.C.

Botello, M. (2024) Elementary students' motivation for and attitudes toward mathematics while using example-based instructional tools. [paper submission]. Steele Symposium, University of Delaware 2023.

Botello, M., Barbieri, C., & McGinn, K.M. (2024 April). Elementary students' motivation for and attitudes toward mathematics while using example-based instructional tools. American Educational Research Association 2024, Philadelphia, PA.

Chawla, K., **Botello, M.**, Shingledecker, M., Miller-Cotto, D., Barbieri, C. (2024 April). A meta-analysis exploring the relationship between motivation and executive function. American Educational Research Association 2024, Philadelphia, PA.

Guba, T. P., Dyson, N., **Botello, M.**, Suchanec-Cooper, H., Jordan, N.C., & May, H. (2024 March). Fraction nonsense to fraction sense: impact of a fraction sense intervention on 6th grade students with math learning difficulties in an authentic classroom setting. Poster at the Biennial Meeting of the Cognitive Development Society (CDS) 2024, Pasadena, CA.

Dyson, N., Guba, T. P., **Botello, M.**, Suchanec-Cooper, H., & Jordan, N. C. (2024, February). Using principles from the science of learning to develop fraction sense in struggling math Students. Workshop at Association for Mathematics Teacher Educators (AMTE) 2024, Orlando, FL.

Dyson, N., Guba, T. P., **Botello, M.**, Suchanec-Cooper, H., & Jordan, N. C. (2023, October). Building fraction sense in struggling students using effective approaches from the science of learning. Workshop at National Council for Mathematics (NCTM) Teachers Research Conference 2023, Washington, DC.

Rutherford T., **Botello M.**, & Duck., K. (2023). Supporting student motivation in online and technology contexts: An educational ebook. Annual Policy & Practice Institute: Delaware's Conference on Public Education.

Botello, M., Rutherford, T., Guba, T.P., Dyson, N., Suchanec, H., Jordan, N. (2023) Teachers' use of motivational messages while teaching fractions [paper submission]. Steele Symposium, University of Delaware 2023.

Botello, M. College student help-seeking through utilization of professor office hours. Annual Meeting of the International Society of the Learning Sciences 2023, Montreal, PQ.

Botello, M., Rutherford, T., Guba, T.P., Dyson, N., Suchanec, H., Jordan, N. (2023). Teachers' use of motivational messages while teaching fractions [poster submission]. American Psychological Association, Washington D.C.

Botello, M. (accepted). Increasing students' value for and performance in fractions through a utility value intervention [poster presentation]. Association for Psychological Science 2023, Washington D.C.

VanGronigen, B. A., Meyers, C. V., & **Botello, M.** Professional learning for transformation? Educational leaders and a new teacher evaluation system [paper submission]. American Educational Research Association 2023, Chicago, IL.

Botello, M., Guba T.P., Dyson, N., Jordan, N. Measuring success: How 6th graders with math learning disabilities can learn to read rulers [poster presentation]. Society for Research in Child Development 2023, Salt Lake City, UT.

Dyson, N., Jordan, N., Suchanec, H., Guba, T., **Botello, M.** (accepted) Building fraction knowledge in students who have fallen behind in math: Preliminary findings from an efficacy study [paper symposium]. Society for Research in Child Development 2023, Salt Lake City, UT.

Botello, M. (2023). Incorporation of growth mindset in statistic textbooks [poster presentation]. Research Council on Mathematics Learning 2023, Las Vegas, NV.

Duck, K., **Botello, M.**, & Rutherford, T. (2022). Supporting preservice teacher confidence in facilitating motivation with technology using an interactive ebook [poster presentation]. American Psychological Association 2022, Minneapolis, MN.

Botello, M., Petras, R., Carrillo-Marroquin, A., Glover, M., Benson, W., & Naumann, L. P (2021). Gender differences in academic faculty workload [poster presentation]. Western Psychological Association 2021.

Carrillo-Marroquin, A., Glover, M., **Botello, M.**, Petras, R., Benson, W., & Naumann, L. P (2021). Cultural differences in perceptions of organizational justice among academic faculty [poster presentation]. Western Psychological Association 2021.

Botello, M. (2021). What Impacts Math Anxiety: Examining Growth Mindset, Parental Support, & Teacher Support. Poster presented at Nevada State College, Henderson, NV.

Botello, M., Petras, R., Carrillo-Marroquin, A., Glover, M., Benson, W., & Naumann, L. P (2021). Gender Differences in Academic Faculty Workload. Poster presented at Nevada State College, Henderson, NV.

Carrillo-Marroquin, A., Glover, M., **Botello, M.**, Petras, R., Benson, W., & Naumann, L. P (2021). Cultural Differences in Perceptions of Organizational Justice among Academic Faculty. Poster presented at Nevada State College, Henderson, NV.

TEACHING EXPERIENCE

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| 2024 | <i>Teaching Assistant for Human Development: Grades K-8</i> , University of Delaware <ul style="list-style-type: none">• Assisted in teaching and lecturing, mentoring, preparation of lectures and class activities, holding office hours• Provided weekly feedback, grading, and assessment creation |
| 2024 | <i>Guest Lecturer for Psych 230 Human Development</i> , University of Wisconsin – Eau Claire <ul style="list-style-type: none">• Taught one class on “Motivation in School” <i>Guest Lecturer for Psych260 Educational Psychology</i> , University of Wisconsin – Eau Claire <ul style="list-style-type: none">• Taught two classes on Expectancy-Value Theory |
| 2024 | <i>Innovative Teaching Strategies Course</i> , University of Delaware <ul style="list-style-type: none">• Learned how to incorporate multimedia, assessment, and increase instructor presence and student engagement |
| 2024 | <i>Teaching Assistant for Developmental Psychology</i> , University of Delaware |

- Assisted in teaching, mentoring, and holding office hours for upper-level undergraduate students
 - Managed Canvas; creating and grading quizzes; student communication
- 2019–2021 *Course Assistant for Elementary Algebra*, Nevada State College Academic Success Center
- Created lesson plans for and facilitated supplemental instruction, developed trusting relationships with students, improved study skills, attended training on establishing peer mentor relationships, met with faculty to coordinate efforts, identified students of concern for possible intervention, increased first year retention by 30%, presented on student panel.

SERVICE TO THE PROFESSION

- 2024 – present AERA Motivation SIG Communications Director, member of the Writing Group committee, Motivation Monday committee, and Research-in-Progress AERA event committee
- 2024 - present Education Graduate Association Social Committee Chair
- 2024 Symposium Chair. A Socio-Cognitive Perspective to Mathematical Development Across the School Years: The Role of Learners’ Motivations and Attitudes Towards Mathematics. The Mathematical Cognition and Learning Society 2024, Washington D.C.
- 2024 Journal of Child Development Reviewer
- 2023-2024 University of Delaware Learning Sciences Brown Bag Coordination Committee
- 2022-2023 Annual Meeting of the International Society of the Learning Sciences Reviewer
- 2020–2021 Officer in NSC Psi Chi International Honor Society in Psychology
Advisor: Roberta Miranda, M.S.
- Facilitate bi-monthly meetings, plan and execute numerous club and community outreach events, member recruitment, hold induction ceremonies.

PROFESSIONAL AFFILIATIONS

- 2022-present American Educational Research Association – Motivation SIG; Div C
- 2022-present American Psychological Association
- 2022-2023 International Society of the Learning Sciences

2022-2023 Association for Psychological Science
2022-2023 Research Council on Mathematical Learning
2022-present Society for Research in Child Development
2019–2020 International Honor Society of Psychology
2018 National Society of Collegiate Scholars

COMMUNITY SERVICE

2019 - Junior Achievement volunteer
2018 - Math and Science tutor at Cedar North, and Cedar East Elementary Schools
2018 - Volunteered 40 hours at Doctors' Volunteer Clinic of St. George
awards and accomplishments

TECHNICAL SKILLS

R Studio, SPSS, Qualtrics, NVivo, Google Drive (forms, sheets, docs, etc.), Canvas, Canva, Microsoft

PERSONAL ACCOMPLISHMENTS

2019 – 2020 - President of the NSC Table Tennis Association
2019 - West Regional Women's Table Tennis Champion
2019 - Registered Behavior Technician – The Lovaas Center