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Curriculum Vita

EMMA KATHLEEN PRICE BULLOCK

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EDUCATION

- Ph.D. May 2017
Education: Utah State University
Specialization: Curriculum and Instruction
Concentration: Mathematics Education and Leadership
Dissertation: *An Explanatory Sequential Mixed Methods Study of the School Leaders' Role in Students' Mathematics Achievement Through the Lens of Complexity Theory*
- M.M. December 2016
Mathematics: Utah State University
- M.Ed. May 2010
Master of Education in Educational Leadership, Argosy University.
Utah Professional Administrative License, K-12 (2011).
- B.S. April 2001
Mathematics with an Emphasis in Combinatorics
Music with an Emphasis in Vocal Performance, Brigham Young University.
Utah Professional Teaching Level I License, 6-12 with a Math Level IV endorsement (2001).
Utah Professional Teaching Level II License, 6-12 with a Math Level IV endorsement (2007).

EMPLOYMENT HISTORY

SAM HOUSTON STATE UNIVERSITY

Assistant Professor, Mathematics Education (August 2017-present)

Sam Houston State University, Department of Mathematics and Statistics, College of Science & Engineering Technology, Huntsville, TX

Responsibilities include teaching graduate and undergraduate courses in both traditional and online formats in Mathematics Education (Elementary, Secondary, and Higher Education) and Mathematics courses (such as Linear Algebra, Probability and Statistics, etc.); assisting in the development and implementation of programs for students; advising graduate students; supervising graduate and undergraduate assistants, and developing a professional agenda of teaching, citizenship, and scholarship within the university community.

UTAH STATE UNIVERSITY

Graduate Research and Teaching Assistant (2013-2017)

Utah State University, School of Teacher Education and Leadership, College of Education & Human Services, Logan, UT

Research responsibilities included assisting professors on various research projects in mathematics education such as fulfilling the role of project coordinator (i.e. all participant recruitment and interview scheduling), development of interview protocols and other relevant documentation such as demographic/parent surveys, informed consent and parent information sheets, interviewing participants, coding video observations of participant actions, performing all levels of quantitative and qualitative data analysis, and participating in group papers and presentations. Virtual

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Manipulatives Database, manager (2015-2016), which included the following: (a) Maintain research database and review of articles for inclusion therein; (b) Develop and organize review and coding procedures for contributors

Teaching assistant responsibilities included teaching the Level III undergraduate mathematics methods course, supervising Level III practicum student teachers, collaborating with Edith Bowen Laboratory School teachers, and creating and teaching master's level elementary endorsement courses (i.e., Geometry and Measurement, Algebraic Reasoning, modules for the Elementary Mathematics Teachers Academy (EMTA)). These included face-to-face, distance broadcast, online, and hybrid classroom settings.

EDUCATIONAL LEADERSHIP/ADMINISTRATIVE EXPERIENCE

MOUNTAINVILLE ACADEMY

Executive Director/Superintendent (2013-2014).

Administrative Director/Principal (2009-2013).

Mathematics Coordinator K-9 (2006-2014)

K-9 Utah Public Charter School, Alpine, Utah

As administrative director, responsibilities included supervising all aspects of school operation, achieving the school's mission of building leaders', one student at a time, through personal and academic excellence, overseeing the entire academic program, training, and motivating all staff, managing the school's public relations efforts with students, parents, and the broader community, and ensuring legal compliance with public education laws and regulations. As the mathematics coordinator, responsibilities included initially assessing and placing all students, K-9, into appropriate math groups, managing movement between the groups based on data, throughout the school year, planning and conducting mathematics professional development for all math teachers, K-9, providing coaching, curriculum planning and ensuring the appropriate resources are available for students and teachers.

PUBLIC SCHOOL TEACHING EXPERIENCE

MOUNTAINVILLE ACADEMY

Teacher, Pre-Calculus, Algebra II, Algebra I, Pre-Algebra, 7th grade math, 6th grade math, 5th grade math (2006-2009).

Middle School Department Chair/Lead Teacher (2008-2009)

Mentor Teacher (2009-2014)

K-8 Utah Public Charter School, Alpine, Utah

Responsibilities included teaching classes in accordance with Utah professional teaching and mathematics standards, acting as the liaison between the middle school teachers and administration, conducting middle school team meetings, as needed, working with other teachers in various disciplines to coordinate and integrate curriculum and logistical needs, and any other duties, as required.

GEORGETOWN HIGH SCHOOL

Teacher, Algebra II Honors, Algebra II, Math Tech I, Student Council (2005-2006).

Georgetown School District, Georgetown, South Carolina

Responsibilities included teaching classes in accordance with South Carolina professional teaching and mathematics standards, acting as the advisor for the student counsel, and any other duties, as required.

JOHN HANCOCK CHARTER SCHOOL

Teacher, Algebra II, Algebra I, Pre-Algebra, 8th grade Integrated Science, 7th grade Integrated Science, 6th grade Integrated Science, 7th-8th Choir, Student Council (2003-2005).

K-8 Utah Public Charter School, Pleasant Grove, Utah

Responsibilities included teaching classes in accordance with Utah professional teaching, mathematics, science, and music standards, acting as the advisor for the student counsel, and any other duties, as required.

PAYSON JUNIOR HIGH SCHOOL

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Internship, Teacher, Algebra I, Pre-Algebra, Music Director for after school production of “Bye, Bye Birdie” (2000-2001).

Nebo School District, Payson, Utah

Responsibilities included teaching classes in accordance with Utah professional teaching and mathematics standards, acting as the music director for the after school musical production, and any other duties, as required.

AWARDS & PROFESSIONAL RECOGNITION

- **Engaged Learning Fellowship (two course releases per year, \$500).** (2021-2023)
- **Keys of Excellence Award. SHSU Orange Keys Ambassadors.** (2020)
- **AMTE-TX 2019 Fall Conference Travel Award (\$200).** (September 2019)
- **2019 Outstanding Dissertation Award, 2nd place winner. Mixed Methods Research (MMR) SIG, American Educational Research Association (AERA), Toronto, CA.** (April 2019)
- **MMIRA/MAXQDA 2018 Award for Outstanding Dissertation Research (\$1000). Mixed Methods International Research Association (MMIRA). MMIRA International Conference, Vienna, Austria.** (August 2018)
- **Dissertation of the Year Award Finalist. Leadership for School Improvement SIG, American Educational Research Association (AERA), New York, NY.** (April 2018).
- **2017 Outstanding Dissertation of the Year Award, School of Teacher Education and Leadership (TEAL), College of Humanities and Social Sciences (CHSS), Utah State University.** (April 2018).
- **2018 SERA Bruce Thompson Outstanding Paper Award (\$1000). *Preschool Children’s Seriation Learning Progressions While Interacting with Touch-Screen Math Apps.* Southeast Educational Research Association (SERA), New Orleans, LA.** (February 2018).
- **2017 Outstanding Graduate Poster Presentation Award: Social Science and Education Discipline, 2017 Student Research Symposium, Utah State University.** (2017).
- **2017 Sherrie Reynolds Scholarship Award, Complexity Theories in Education SIG, American Educational Research Association (AERA).** (2017).
- **2016 Graduate Researcher of the Year, School of Teacher Education and Leadership (TEAL).** (2015-16).
- **2016-17 Frederick Q. Lawson Fellowship Award.** (2016-17).
- **2016-17 School of Graduate Studies Dissertation Fellowship Award.** (2016-17).
- **Graduate Student Senate Enhancement Award.** (2016-17).
- **Graduate Research and Creative Opportunities Grant Award.** (2016).
- **Division A Senior Graduate Representative, American Education Research Association (AERA).** (2016-2017).
- **Division A Junior Graduate Representative, American Education Research Association (AERA).** (2015-2016).

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- **Graduate Research and Teaching Assistant, Utah State University.** (2013-2017).
- **2013 National Promising Practice Award, LLS Learning and Leadership Strategies, as Principal of the Mountainville Academy,** Character Education Partnership (2013).
- **2012 Principal of the National School of Character, Mountainville Academy.** Character Education Partnership (2012).
- **2012 National Promising Practice Award, Leadership Day, as Principal of the Mountainville Academy.** Character Education Partnership (2012).
- **2011-13 Principal of the State School of Character, Mountainville Academy,** Eunice Kennedy Shriver National Center for Community of Caring (2011).
- **2011-2014 Principal of the Lighthouse School Designation, Mountainville Academy,** Franklin Covey (2011).
- **2011 Utah State Promising Practice Award, Legacy Hour, as Principal of Mountainville Academy,** Eunice Kennedy Shriver National Center for Community of Caring (2011).
- **2011 Red Robin School of Merit, as Principal of the Mountainville Academy** for random acts of service. Red Robin, Corp. (2011).
- **2011 and 2009 Honorable Mention—PTL Magazine as Principal of the Mountainville Academy** for Mountainville’s Family School Organization (FSO), (2009; 2011).
- **2010 Innovating Practice Award, as Principal of the Mountainville Academy** for Different Abilities Day, George Eunice Kennedy Shriver National Center for Community of Caring (2010).
- **2010 Charter School Innovations Excellence Award** as Principal of the Mountainville Academy, Utah Association of Public Charter Schools (2010).
- **2010 Leader in Me School Designation as Principal of the Mountainville Academy** Franklin Covey (2010).
- **2009 State Math Contest—2nd place 8th grade Team as Math Teacher/Principal of the Mountainville Academy.**

RESEARCH PROJECTS

National Library of Virtual Manipulatives (NLVM) Reimagined. (2019-2024). Principal Investigator. The purpose of this project is to reimagine the NLVM for touch-screen and virtual reality platforms and make them available for wide-spread usage again. We are working with the full support of the original creators of the NLVM to re-imagine the Java script the manipulatives were originally created in and update them for use in modern technologies.

Utilizing Desmos: Effects on Special Populations on the Algebra 1 EOC. (2019-2022). Principal Investigator. This quantitative study evaluates the impact of student Desmos use across three independent school districts (ISDs) on their Algebra I end of course standardized tests.

The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children’s Mathematics Learning: A Pilot Study. (2019-2021). Principal Investigator. The purpose of this pilot study is to select and pilot commercially available digital math game applications (apps) in anticipation of submitting a larger external grant proposal. There are thousands of commercially available digital math games apps. This pilot study will allow the researchers to do the pilot work necessary to submit a competitive larger grant proposal and answer the research questions: How do the design features in the digital math games help 11-14 year old children interact with the mathematics? Is there a

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difference in the way children interact with the design features depending on the available platform and how do these differences impact children's mathematics learning?

The Effects of Student Literature Review Research on Preservice Elementary Mathematics Teachers' Conceptual and Procedural Knowledge. (2018-2019). Principal Investigator. This action research project evaluates the impact of a student literature review research project as part of a freshman Math 1384 course on preservice elementary mathematics teachers' conceptual and procedural knowledge.

Making Sense of Division of Fractions: What Affords Understanding among Undergraduate Pre-Service Elementary Teachers? (2018-2019). Co-Principal Investigator. This action research project explores an intervention for teaching the justification for the invert-and-multiply rule for the "Dividing by an Improper Fraction" scenario through the lens of Affordance Theory.

Affording Understanding of Calculus Concepts: The Role of GeoGebra Features in Preservice Secondary Teachers' Learning of Definite Integrals. (2018-2019). Co-Principal Investigator. This action research project explores the features of GeoGebra which are intended to afford understanding of definite integral concepts in a university fundamentals of calculus course for pre-service middle school teachers.

Affordances of Virtual Manipulatives Touch-Screen Apps for Mathematics Learning. (2016-2017). Project Coordinator. Utah State University. (with PI Dr. Patricia Moyer-Packenham and the Virtual Manipulative Research Group). My roll: Responsible for all participant recruitment and interview scheduling. Participating in all aspects of project development, implementation, analysis, and publication of results including data collection, coding of data, and both qualitative and quantitative analysis.

GreenWood Charter School: Growing GreenWood Teachers' Mathematics Pedagogical Content Knowledge Through Action Research in the Classroom. (2015-2017). Program Director/Coordinator. Action research collaboration between Utah State University and GreenWood Charter School in Harrisville, UT. My roll: Oversee and develop all on-site professional development and support of teachers, coordinate all research support for teacher publications and presentations, manage day to day budget and operations.

Captivated! Young Children's Learning Interactions with iPad Mathematics Apps. (2013-2015). Code video observations of participant actions and find emerging themes and data analysis. Utah State University (with PI Dr. Patricia Moyer-Packenham and the Virtual Manipulatives Research Group). My roll: Quantitative analysis for affordances across apps, oversee and participate in qualitative analysis for affordances across apps. Lead author of preschool papers on affordances across apps, second author over analysis of data and major portions (methods/results/discussion) of across grade papers on affordances across apps. Conference presentation preparation.

PUBLICATIONS

Journal Articles (Refereed)

1. Islam, A.R. and **Bullock, E. P.** (in press). Concept app development for National Library of Virtual Manipulatives (NLVM): An initiative. *Journal of Education and Training*.
2. **Bullock, E. P.**, Ray, A., Swarthout, M., Herron, J. and Cory, B. (2021). The GMaV conceptual framework: Constructing elementary pre-service teacher's mathematics vocabulary understanding through contextualized guided notes. *Investigations in Mathematics Learning*. 13(4), 287-302. DOI: 10.1080/19477503.2021.1985906
3. **Bullock, E. P.**, Webster, J. S., and Jones, D. (2021). Helpful and hindering features of GeoGebra: Understanding what affords conceptual understandings of definite integrals among pre-service middle grades mathematics teachers. *International Journal of Technology in Mathematics Education*, 28(2), 81-92. DOI: 10.1564/tme_v28.2.02.
4. **Bullock, E. P.**, Roxburgh, A.L., Moyer-Packenham, P.S., Bektas, E., Webster, J. S., Bullock, K. A. (2020). Connecting the dots: Understanding the interrelated impacts of type, quality and children's awareness of design

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features and the mathematics content learning goals in digital math games and related learning outcomes. *Journal of Computer Assisted Learning*, 37(2), 557-586. DOI: 10.1111/JCAL.12508.

5. Litster, K., Lommatsch, C. W., Novak, J. R., Moyer-Packenham, P. S., Ashby, J. M., Roxburgh, A. L., & **Bullock, E.P.** (2020). The role of gender on the associations among children's attitudes, mathematics knowledge, digital game use, perceptions of affordances, and achievement. *International Journal of Science and Mathematics Education*, 1-21. DOI 10.1007/s10763-020-10111-8.
6. Moyer-Packenham, P. S., Lommatsch, C. W., Litster, K., Ashby, M. J., **Bullock, E. P.**, Roxburgh, A. L., Shumway, J. F., Speed, E., Covington, B., Hartmann, C., Clarke-Midura, J., Skaria, J., Westenskow, A., MacDonald, B., Symanzik, J., & Jordan, K. (2019). How design features in digital math games scaffold learning and mathematics connections. *Computers in Human Behavior*, 91, 316-332.
7. Bartholomew, S., **Bullock, E.P.**, Nadelson, L.S. (2018). A route less traveled: Principals' perceptions of alternative licensed CTE teachers. *Journal of Education and Training*, 5(2), 12-21.
8. **Bullock, E. P.**, Shumway, J. F., Watts, C., Moyer-Packenham, P. S. (2017). Affordance access matters: Preschool children's learning progressions while interacting with touch-screen mathematics apps. *Technology, Knowledge and Learning*, 22(3). 485-511. Doi: 10.1007/s10758-017-9312-5
9. Moyer-Packenham, P. S., **Bullock, E. P.**, Shumway, J. F., Tucker, S. I., Watts, C., Westenskow, A., Anderson-Pence, K. L., Maahs-Fladung, C., Boyer-Thurgood, J., Gulkilik, H., & Jordan, K. (2016). The role of affordances in children's learning performance and efficiency when using virtual manipulative mathematics touch-screen apps. *Mathematics Education Research Journal*, 28(1), 1-27. Doi: 10-1007/s13394-015-0161-z
10. Moyer-Packenham, P. S., Watts, C., Tucker, S. I., **Bullock, E.P.**, Shumway, J. F., Westenskow, A., Boyer-Thurgood, J. M., Anderson-Pence, K. L., Mahamane, S., Jordan, K. (2016). An Examination of Children's Learning Progression Shifts While Using Touch Screen Virtual Manipulatives Apps. *Computers in Human Behavior*, 64, 814-828.
11. **Bullock, E. P.**, Ashby, M.J., Spencer, B., Manderino, K., Myers, K. (2015). Saxon math in the middle grades: A content analysis. *International Journal of Learning, Teaching, and Educational Research*, 14 (1), 63-96.
12. **Bullock, E. P.**, Kidd, J., O'Driscoll, T., Reid, A. (2015). Bridging research and practice: Growing greenwood elementary teachers' mathematics pedagogical content knowledge through action research in the classroom: The beginning. *Utah Mathematics Teacher*, 8, 40-45.
13. Moyer-Packenham, P. S., Shumway, J. F., **Bullock, E.**, Tucker, S. I., Anderson-Pence, K. L., Westenskow, A., Boyer-Thurgood, J., Maahs-Fladung, C., Symanzik, J., Mahamane, S., MacDonald, B., & Jordan, K. (2015). Young children's learning performance and efficiency when using virtual manipulative mathematics iPad apps. *Journal of Computers in Mathematics and Science Teaching*, 34(1), 41-69.

Book Chapters (Refereed)

1. Poth, C. and **Bullock, E. P.** (in press). *Adaptive mixed methods research design practices to address complexity in business and management research*. Handbook of Mixed Methods in Business and Management.
2. Poth, C. and **Bullock, E. P.** (in press). *Using mixed methods research to address complexity in education*. International Encyclopedia of Education 4e.
3. **Bullock, E. P.**, Ray, A., Cory, B., and Herron, J. (2021). Promoting higher student mathematics achievement in online settings: Introducing PHiSMAOS. In M. L. Niess & H. Gillow-Wiles (Eds.), *Transforming Teachers' Online Pedagogical Reasoning for Teaching K-12 Students in Virtual Learning Environments* (pp. 561-582). IGI Global, 10.4018/978-1-7998-7222-1.ch027.

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4. **Bullock, E. P.** & Moyer-Packenham, P.S. (2019). The importance of shared vision and stakeholder influence on K-12 school leaders' efforts to improve student mathematics achievement. In H. T. Tran, D. A. Smith (Eds.), *Improving education through multi-level community relations and stakeholder engagement* (pp.33-58). Lanham, MD: Rowman & Littlefield.
5. Moyer-Packenham, P.S., Litster, K., **Bullock, E.**, Shumway, J.F. (2018). Using video analysis to explain how virtual manipulative app alignment affects children's mathematics learning. In L. Ball, P. Drijvers, S. Ladel, H.-S. Siller, M. Tabach, & C. Vale (Eds.), *Uses of technology in primary and secondary mathematics education: Tools, topics, and trends* (pp. 9-34). ICME-13 Monographs. Switzerland: Springer. https://doi.org/10.1007/978-3-319-76575-4_2

Conference Proceedings (Refereed)

1. Roxburgh, A., Moyer-Packenham, P. S., **Bullock, E.P.** (2021). Children's use of systemic functional linguistic metafunctions during digital math gameplay. In E. Langran & L. Archambault (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference*. Online: Association for the Advancement of Computing in Education (AACE).
2. **Bullock, E. P.** (2020). Angle Asteroids: How relationships between children's interactions with design features contribute to learning gains. In D. Schmidt-Crawford (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 1648-1657). Online: Association for the Advancement of Computing in Education (AACE).
3. **Bullock, E. P.**, Moyer-Packenham, P. S., Shumway, J. F., Watts, C., MacDonald, B. (2015). Effective teaching with technology: Managing affordances in iPad apps to promote young children's mathematics learning. In D. Rutledge & D. Slykhuis (Eds.), *Proceedings of the Society for Information Technology and Teacher Education International Conference* (pp. 2357-2364), Las Vegas, Nevada.
4. Moyer-Packenham, P. S., Westenskow, A., Shumway, J. F., **Bullock, E.**, Tucker, S. I., Anderson-Pence, K. L., Boyer-Thurgood, J., Maahs-Fladung, C., Symanzik, J., Mahamane, S., MacDonald, B., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2014). The effects of different virtual manipulatives for second graders' mathematics learning in the touch-screen environment. *Proceedings of the 12th International Conference of the Mathematics Education into the 21st Century Project*, (Vol. 1, p. 1-6). Herceg Novi, Montenegro.
5. Boyer-Thurgood, J., Moyer-Packenham, P., Tucker, S., Anderson, K., Shumway, J., Westenskow, A., & **Bullock, E.** (2014, January). Kindergartener's Strategy Development during Combining Tasks on the iPad. *Proceedings of the 12th Annual Hawaii International Conference on Education (HICE)*, (pp. 1113-1114), Honolulu, Hawaii, ISSN# 1541-5880.
6. Moyer-Packenham, P. S., Anderson, K. L., Shumway, J. F., Tucker, S., Westenskow, A., Boyer-Thurgood, J., **Bullock, E.**, Mahamane, S., Baker, J., Gulkilik, H., Maahs-Fladung, C., Symanzik, J., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2014, January). Developing research tools for young children's interactions with mathematics apps on the iPad. *Proceedings of the 12th Annual Hawaii International Conference on Education (HICE)*, (pp. 1685-1694), Honolulu, Hawaii, ISSN# 1541-5880.
7. Tucker, S. I., Moyer-Packenham, P. S., Boyer-Thurgood, J. M., Anderson, K. L., Shumway, J. F., Westenskow, A., & **Bullock, E.**, The Virtual Manipulatives Research Group at Utah State University. (2014, January). Literature supporting investigations of the nexus of mathematics, strategy, and technology in children's interactions with iPad-based virtual manipulatives. *Proceedings of the 12th Annual Hawaii International Conference on Education (HICE)*, (pp. 2338-2346), Honolulu, Hawaii, ISSN# 1541-5880.

Journal Articles (Invited)

1. **Bullock, E. P.** (2022). The replication crisis and equity in STEM classrooms: How a complex systems approach can help. *School Science and Mathematics*.122(3), 125-127. DOI: <https://doi.org/10.1111/ssm.12523>.

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2. **Bullock, E.** (2014). Using the new SAGE assessment to increase student performance. *Charterology*, 4(1), 24-25.

Other Publications (Refereed)

1. **Bullock, E. P.** (2019, February). *What Do I Do with All These Variables? A Complexity Theory Argument for Random Forests and Variable Importance Plots*. Paper presented at the annual Southeast Educational Research Association Conference (SERA), San Antonio, Texas. <http://sera-edresearch.org/files/papers/95Complexity Theory.Random Forests and Variable Importance Plots.docx>
2. **Bullock, E.P.** (2018, February). *Preschool Children's Seriation Learning Progressions While Interacting with Touch-Screen Math Apps*. Paper presented at the annual Southeast Educational Research Association Conference (SERA), New Orleans, Louisiana.
3. Moyer-Packenham, P. S., Shumway, J. F., **Bullock, E.**, Tucker, S. I., Anderson-Pence, K., Westenskow, A., Boyer-Thurgood, J., Maahs-Fladung, C., Symanzik, J., Mahamane, S., MacDonald, B., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2014, April). *Young children's learning performance and efficiency when using virtual manipulative mathematics iPad apps*. Paper presented at the annual National Council of Teachers of Mathematics Research Conference (NCTM-R), New Orleans, Louisiana.

Under Review

1. Ray, A., Herron, J., & **Bullock, E. P.** (under review, 2022). *Exploring Mathematics Vocabulary Alignment in a Future Elementary Teacher's Trajectory: A Case Study*. *Journal of College Reading and Learning*.

In Progress

1. **Bullock, E. P.** & Ray, A. (in progress, 2022). *The Development of Valid and Reliable Classroom Mathematics Vocabulary Assessments for an Elementary Mathematics Foundations Course*. Unpublished manuscript.
2. **Bullock, E. P.**, (in progress, 2022). Closing the Gap: The Effects of Desmos on Algebra EOC Scores. Unpublished manuscript.
3. **Bullock, E. P.**, Gupta, D., Goodman, R., Deaton, M., Choquette, J., & Morales, E. (in progress, 2022). *Ranking Design Features of Commercially Available 6th-8th Grade Digital Math Games*. Unpublished manuscript.

UNIVERSITY TEACHING

Sam Houston State University, Huntsville, Texas (2017-present)

MATH 6387—Concepts in Linear Algebra. This second course in Linear Algebra includes topics such as vector spaces, linear maps, eigenvalues, eigenvectors, invariant subspaces, inner product spaces, and complex vector spaces.

MATH 6382—Pedagogical Issues in Undergraduate Mathematics Education. This course focuses on pedagogical issues related to undergraduate mathematics education. Topics include National and Texas perspectives on pedagogical issues with respect to undergraduate mathematics education, designing an effective mathematics course and class (in face-to-face, online, and hybrid platforms), establishing a productive mathematics learning environment, using active learning techniques, promoting higher order thinking, and assessing to inform instruction and promote learning.

MATH 5389—Concepts in Probability and Statistics. This course includes topics from probability theory, distribution functions, descriptive statistics, and inferential statistics.

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MATH 4367—Evolutions in Mathematics. Students are introduced to the historical development of fundamental mathematical ideas from antiquity to the present. Writing Enhanced.

MATH 3381—Foundations for Mathematics for Elementary Teachers (III). This course is the third in a series of courses designed to develop the necessary foundations in mathematics for prospective elementary teachers. Students are expected to practice communications skills and participate in hands-on activities, including the use of math manipulatives and technology. Topics include National and Texas standards for teaching mathematics, problem solving, discrete mathematics, probability, and data analysis. Throughout the course, the four main themes recommended by the NCTM Principles and Standards (problem solving, reasoning, communication, and connections) are emphasized.

MATH 3377—Introduction to Linear Algebra and Matrices. Topics include solving systems of linear equations, fundamental matrix theory (invertibility theorems, determinants), eigenvectors, and properties of linear transformations. Remaining topics are chosen from: Properties of general vector spaces, inner product spaces, and/or diagonalization of symmetric matrices.

MATH 2385—Fundamentals of Calculus. This course introduces the concepts and applications of calculus. This course is applied toward middle school teacher certification and includes extensive use of technology such as GeoGebra, Desmos, and Excel.

MATH 1384—Foundations of Mathematics for Elementary Teachers (I). This course is the first in a series of courses designed to develop the necessary foundations in mathematics for prospective elementary teachers. Students are expected to practice communications skills and participate in hands-on activities, including the use of math manipulatives and technology. Topics include National and Texas standards for teaching mathematics, sets, numeration systems, natural numbers, integers, number theory and rational numbers. Throughout the course, the five main themes recommended by the NCTM Principles and Standards (problem solving, reasoning, communication, connections, and representation) are emphasized.

Utah State University, Logan, Utah (2013-2017) College of Education and Human Services

TEAL 6523/TEPD 5523—Mathematics for Teaching K-8: Algebraic Reasoning Graduate Course. Provides practicing teachers with a deeper understanding of algebraic expressions, equations, functions, real numbers, and instructional strategies to facilitate the instruction of this content for elementary students.

TEAL 6524/TEPD 5524/EMTH 5060—Mathematics for Teaching K-8: Geometry & Measurement Graduate Course. Provides practicing teachers with an in-depth understanding of measurement and geometry content correlated with the state core curriculum, and instructional strategies that facilitate the teaching of this content. Blended Format.

ELED 4060—Teaching Mathematics and Practicum Level III Undergraduate Course. Relevant mathematics instruction in the elementary and middle-level curriculum; methods of instruction, evaluation, remediation, and enrichment. Included the six-week supervision of Level III practicum students in participating public-school settings. Traditional Format.

CURRICULUM DEVELOPMENT

Sam Houston State University, Huntsville, Texas (2017-present)

MATH 6382—Pedagogical Issues in Undergraduate Mathematics Education
Taught the course in an online format, used feedback to create completely online course containing 4 modules which included video presentations, slides, readings, learning activities, and discussions. Students participated in individualized course design projects. Available Summer 2019 through Sam Houston State University's Online Master of Arts (MA) in Mathematics degree program. This course includes topics from probability theory, distribution functions, descriptive statistics, and inferential statistics.

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MATH 5389—Concepts in Probability and Statistics.

Taught the course in an online format, used feedback to create completely online course containing 15 modules which included video presentations, slides, readings, learning activities, solutions to worked out problems, discussion, homework help and assessments. Available Spring 2019 through Sam Houston State University's Online Master of Arts (MA) in Mathematics degree program. This course includes topics from probability theory, distribution functions, descriptive statistics, and inferential statistics.

MATH 5360—Concepts in Linear Algebra. This second course in Linear Algebra includes topics such as vector spaces, linear maps, eigenvalues, eigenvectors, invariant subspaces, inner product spaces, and complex vector spaces.

Utah State University, Logan, Utah (2013–2017)

Elementary Mathematics Teacher Academy – Developed course materials for master's level courses for Utah State University's Elementary Mathematics Teacher Academy (EMTA). Course designed to develop teachers' mathematical knowledge for teaching aligned with the Common Core State Standards for Mathematics. Materials developed included readings, video lectures, application assignments, and assessments for online course delivery. Developed the following fourth-grade curriculum modules (with more in progress regarding mathematical practices):

- 4.G.A.1 Drawing Points, Lines, and Angles and Identifying Them in Two-Dimensional Figures (2015)
- 4.G.A.2 Classifying Two-Dimensional Figures (2015)
- 4.G.A.3 Lines of Symmetry (2015)
- 4.G.Big Idea Classifying Properties of Objects: Conjecturing, Solving, Explaining, and Proving (2015)
- 4.OA.Big Idea Arithmetic as a Context for Algebraic Thinking (2014)

TEAL 6523/TEPD 5523/EMTH 5050—Mathematics for Teaching K-8: Algebraic Reasoning (2016)

Taught the course in a blended interactive broadcast hybrid format, used feedback to create completely online course containing 9 modules which include video presentations, slides, readings, learning activities, solutions to worked out problems, discussions, homework help and assessments. Available now through Utah State University's Elementary Mathematics Teacher Academy (EMTA) as an online course every term.

TEAL 6524/TEPD 5524/EMTH 5060—Mathematics for Teaching K-8: Geometry & Measurement (2015-2017)

Taught the course in a blended interactive broadcast hybrid format, used feedback to create completely online course containing 9 modules which include video presentations, slides, readings, learning activities, solutions to worked out problems, discussions, homework help and assessments. Available now through Utah State University's Elementary Mathematics Teacher Academy (EMTA) as an online course every term.

PAID CONSULTANCY

Bear River Charter School, Logan, Utah (2017-2018)

Providing professional development services in K- elementary and middle school mathematics education for Bear River charter comprising 9 K-8 teachers. Professional development includes mathematics content knowledge, pedagogical content knowledge, and curriculum implementation.

Greenwood Charter School, Harrisville, Utah (2015-2017)

Providing professional development services in K-6 elementary mathematics education for Greenwood charter comprising 22 K-6 teachers. Professional development includes mathematics content knowledge and pedagogical content knowledge in the areas of numbers & operations, rational numbers & proportional reasoning, and geometry and measurement. In addition, the project includes professional development in action research, lesson study, and support for teacher lead publications and local, state, and national conference presentations.

Western Governors University, Salt Lake City, Utah (2013-2014)

Online Teachers College

Supervised administrative intern, Lisa Panek, as part of her Educational Leadership endorsement program.

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(Over \$211,000 Dollars in Total Grant Funding)

EURECA FAST Award (\$10,000). *Enhancing Undergraduate Research Experiences & Creative Activities (EURECA) Center.* (2022). Sam Houston State University. Project Role: Co-Principal Investigator w/Jamile Forcelini. The purpose of the project is to conduct a meta-analysis of research that has addressed the topic of barriers/obstacles/challenges students face in the online learning environment—something that has not been done to this date.

AVP Strategic Support Funds (\$6600). *National Library of Virtual Manipulatives (NLVM) Reimagined: Concept App Development.* (2021-22). Project Role: Principal Investigator. The purpose of the project is to create four virtual manipulative applications compatible with touch-screen devices based on the outdated java-script types of virtual manipulatives currently available through the NLVM. These concept apps would then be included as part of a larger grant proposal to reimagine and expand upon all the virtual manipulatives currently found in the NLVM.

AVP Strategic Support Funds (\$600). *Support of Student Research Conference Travel.* (2021-2022). Sam Houston State University. Project Role: Principal Investigator. Project Purpose: To rank commercially available digital math games for selection in a larger external funding grant proposal.

Student Travel Award for Professional Presentation (STAPP) (\$800). *Enhancing Undergraduate Research Experiences and Creative Activities (EURECA) Center.* (2021-2022). Sam Houston State University. Project Role: Principal Investigator. Project Purpose: To rank commercially available digital math games for selection in a larger external funding grant proposal.

Developing a Reliable and Valid Vocabulary Assessment for MATH 1384 Assessment Mini-Grant (\$970). *Office of Academic Planning and Assessment.* (2021-2022) Sam Houston State University. Project Role: Co-Principal Investigator with Amy Ray and Mary Swarhout. Project Purpose: To develop and test a vocabulary assessment for MATH 1384.

COSET Undergraduate Research Award (\$4,000). *Renewed: Assessing the Effectiveness of the Design Features of Commercially Available Digital Math Games for 11-14 Year-Old Children: A Pilot Study.* (2021). Project Role: Principal Investigator. The purpose of this pilot study is to rank commercially available digital math games for selection in a larger external funding grant proposal.

SHSU Teaching Innovation Grant (\$11,000). *The Professional and Academic Center for Excellence (PACE).* (2021-2022). Sam Houston State University. Project Role: Co-Principal Investigator. Project Purpose: To develop, implement, revise, and/or analyze the following: a) guided notes for MATH 1384, MATH 1385, MATH 3381, b) vocabulary assessment for MATH 3381 and MATH 1384, c) data gathered from Vocabulary Assessment for MATH 3381, d) Zoom recordings and transcripts to analyze research team experience.

Developing a Reliable and Valid Vocabulary Assessment for MATH 3381 Assessment Mini-Grant (\$955). *Office of Academic Planning and Assessment.* (2020-2021) Sam Houston State University. Project Role: Co-Principal Investigator w/Amy Ray. Project Purpose: To develop and test a vocabulary assessment for MATH 3381.

Interdisciplinary Collaborations Grant (\$9,629). *National Library of Virtual Manipulatives (NLVM) Reimagined: Concept App Development.* (2020-21). Project Role: Principal Investigator. The purpose of the project is to create four virtual manipulative applications compatible with touch-screen devices based on the outdated java-script types of virtual manipulatives currently available through the NLVM. These concept apps would then be included as part of a larger grant proposal to reimagine and expand upon all the virtual manipulatives currently found in the NLVM.

COSET Undergraduate Research Award (\$4,306). *Assessing the Effectiveness of the Design Features of Commercially Available Digital Math Games for 11-14 Year-Old Children: A Pilot Study.* (2020). Project Role: Principal Investigator. The purpose of this pilot study is to rank commercially available digital math games for selection in a larger NSF CAREER grant proposal.

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STEM Center Teaching Enhancement Grant (\$1500). *Promoting Preservice Elementary Mathematics Teachers' Success through Undergraduate STEM Research.* (2020). Project Role: Principal Investigator. This project will allow students enrolled in MATH 3381 to engage in an authentic STEM research project in which they explore digital math games and rank them in several key areas as part of a pilot study.

Odyssey Grant (\$451). *The Professional and Academic Center for Excellence (PACE).* (2019). Sam Houston State University. Travel grant for attendance at the AMTE-TX Fall Conference "Coming to Collaborate and Support Mathematics Instruction in Texas". Project Purpose: To bring what I learned back to the Mathematics and Statistics Department and share in a teaching seminar.

Assessing Knowledge and Skills in Equine Nutrition Assessment Mini-Assessment Grant (\$800). *Office of Academic Planning and Assessment.* (2019) Sam Houston State University. Project Role: Advisory. Project Purpose: To help equine science students visualize feed measurement calculations through concrete measurement laboratory experiences.

American Association of State Colleges and Universities (AASCU) High Impact Practices (HIP) Grant (\$1500). *The Center for Enhancing Undergraduate Research Experiences and Creative Activities (EURECA).* (2018). Sam Houston State University. Project Role: Principal Investigator. Project Purpose: Implement and measure effectiveness of an undergraduate research project intervention in a freshman level undergraduate mathematics course for pre-service elementary teachers.

ACUE Fellowship (Professional & Academic Center for Excellence) (\$1000). *ACUE Fellows Program—Certificate of Effective College Instruction.* (2017-2018). Sam Houston State University. Project Role: Participant. Project Purpose: Improve pedagogy in higher education.

Sherrie Reynolds Scholarship Award (Chaos and Complexity Theory SIG) (\$500). *Best Graduate Student Paper Presentation.* (2017) American Educational Research Association (AERA).

Travel Grant, School of Teacher Education and Leadership (TEAL) (\$800). *Presentations and Leadership Role at 101st American Educational Research Association (AERA) Conference.* (2017) Utah State University.

Graduate Student Travel Award, Office of Research and Graduate Studies (\$300). *Presentations and Leadership Role at 101st American Educational Research Association (AERA) Conference.* (2017) Utah State University.

Frederick Q. Lawson Fellowship Award (\$9000). *Emma Eccles Jones College of Education and Human Services.* (2016-2017). Utah State University. Project Purpose: Dissertation research completion.

School of Graduate Studies Dissertation Fellowship Award (\$5000). *Dissertation Funding.* (2016-2017). Utah State University. Project Purpose: Dissertation research completion.

Graduate Student Senate Enhancement Award (\$4000). *Utah State University Student Association (USUSA).* (2016-2017). Utah State University. Project Purpose: Dissertation research completion.

Graduate Research and Creative Opportunities (GRCO) Grant (\$1000). *Utah State University Student Association (USUSA) Dissertation Funding.* (2016). Utah State University. Project Purpose: Dissertation research completion.

Graduate Research Assistant (\$68,000). *Captivated! Young Children's Learning Interactions with iPad Mathematics Apps.* (2013-2017). Utah State University. Project Goal: build theory and knowledge about the nature of young children's ways of thinking and interacting with virtual manipulatives using touch-screen mathematics apps on the iPad. My role: code video observations of participant actions and find emerging themes. (with Principal Investigator Patricia Moyer-Packenham, Co-PI Cathy Maahs-Fladung, and the Virtual Manipulatives Research Group).

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Division A Senior Graduate Representative (AERA) (\$1800). *AERA 2017 Annual Meeting and Central Committee Meeting Travel Funding Stipend.* (2016-17) American Educational Research Association (AERA).

Division A Junior Graduate Representative (AERA) (\$800). *AERA 2016 Annual Meeting Travel Funding Stipend.* (2015-16) American Educational Research Association (AERA).

Travel Grant, School of Teacher Education and Leadership (TEAL) (\$700). *Presentation at 12th Annual Hawaii International Conference of Education (HICE).* (2014) Utah State University.

Research Travel Grant, Center for Women and Gender (\$500). *Presentation at 12th Annual Hawaii International Conference of Education (HICE).* (2014) Utah State University.

Lead Writer. (\$49,450). *Blue Sky Funding Award Mountainville Academy Solar Project.* (2012-2013). Rocky Mountain Power. Project goal: community-based renewable energy project. This funds the installation of solar panels at Mountainville Academy.

Co-Writer (\$13,500). *Technology in the Classroom Initiative.* (2012). Daniel's Fund. Project goal: Provide SMARTboard technology to seven middle school classrooms at Mountainville Academy. (with co-writer – Becky Garzella, Grants and Donations Parent Volunteer)

Co-Writer (\$2,900). *Storytelling Festival Initiative* (2012). Ashton Foundation. Project goal: Instigate a cross-curriculum storytelling program. In conjunction with money from the parent organization, the grant will help provide textbooks, a storytelling library, and interaction with professional storytellers from the Timpanogos Storytelling Festival. (with co-writer – Becky Garzella, Grants and Donations Parent Volunteer).

GRANTS SUBMITTED-AS PRINCIPAL INVESTIGATOR (Under Review)

NSF CAREER EHR CORE Research Program Grant (\$1,250,135). *Understanding the Interrelated Role School Leaders Play in Promoting Texas Rural Elementary Student Mathematics Achievement: A Complex Adaptive Systems Approach.* (2022). National Science Foundation, United States. Project Role: Principal Investigator. Project Purpose: The purpose of this study will be to examine: 1) school leaders' individual versus collective effects over a four year period in promoting four Texas educational region's 3rd-5th grade rural school students' mathematics achievement by student population group as measured by STAAR.

GRANTS SUBMITTED-AS PRINCIPAL INVESTIGATOR (Not Funded)

NSF CAREER EHR CORE Research Program Grant (\$1,208,449). *Understanding the Interrelated Role School Leaders Play in Promoting Texas Rural Elementary Student Mathematics Achievement: A Complex Adaptive Systems Approach.* (2021).

Engaging Spaces Proposal (\$53,853). **Developing an Active Learning Space:** *Developing and Active Learning Space: Pre-Service Mathematics Teacher Technology Laboratory.* (2021).

AERA Conference Proposal (\$28,873). *Addressing Wicked Problems in Education Research through Complex Systems Theories and Methods.* (2021).

Women and Minorities in Science, Technology, Engineering, and Mathematics Fields Program (WAMS) Grant (\$99,610). *National Library of Virtual Manipulative (NLVM) Reimagined: Concept Apps Beta Testing, Classroom Implementation, and Revision.* (2021).

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Institute of Education Sciences (IES) Grant (\$976,742). *Understanding the Interrelated Role School Leaders Play in Promoting Student Mathematics Achievement within Texas' Rural Elementary Schools: A Complex Adaptive Systems Approach.* (2019).

NSF CAREER EHR CORE Research Program Grant (\$931,505). *The Impact of Design Features in Digital Math Games on 14-18-Year-Old Children's Mathematics Learning: A Randomized Parallel Conversion Mixed Methods Design.* (2019). National Science Foundation (NSF) Fundamental Research in Science, Technology, Engineering and Mathematics (STEM) Education CAREER EHR Core Research Program

EHR CORE Research Program Grant (\$499,623). *The Impact of Design Features in Digital Math Games on 11-14-Year-Old Children's Mathematics Learning: A Randomized Parallel Conversion Mixed Methods Design.* (2019). National Science Foundation (NSF) Fundamental Research in Science, Technology, Engineering and Mathematics (STEM) Education EHR Core Research Program.

Faculty and Student Team (FAST) Award (\$8000). *Teaching Two-Digit Addition and Subtraction: Effective Strategies for Elementary Children Diagnosed with High-Functioning Autistic Spectrum Disorder (HFASD).* (2019). Sam Houston State University: Center for Enhancing Undergraduate Research Experiences and Creative Activities (EURECA).

Pilot Studies for Future Funding Internal Grant (\$14,771). *The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study.* (2019). Sam Houston State University: Office of Sponsored Research Programs (ORSP).

Enhanced Research Grant (ERG) (\$15,000). *They Help Students How? Teachers' Understanding of Digital Math Apps.* (2018-19). Sam Houston State University.

PRESENTATIONS

International Presentations-Scholarship

1. **Bullock, E.P.** and Goodman, R. (2022, April). *Ranking Design Features of Commercially Available 6th-8th Grade Digital Math Games: A Pilot Study.* Full Paper Session. Society for Information Technology & Teacher Education (SITE) Annual Conference. San Diego, CA.
2. Roxburgh, A., Moyer-Packenham, P. S., **Bullock, E. P.**, (2022, April). *Relationships between Students; Use of Gestures and Learning Outcomes in Digital Math Games.* Brief Paper Session. Society for Information Technology & Teacher Education (SITE) Annual Conference. San Diego, CA
3. **Bullock, E.P.** & Poth, C. (2021, October). *Practice Guidance for Mixed Methods Complexity-Informed Research.* CCS Satellite Symposium Complex Systems and Education: From Theory to Research to Practice. Online.
4. Roxburgh, A. L., Moyer-Packenham, P.S., and **Bullock, E. P.** (2021, March). *Children's Use of Systemic Functional Linguistic Metafunctions During Digital Math Gameplay.* Paper Session. The Society for Information Technology & Teacher Education (SITE) International Conference. Online.
5. **Bullock, E. P.** (2020, April). *Angle Asteroids: How Relationships Between Children's Interactions with Design Features Contribute to Learning Gains.* Full Paper—Book Chapter Session. The Society for Information Technology & Teacher Education (SITE) International Conference. New Orleans, LA.
6. **Bullock, E.P.** (2018, August). *An Explanatory Sequential Mixed Methods Study of the School Leaders' Role in Students' Mathematics Achievement Through the Lens of Complexity Theory.* MMIRA/MAXQDA 2018 Outstanding Dissertation Research Award Presentation. Mixed Methods International Research Association (MMIRA). MMIRA International Conference, Vienna, Austria.

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7. **Bullock, E. P.** (2016, July). *Preliminary Results of an Explanatory Sequential Mixed Methods Study of the School Leader's Role in Students' Mathematics Achievement Through the Lens of Chaos and Complexity Theory*. 25th Annual International Society for Chaos Theory in Psychology & Life Sciences (SCTPLS), Salt Lake City, Utah.
8. Moyer-Packenham, P. S., Shumway, J. F., **Bullock, E.**, Anderson-Pence, K., Tucker, S. I., Westenskow, A., Boyer-Thurgood, J., Gulkilik H., Watts, C. M., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2016, July). *Using Virtual Manipulatives on iPads to Promote Young Children's Mathematics Learning*. 13th International Congress on Mathematical Education (ICME), Hamburg, Germany.
9. Moyer-Packenham, P.S., **Bullock, E.**, Watts, C., Tucker, S. I., Shumway, J. F., Anderson-Pence, K. L., Westenskow, A., Boyer-Thurgood, J., Gulkilik, H. Jordan, K., (2015, April), *The Relationship Between Affordances of Virtual Manipulatives Mathematics Apps and Young Children's Learning Performance and Efficiency*. Paper Presentation, International Conference on Education in Mathematics, Science, & Technology, Antalya, Turkey.
10. **Bullock, E. P.**, Moyer-Packenham, P. S., Shumway, J. F., MacDonald, B., Watts, C. (2015, March). *Effective teaching with technology: Managing affordances in iPad apps to promote young children's mathematics learning*. Paper Presentation, Society for Information Technology and Teacher Education International Conference 2015, Las Vegas, Nevada.
11. Moyer-Packenham, P. S., Westenskow, A., Shumway, J. F., **Bullock, E.**, Tucker, S. I., Anderson-Pence, K. L., Boyer-Thurgood, J., Maahs-Fladung, C., Symanzik, J., Mahamane, S., MacDonald, B., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2014, September). *The Effects of Different Virtual Manipulatives for Second Graders' Mathematics Learning and Efficiency in the Touch-Screen Environment*. Paper Presentation, 12th International Conference of the Mathematics Education into the 21st Century Project, Herceg Novi, Montenegro.
12. Moyer-Packenham, P. S., Shumway, J., Westenskow, A., Tucker, S., Anderson, K., Boyer-Thurgood, J., & **Bullock, E.** (2014, January). *Young Children's Mathematics Interactions with Virtual Manipulatives on iPads*. Research Presentation, 12th Annual Hawaii International Conference on Education (HICE), Honolulu, Hawaii.
13. Tucker, S. I., Moyer-Packenham, P. S., Boyer-Thurgood, J. M., Anderson, K. L., Shumway, J., Westenskow, A., & **Bullock, E.** (2014, January). *The Nexus of Mathematics, Strategy, and Technology in Second-Graders' Interactions with an iPad-Based Virtual Manipulative*. Paper Session, 12th Annual Hawaii International Conference on Education (HICE), Honolulu, Hawaii.
14. Boyer-Thurgood, J., Moyer-Packenham, P. S., Shumway, J., Westenskow, A., Tucker, S., Anderson, K., & **Bullock, E.** (2014, January). *Kindergartener's Strategy Development during Combining Tasks on the iPad*. Research Presentation, 12th Annual Hawaii International Conference on Education (HICE), Honolulu, Hawaii.

National Presentations-Scholarship

1. **Bullock, E. P.** (2022, April). *Methodological Innovations for Studying Complex Adaptive Systems: An Example Using the ESLMC Design*. Paper Session. American Educational Research Association (AERA) Annual Conference. San Diego, CA.
2. Garner, J., Pennings, H., J., Kaplan, A., **Bullock, E. P.**, Koopmans, M, Trombly, C., Marchand, G. C., (2022, April). *Wickedity and Complexity in Educational Research: A Workshop to Spark Transformational Scholarship on Educational Systems*. Workshop Session. American Educational Research Association (AERA) Annual Conference. San Diego, CA.
3. Ray, A., Herron, J., **Bullock, E.P.**, Cory, B., Swarthout, M., (2022, March). *Guides for Mathematics Vocabulary: Examining the Trajectory for Elementary PSTs*. Regular Session. Research Council on Mathematics Learning (RCML) Annual Conference. Grapevine, TX.

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4. **Bullock, E.P.**, Ray, A. Cory, B., Herron, J., (2021, October). *Promoting Growth Mindset in a K-12 Online Setting*. Regular Session. School Science and Mathematics Association (SSMA) Annual Conference. Online.
5. **Bullock, E.P.** (2020, November). *Affording Pre-Service Middle Grades Mathematics Teachers' Understanding of Definite Integrals*. Paper Session. School Science and Mathematics Association (SSMA) Annual Meeting. Online.
6. Ray, A., **Bullock, E.P.**, Swarthout, M., Herron, J. (2020, November). *Examining the Development and Use of Guided Notes in a Math Content Course*. Paper Session. School Science and Mathematics Association (SSMA) Annual Meeting. Online.
7. **Bullock, E.P.** (2020, April). *Complexity in Education: Methodological Considerations*. Symposium Session. American Educational Research Association (AERA) Annual Meeting. San Francisco, CA. (Conference Canceled).
8. **Bullock, E.P.**, Roxburgh, A., Moyer-Packenham, P. S., Bektas, E., Webster, J. (2020, April). *The Importance of Quality of Design Features in Digital Math Games*. Paper Session. American Educational Research Association (AERA) Annual Meeting. San Francisco, CA. <http://tinyurl.com/wgdwqk3> (Conference Canceled).
9. **Bullock, E.P.**, Roxburgh, A.L., Moyer-Packenham, P.S., Bektas, E. (2019, November). *The Impact of High-Quality Features in Digital Math Games on Children's Learning*. Paper Session. School Science and Mathematics Association (SSMA) Annual Meeting. Salt Lake City, UT.
10. Swarthout, M. and **Bullock, E. P.** (2019, November). *An Intervention for the Invert-and-Multiply Procedure of Fraction Division Among Pre-Service Teachers*. Paper Session. School Science and Mathematics Association (SSMA) Annual Meeting. Salt Lake City, UT.
11. **Bullock, E.P.** (2019, April). *Dissertation Award Presentation*. Invited Speaker Session: The Mixed Methods Research SIG Dissertation Award and Beyond. American Educational Research Association (AERA) Annual Meeting, Toronto, Ontario, Canada.
12. **Bullock, E.P.** (2019, April). *2018 SERA Bruce Thompson Outstanding Paper Award: Preschool Children's Seriation Learning Progressions While Interacting with Touch-Screen Math Apps*. Special Session of State and Regional Educational Research Associations Outstanding Paper Winners. American Educational Research Association (AERA) Annual Meeting, Toronto, Ontario, Canada.
13. Moyer-Packenham, P. S. Ashby, M. J., Litster, K., **Bullock, E. P.**, Shumway, J. F., Clarke-Midura, J. E., (2019, April). *Design Features that Promote Children's Awareness of the Affordances in Digital Math Games*. Paper Session: Designing for Learning in Multimedia and Virtual Environments. American Educational Research Association (AERA) Annual Meeting, Toronto, Ontario, Canada.
14. Litster, K., Moyer-Packenham, P. S., Lommatsch, C. W., Ashby, M. J., Roxburgh, A. L., **Bullock, E. P.**, Shumway, J. F., Speed, E., Covington, B., Hartmann, C., Clark-Midura, J. E., Skaria, J., Westenskow, A, MacDonald, B., Symanzik, J., Jordan, K. (2019, April). *Relationship Between Children's Enjoyment, Mathematics Awareness, Strategies, and Learning with Digital Games*. Poster Session: Motivation and Self-Regulation in Educational Technology Contexts. American Educational Research Association (AERA) Annual Meeting, Toronto, Ontario, Canada.
15. Litster, K., Lommatsch, C. W., Moyer-Packenham, P. S., Novak, J. R., Ashby, M. J., Roxburgh, A. L., **Bullock, E. P.** (2019, April). *Influence of Prior Attitudes, Knowledge, and Digital Game Use on Children's Perceptions of Affordances and Mathematics Performance*. Poster Session: Mathematics Education Research Poster Session. American Educational Research Association (AERA) Annual Meeting, Toronto, Ontario, Canada.
16. **Bullock, E.P.** (2018, April). *Differences in Principal Decisions and Actions Impacting School-Wide Student Mathematics Performance*. Paper Session. American Educational Research Association (AERA) Annual Meeting, New York, NY.

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17. **Bullock, E. P.**, Shumway, J. F., Watts, C., Moyer-Packenham, P. S. (2018, April). *Preschool children's Learning Progressions While Interacting with Touch-Screen Mathematics Apps and How Affordance Access Matters*. Paper Session. American Educational Research Association (AERA) Annual Meeting, New York, NY.
18. Moyer-Packenham, P. S. Watts, C., Litster, K., **Bullock, E. P.**, Shumway, J. F., Ashby, J. (2018, April). *Affordances of Digital Games for Mathematics Learning in Grades 3-6*. Paper Session. American Educational Research Association (AERA) Annual Meeting, New York, NY.
19. **Bullock, E. P.** (2017, April). *The School Leaders' Role in Students' Mathematics Achievement Through the Lens of Complexity Theory*. Roundtable Paper Presentation—Roundtable Session: Teaching, Learning and Educational Leadership from a Complexity Perspective. American Educational Research Association (AERA) Annual Meeting, San Antonio, TX.
20. Moyer-Packenham, P. S., **Bullock, E. P.**, Shumway, J. S., Tucker, S. I., Watts, C. M., Westenskow, A., Anderson-Pence, K. L., Boyer-Thurgood, J. Jordan, K. (2017, April). *Affordances of Virtual Manipulative Math Apps: How They Help and Hinder Young Children's Learning*. Paper Presentation. American Educational Research Association (AERA) Annual Meeting, San Antonio, TX
21. Watts, C., Moyer-Packenham, P.S., Tucker, S.I., **Bullock, E.P.**, Shumway, J.F., Westenskow, A., Boyer-Thurgood, J., Anderson-Pence, K., Mahamane, S., Jordan, K. (2017, April). *Learning Progression Shifts: How Touch-Screen Virtual Manipulative Mathematics App Design Promotes Children's Productive Struggle*. Poster Presentation—Poster Session: Expanding the Scope of Learning with Innovative Technologies. American Educational Research Association (AERA) Annual Meeting, San Antonio, TX.
22. Moyer-Packenham, P. S., **Bullock, E. P.**, Shumway, J. S. (2017, April). *The Impact of Technology Affordances in Children's Mathematical Learning*. Paper Presentation—Paper Session: Achieving the Promise in Digital Leadership. National Council of Teachers of Mathematics (NCTM) Research Conference and Annual Meeting, San Antonio, TX
23. **Bullock, E. P.** (2016, November). *The School Leaders' Role in Students' Mathematics Achievement Through the Lens of Complexity Theory*. Paper Presentation. 30th Annual University Council for Educational Administration (UCEA) Convention, Detroit, Michigan.
24. **Bullock, E. P.** (2016, November). *GSS The School Leaders' Role in Students' Mathematics Achievement Through the Lens of Complexity Theory*. Graduate Student Paper Presentation. 30th Annual University Council for Educational Administration (UCEA) Convention, Detroit, Michigan.
25. Moyer-Packenham, P. S., **Bullock, E.**, Shumway, J. F., Tucker, S. I., Watts, C. M., Westenskow, A., Anderson-Pence, K., Maahs-Fladung, C., Boyer-Thurgood, J., Gulkilik H., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2016, April). *Using Virtual Manipulatives on iPads to Promote Young Children's Mathematics Learning*. American Educational Research Association (AERA) Annual Meeting, Washington, D.C.
26. **Bullock, E. P.** (2015, Nov.). *Growing Teachers' Mathematics Pedagogical Content Knowledge Through the Expectation of Action Research in the Classroom*, Graduate Student Abstract Exchange Round Table Session, Graduate Student Summit, University Council for Educational Administration (UCEA), San Diego, CA
27. Moyer-Packenham, P. S., Shumway, J. F., **Bullock, E.**, Tucker, S. I., Anderson-Pence, K., Westenskow, A., Boyer-Thurgood, J., Maahs-Fladung, C., Symanzik, J., Mahamane, S., MacDonald, B., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2014, April). *Young children's learning performance and efficiency when using virtual manipulative mathematics iPad apps*. Paper presented at the annual National Council of Teachers of Mathematics Research Conference (NCTM), New Orleans, Louisiana.

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28. Moyer-Packenham, P. S., Shumway, J., Tucker, S., Boyer-Thurgood, J., Hunt, J., & **Bullock, E.** (2014, April). *Children's Mathematics Interactions with Virtual Manipulatives on iPads*. Paper Presentation, National Council of Teachers of Mathematics (NCTM) Research Conference, New Orleans, Louisiana.

State & Regional Presentations

1. **Bullock, E.P.** (2022, February). *Do MORE than Just Finish: How to Thrive During the Dissertation Process and Write a Well-Funded, Award-Winning Dissertation that Propels You into A Sustainable Research Agenda and Career*. Paid Workshop Session. Southwest Educational Research Association (SERA) Annual Meeting. New Orleans, LA.
2. **Bullock, E.P.**, Choquette, J., Morales, E. (2022, February). *Ranking Design Features of Commercially Available 6th-8th grade Digital Math Games: Ongoing Preliminary Results*. Paper Session. Southwest Educational Research Association (SERA) Annual Conference. New Orleans, LA.
3. **Bullock, E.P.**, Ray, A., Herron, J., Cory, B. (2022, February). *PHiSMAOS: Promoting Higher Mathematics Achievement in Online Settings*. Paper Session. Southwest Educational Research Association (SERA) Annual Conference. New Orleans, LA.
4. **Bullock, E.P.**, (2021, December). *The Linguistic Challenges of Writing (or Selecting) Reliable Contextualized Word Problems in School Settings*. Workshop Session. Conference for the Advancement of Mathematics Teaching (CAMT). Online.
5. **Bullock, E.P.**, Cory, B., & Herron, J. (2021, September). *Promoting Higher Mathematics Achievement in Online Settings: Introducing the PHiSMAOS Conceptual Framework*. Research Session. Association for Mathematics Teacher Educators-Texas (AMTE-TX) Annual Meeting. Online.
6. **Bullock, E.P.**, (2021, August). *Grading for Growth While Promoting Higher Student Mathematics Achievement in Online Settings*. Regular Session. 18th Annual SHSU Teaching and Learning Conference, Huntsville, TX.
7. **Bullock, E.P.** (2021, June). *Strategies for Success When Teaching Math in a Digital Environment*. Grassroots Webinar Session. Texas State University System (TSUS) Faculty Development Day for Digital Education. Online.
8. **Bullock, E.P.** (2021, February). *Do MORE than Just Finish: How to Thrive During the Dissertation Process and Write a Well-Funded, Award-Winning Dissertation that Propels You into A Sustainable Research Agenda and Career*. Paid Workshop Session. Southwest Educational Research Association (SERA) Annual Meeting. Online.
9. **Bullock, E.P.**, Choquette, J., McCormick, P., Goodman, R. (2021, February). *Ranking Design Features of Commercially Available 6th-8th Grade Digital Math Games: Preliminary Results of a Pilot Study*. Paper Session. Southwest Educational Research Association (SERA) Annual Meeting. Online.
10. **Bullock, E. P.** (2020, August). *Grading for Growth: A Pragmatic Approach to Increasing Student Success and Teacher Satisfaction*. 17th Annual SHSU Teaching and Learning Conference, Huntsville, TX.
11. Webster, J. S. and **Bullock, E.P.** (2020, February). *Affording Conceptual Understanding of Definite Integrals: A Phenomenological Study of Undergraduate Student's Experiences with A GeoGebra Application*. Paper Session. Southeast Educational Research Association (SERA) Annual Meeting. Arlington, TX.
12. **Bullock, E.P.** (2019, September). *Implementing Research Projects in Freshman Preservice Teacher Mathematics Courses: A Practical Guide*. Workshop Session. Association for Mathematics Teacher Educators-Texas (AMTE-TX) Annual Meeting. Waco, TX.
13. Van Raalte, L., **Bullock, E. P.**, Doleshal, Z., Pecan, R. (2019, August). *Evaluating High Impact Research Assignments for Undergraduates: Incorporating Research in Freshman/Sophomore Classes*. 16th Annual SHSU Teaching and Learning Conference, Huntsville, TX.

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14. **Bullock, E.P.** and Swarthout, M. B. (2019, July). *Affording a Transparent Justification for the Invert-and-Multiply Procedure of Division of Fractions Among Pre-Service Teachers*. Workshop Session. Conference for the Advancement of Mathematics Teaching (CAMT), San Antonio, TX.
15. **Bullock, E.P.** (2019, February). *The Role of School Leaders in Student Mathematics Achievement: An Argument for Random Forests and Variable Importance Plots*. Paper Session. Southeast Educational Research Association (SERA) Annual Meeting, San Antonio, Texas, USA.
16. Van Raalte, L., Pecan, R., **Bullock, E.P.**, Murfin, A. (2018, August). *Incorporating High Impact Research for Undergraduates: A First Introduction to the Research Process for Novice Students*. Workshop Presentation. Sam Houston State University (SHSU) Teaching & Learning Conference, Huntsville, TX.
17. **Bullock, E.P.** (2018, February). *Preschool Children's Seriation Learning Progressions While Interacting with Touch-Screen Math Apps*. Paper Session. Southwest Educational Research Association (SERA) Annual Meeting, New Orleans, LA.
18. **Bullock, E.P.** (2016, November). *Addressing the Standards Equitably in a Multi-Grade Expeditionary Setting*. Workshop Presentation. The Utah Council of Teachers of Mathematics (UCTM) Annual Conference, Salt Lake City area, Utah.
19. **Bullock, E. P.** (2016, June). *Effective Teaching with Technology: Managing Affordances in iPad Apps to Promote Young Children's Mathematics Learning*. 10th Annual Utah Association of Public Charter Schools (UAPCS) Conference, Layton, Utah.
20. **Bullock, E.P.** (2016, June). *Teaching Algebraic Reasoning Through the Criteria for Representation-Based Proof*. 10th Annual Utah Association of Public Charter Schools (UAPCS) Conference, Layton, Utah.
21. **Bullock, E.P** & Kidd, J. (2015, Nov.). *A Model of Principles to Actions: Growing GreenWood Teachers' Mathematics Pedagogical Content Knowledge Through Action Research—Results so Far*, Workshop Presentation, Utah Council of Teachers of Mathematics Annual State Conference (UCTM), Lehi, Utah.
22. **Bullock, E.P.** and Kidd, J. (2015, June). *Growing GreenWood Elementary Teachers' Mathematics Pedagogical Content Knowledge Through Saxon Math and Action Research in the Classroom*, Workshop Presentation, Utah Association of Public Charter Schools (UAPCS) Annual Conference, Provo, Utah.
23. **Bullock, E.**, (2014, November) *Orchestrating Whole Class Discourse as Part of a Problem-Solving Intervention Group in a 5th grade Classroom: One Practitioner/Researcher's Experience*. Workshop Presentation, Utah Council of Teachers of Mathematics Annual State Conference (UCTM), Layton, Utah.
24. **Bullock, E.**, (2014, November) *Subitizing and Counting: Foundations for Pattern Building and Algebraic Reasoning*. Workshop Presentation, Utah Council of Teachers of Mathematics Annual State Conference (UCTM), Layton, Utah.
25. **Bullock, E.P.** (2014, June). *Don't Throw the Baby Out with the Bath Water: A School Leader's Guide to Developing Elementary Teachers' Mathematics Capacity and Pedagogy to Meet the Needs of the CCSSM*, Workshop Presentation, Utah Association of Public Charter Schools (UAPCS) Annual State Conference, Layton, Utah.
26. **Bullock, E.P.**, Spencer, B., Ashby, J., Myers, K, & Manderino, K. (2014, June). *Saxon Math in the Middle Grades: A Content Analysis*, Workshop Presentation, Utah Association of the Public Charter Schools (UAPCS) Annual State Conference, Layton, Utah.
27. **Bullock, E.P.** (2012). *Saxon Math and the Common Core*, Workshop Presentation, Utah Association of Public Charter Schools (UAPCS) Annual State Conference, Sandy, Utah.

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28. **Bullock, E.P.** and Fountaine, C. (2008, June). *Ability Grouping: The Good, the Bad, and the Ugly: Mathematics Ability Grouping at Mountainville Academy: A Case Study*, Workshop Presentation, Utah Association of Public Charter Schools (UAPCS) Annual State Conference, Provo, Utah.

Professional Presentations – Panels

1. Panelist, (2019, August). New Faculty Investment (NFI). Sam Houston State University New Faculty Panel, SHSU, Huntsville, TX.
2. Panelist, (2018, August). *New Faculty Investment (NFI)*. Sam Houston State University New Faculty Panel, SHSU, Huntsville, TX.
3. Panelist, (2017, April). *Graduate Student Orientation: Navigating AERA's Multiple Offerings*. Invited Speaker Session. American Educational Research Association (AERA) Annual Meeting, San Antonio, TX.
4. Panelist, (2016, September). *Welcome to AERA Division A: Who We Are, What We Do, And How to Get Involved*. Connect Series Panel, Online, Live Interactive Broadcast, Division A, American Educational Research Association (AERA).
5. Panelist, (2015, November), *What Are Utah Charter Schools?* Utah State University Charter School Panel, USU, Logan, Utah.
6. Panelist, (2015, October), *Sharing PhD Experiences* Division A. Connect Series Panel, Online, Live Interactive Broadcast, Division A, American Educational Research Association (AERA).
7. Panelist, (2015, July), *What Are Utah Charter Schools?* Utah State University Charter School Panel, USU, Logan, Utah.
8. Presenter, (2012, June), *Why Do You Want to Be a Charter School Principal?* Principal's Candidate Seminar, USOE, Provo, Utah.
9. Panelist, (2010, May). *Principal Training Panel*. Brown Bag Panel Discussion, USOE, Salt Lake City, Utah.

International Presentations-Scholarship (Pending)

1. **Bullock, E. P.** and Poth, C. (2022, August). *Practical Guidance for Complexity-Informed Mixed Methods Research Study Design*. Theoretical/Methodological Session. 2022 Mixed Methods International Research Association (MMIRA) Conference. Online.

National Presentations-Scholarship (Pending)

1. **Bullock, E. P.**, Ray, A., Swarthout, M. (2022, October). *Designing a Valid and Reliable Classroom Mathematics Vocabulary Assessment for Pre-Service Teachers*. Regular Session. School Science and Mathematics Association (SSMA) Annual Conference. Missoula, MT.
2. Gupta, D. and **Bullock, E. P.** (2022, October). *Assessing the Effectiveness of Middle School Digital Mathematics Games for Teaching*. Regular Session. School Science and Mathematics Association (SSMA) Annual Conference. Missoula, MT.

State/Regional Presentations-Scholarship (Pending)

1. **Bullock, E. P.**, Ray, A., Swarthout, M., Cory, B. (2022, August). *Designing Valid and Reliable Classroom Assessments for Undergraduate Students*. Regular Session. SHSU Teaching and Learning Annual Conference-22 (TLC22), Huntsville, TX.

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2. **Bullock, E. P.** (2022, August). *Desmos: Impacts on Closing Achievement Gaps and Implications for Mathematics Teacher Educators*. Regular Session. Association of Mathematics Teacher Educators-Texas (AMTE-TX), Corpus Christi, TX.

National Presentations-Scholarship (Under Review)

1. **Bullock, E. P.**, McKie, K. A., Anderson, R., Poth, C. (2023, April). *Utilizing Visualizations of Complex Phenomena As a Way to Justify Data Sources and Sampling*. Workshop Session. American Educational Research Association (AERA), Chicago, IL.

State/Regional Presentations-Scholarship (Under Review)

RESEARCH SUPERVISION

Graduate Students

Doctoral Dissertation Committees:

Brandon Myers (2021-present); Sam Houston State University, Committee Member, Topic: *Impact of Active Learning in Online Developmental Mathematics Courses*.

Kendis Smith (2020-present); Sam Houston State University, Co-Chair, Topic: *Investigating Teachers' Online Experiences During the COVID19 Pandemic*.

Celissa Counterman (2019-2020); Sam Houston State University, Committee Member, Topic: *Instrumental Methods in Developmental Methods at a Public Two-Year College in the Northeast*.

Capstone Projects:

Amanda Laskoski (Summer, 2021); Sam Houston State University, Topic: *The Impact of the COVID-19 Pandemic on One East Texas Independent School District's Student Mathematics Performance*

Michelle Deaton (Spring, 2020); Sam Houston State University, Topic: *Difference in Math Anxiety in Pre-Service Elementary Teachers Before and After a Foundations of Mathematics Course which Emphasizes Growth Mindset*

Elif Bektas (Spring, 2019); Sam Houston State University, Topic: *Connecting the Dots for Learning: Investigating the Role of Children's Awareness of Mathematics Content Explored through Gaming Features of Digital Math Apps on Learning*

Research Assistants:

Rebecca Goodman (2020-present); Sam Houston State University, Research Project. Various.

Karl Marbach (2020-2021); Sam Houston State University, Research Project: *National Library of Virtual Manipulatives (NLVM) Reimagined*.

Michelle Deaton (2019-2020); Sam Houston State University, Research Project: *The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study*. Resulted one publication.

Joseph Webster (2018); Sam Houston State University, Research Projects: *Affording Understanding of Calculus Concepts: The Role of GeoGebra Features in Preservice Secondary Teachers' Learning of Definite Integrals*; Resulted in one conference presentation and one publication.

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Elif Bektas (2017-present); Sam Houston State University, Research Projects: *Affording Understanding of Calculus Concepts: The Role of GeoGebra Features in Student Learning of Definite Integrals*, *Making Sense of Division of Fractions: What Affords Understanding among Undergraduate Pre-Service Elementary Teachers & Affordances of Virtual Manipulatives Touch-Screen Apps for Mathematics Learning*. Resulted in two conference presentations and one publication.

Sumeyye Aksoy (2018); Sam Houston State University, Research Project: *It Helps How? Teachers' Understanding of Digital Math Apps*.

ASPIRE Scholars

Destiny Little (2020-2021); Sam Houston State University

Undergraduate Students

Honors Projects

Shelby Samples (Spring, 2019); Sam Houston State University, Topic: *Developing a Kindergarten Problem Solving Lesson Plan Based on TEKS Standards*

Jocelyn Robinson (Fall, 2017); Sam Houston State University, Topic: *Linear Algebra Applications: Linear Models in Business, Science, and Engineering*

Megan Kimes (Fall, 2017); Sam Houston State University, Topic: *Mathematics Anxiety in Pre-Service Elementary Teachers*

Research and/or Teaching/Student Assistants:

Segovia, Ashlyn (2022); Sam Houston State University, Research Project: *Barriers to Student Success in Online Settings: A Literature Review*

Morales, Emilio (2021); Sam Houston State University, Research Project: *The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study*; Resulted in two conference presentations and one publication.

Choquette, Jillian (2020-21); Sam Houston State University, Research Project: *The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study and The Effects of Student Literature Review Research on Preservice Elementary Mathematics Teachers' Conceptual and Procedural Knowledge*; Resulted in four conference presentations and one publication.

Miller, Sarah (2021); Sam Houston State University, Research Project: *Teaching Innovations Grant*.

Laudig, Melissa (2021); Sam Houston State University, Research Project: *Teaching Innovations Grant*.

Palmer, April (2021); Sam Houston State University, Research Project: *Assessment Mini-Grant*.

Alonso Garcia, Luz (2021); Sam Houston State University, Research Project: *Assessment Mini-Grant*.

Angulo, Melissa (2021); Sam Houston State University, Research Project: *Teaching Innovations Grant*.

Cordova, Evette (2021); Sam Houston State University, Research Project: *Teaching Innovations Grant*.

Fonseca, Elizabeth (2021); Sam Houston State University, Research Project: *Teaching Innovations Grant*.

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McCormick, Prestin (2020); Sam Houston State University, Research Project: *The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study*; Resulted in two conference presentations and one publication.

Tortorici, Camille (2019); Sam Houston State University, Research Project: *The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study*.

Faircloth, Michael (2019); Sam Houston State University, Research Project: *The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study*

Petersen, Amanda (2019); Sam Houston State University, Research Project: *The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study*

Ferguson, Kylie (2019); Sam Houston State University, Research Project: *The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study*

Harrison, Alexis (2019); Sam Houston State University, Research Project: *The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study*

Duncan, Hailey (2018); Sam Houston State University, Research Project: *The Effects of Student Literature Review Research on Preservice Elementary Mathematics Teachers' Conceptual and Procedural Knowledge*.

Katherine Fargo (2017; 2019); Sam Houston State University, Research Project: *It Helps How? Teachers' Understanding of Digital Math Apps; The Impact of Design Features in Digital Math Games on 11-14 Year-Old Children's Mathematics Learning: A Pilot Study*

Alexandria Burns (2017); Sam Houston State University, Research Project: *It Helps How? Teachers' Understanding of Digital Math Apps*

SERVICE

INTERNATIONAL LEADERSHIP AND SERVICE

Global Conference Chair (2021-present)	Mixed Methods International Research Association (MMIRA).
Committee Member (2019-2021)	Outstanding Dissertation Committee, Mixed Methods International Research Association (MMIRA).
Reviewer (2020-Present)	<i>Journal of Mixed Methods Research</i> (JMMR). Sage Journals.
Reviewer (2020-Present)	<i>The International Journal for Technology in Mathematics Education</i> (IJTME). Research Information, Ltd.
Reviewer (2020-Present)	<i>Journal of International Society of Teacher Education</i> (JISTE), online

NATIONAL LEADERSHIP AND SERVICE

Associate Editor (2021-Present)	School Science and Mathematics Journal. School Science and Mathematics Association (SSMA).
Awards Committee Chair (2021-Present)	Complexity Theories in Education Special Interest Group (SIG). American Educational Research Association (AERA).

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Program Chair (2018-2021)	Complexity Theories in Education Special Interest Group (SIG). American Educational Research Association (AERA).
Reviewer (2017-Present)	<i>Journal of Educational Research (JER)</i> , Taylor and Francis
Session Chair (2017)	<i>Leadership in High-Poverty Schools</i> . Roundtable Session. American Educational Research Association (AERA) Annual Meeting, Washington, D.C.
Session Co-Chair (2017)	<i>Division A Fireside Chat—STEM Education and School Leadership: Equitably Accessing the Playing Field</i> . Special Session, American Educational Research Association (AERA) Annual Meeting, San Antonio, TX.
Discussant (2016)	<i>Mathematics and Technology-Based Learning Environments</i> . Paper Session, American Educational Research Association (AERA) Annual Meeting, Washington, D.C.
Session Co-Chair (2016)	<i>Division A Fireside Chat—Politics and Power in Community Policing and Community Schooling</i> . Special Session, American Educational Research Association (AERA) Annual Meeting, Washington, D.C.
Session Co-Chair (2015)	<i>AERA Division A & L Graduate Student Breakfast: Publish and “Live”: Taking the Fear out of Publishing</i> . Special Session, University Council for Educational Administration (UCEA), San Diego, CA.

REGIONAL LEADERSHIP AND SERVICE

Program Chair/President-Elect (2022-Present)	<i>Southwest Educational Research Association (SERA)</i> . Annual Conference.
Associate Editor (2022-Present)	<i>Journal of Mathematics Teacher Education in Texas (JMTET)</i> . Association of Mathematics Teacher Educators in Texas (AMTE-TX).
Board Trustee, (2019-2022)	<i>Southwest Educational Research Association (SERA)</i> . Member-at-large. Graduate Student Liaison and Registration Desk. Help with organizational aspects of the annual conference.
Committee Member (2019-Present)	Outstanding Paper Award Committee, Southwest Educational Research Association (SERA).
Discussant (2019-present)	Multiple Paper Sessions. Southwest Educational Research Association (SERA) Annual Meeting, San Antonio, TX.

STATE AND LOCAL LEADERSHIP AND SERVICE

Board Trustee (2021-present)	<i>SHSU Charter School</i> . Help oversee the fidelity of charter implementation, ensure fiscal responsibility, practice sound governance, and ensure adherence to laws and charter requirements regarding employees, students, and the school environment. Protect the public’s interests and ensure that the schools are organizationally stable.
Mentor (2021)	<i>Krause Children’s Residential Center</i> . Serve as a role model to a teen who needs a friend one hour a week for approximately six to nine months per child.
Board Trustee	<i>Thomas Edison Charter Schools—North and South Campus</i> . (Academic

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(2014-2017)

Achievement Committee) Help oversee the fidelity of charter implementation, ensure fiscal responsibility, practice sound governance, and ensure adherence to laws and charter requirements regarding employees, students, and the school environment. Protect the public's interests and ensure that the schools are organizationally stable. Chair: Academic Excellence Committee

Committee Member
(2013-2014)

Utah State Office of Education Policy Advisory Committee on Assessment. Represent Utah Public Charter Schools at state meetings. Collaborate with traditional public-school representatives, state office representatives, and political representatives in the development and implementation of state-wide assessment systems. Meet monthly, or as needed to advise on state standardized assessment needs and/or changes.

PROFESSIONAL SERVICE—INSTITUTIONAL

SAM HOUSTON STATE UNIVERSITY Institutional Service—University Level

Search Committees

- Search Committee Member: Mathematics Education Faculty, Mathematics and Statistics Department, College of Science and Engineering (COSET) (2019-2020).

Guest Lectures

- Guest Lecture, EDPY 604 Mixed Methods Approaches to Educational Research (2021, February). For Cheryl Poth, Professor, Department of Educational Psychology, University of Alberta, Edmonton.
- Guest Lecture, EDPY 604 Mixed Methods Approaches to Educational Research (2020, January). For Cheryl Poth, Professor, Department of Educational Psychology, University of Alberta, Edmonton.
- Guest Lecture, EDPY 604 Mixed Methods Approaches to Educational Research (2019, January). For Cheryl Poth, Professor, Department of Educational Psychology, University of Alberta, Edmonton.

Institutional Service—College/Department Level College of Science and Technology (COSET)

Graduate Coordinator, MA in Mathematics Program (2019-present)

Responsibilities include directing the MA in Mathematics Program, which include 36 hours of coursework, a graduate research capstone project, and a comprehensive oral examination; marketing the programs and recruiting students to the programs; advising graduate students; and direct oversight for course development and program evaluation and assessment.

Committee Membership

- COSET Assessment Advisory Group Member (2021-present)
- COSET Diversity, Equity, and Inclusion Committee Member (2020-present)
- Policy Committee Member: Mathematics and Statistics Department (2019-present).

Guest Lectures

- Guest Lecture, ANMLTEC 3131T Equine Nutrition and Feeding (2018, September). For Jessica Bedore, Assistant Professor, Department of Agricultural Sciences, Sam Houston State University.

Other College-Level Service/Presentations

- Colloquium Teaching Seminar Presentation, *Building Student Support and Community Online for Both Face-to-Face and Online Courses*. Mathematics and Statistics Department (2019, November).
- Colloquium Teaching Seminar Presentation, *Growing through Reflective Teaching Observations: Who? What? Where? When? Why? How?* with Mary Swarhout. Mathematics and Statistics Department (2018, November).

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PROFESSIONAL AFFILIATIONS & LEADERSHIP ROLES

AMERICAN EDUCATIONAL RESEARCH ASSOCIATION (AERA)

- Complexity Theories in Education Special Interest Group (SIG) Award Committee Chair (2021-present).
- Complexity Theories in Education SIG Program Chair (2018-2021).
Responsibilities include: All aspects of program coordination for the Complexity Theories in Education SIG's part of the AERA Annual Program.
- Division A Senior Graduate Representative/AERA Graduate Student Council Member (2016-2017)
- Division A Junior Graduate Representative (2015-2016)
- Division A Administration, Organization & Leadership
- Division C Learning and Instruction
- SIG Chaos and Complexity Theories
- SIG Technology, Instruction, Cognition, and Learning
- SIG Research in Mathematics Education
- SIG Mixed Methods
- Member (2014-present)

MIXED METHODS INTERNATIONAL RESEARCH ASSOCIATION (MMIRA)

- Global Conference Chair (2021-present)
- Committee Member, Outstanding Dissertation Committee (2019-2021)
- MOOC Module contributor, Season 3 (Complexity in Mixed Methods Research)
- Member (2017-present)

SOUTHWEST EDUCATIONAL RESEARCH ASSOCIATION (SERA)

- Program Chair/President-Elect (2022-present)
- Board Trustee, Member-at-Large (2019-2022)
- Member (2017-present)

RESEARCH COUNCIL OF MATHEMATICS LEARNING (RCML)

- Member (2021-present)

SOCIETY FOR CHAOS THEORY IN PSYCHOLOGY & LIFE SCIENCES (SCTPLS)

- Member (2016-present)

NATIONAL COUNCIL OF TEACHERS OF MATHEMATICS (NCTM)

- Member (2001-present)

SOCIETY FOR INFORMATION TECHNOLOGY AND TEACHER EDUCATION (SITE)

- Member (2015-present)

ASSOCIATION FOR MATHEMATICS TEACHER EDUCATORS (AMTE)

- Member (2017-present)

ASSOCIATION FOR MATHEMATICS TEACHER EDUCATORS OF TEXAS (AMTE-TX)

- Editor, JMTET (2022-present)
- Member (2017-present)

UTAH COUNCIL OF TEACHERS OF MATHEMATICS (UCTM)

- Member (2009-2017)

UTAH ASSOCIATION OF PUBLIC CHARTER SCHOOLS (UAPCS)

- Member (2009-2017)

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PROFESSIONAL DEVELOPMENT

2022 Participant, Texas Women in Higher Education (TWHE) Annual Conference.

2021 Participant, Propensity Score Analysis, Statistical Horizons, 3-day online workshop.

2021 Participant, Faculty Learning Community: Engaging Classrooms, Topic: *Online Education*

2021 Participant, “Adding Images to Your Blackboard Course”, SHSU Online.

2021 Participant, Engaging Explorations, Sam Houston State University.

2021 Participant, The TSUS Faculty Development Day for Digital Education, SHSU Online.

2021 Participant, “Gradescope Workshop”, STEM Center, SHSU.

2021 Participant, We LEAD Virtual Book Club reading “Executive Presence: The Missing Link Between Merit and Success” by Sylvia Ann Hewlett, Sam Houston State University (SHSU).

2020-21 Participant, “SHSU Faculty Huddle”, Professional & Academic Center for Excellence (PACE), Sam Houston State University (SHSU).

2020 Participant, “Getting to Know Blackboard’s New Content Editor”; “Protecting and Proctoring Tests with Respondus Lockdown Browser & Monitor”; “Uploading Tests into Blackboard Respondus Campus Wide” ; “Monitoring Attendance and Participation in Blackboard” Workshops, SHSU Online.

2020 Participant, “PIVOT Training”, The Office of Research and Sponsored Programs (ORSP), Sam Houston State University (SHSU).

2020 Participant, “Using Factor Analysis for Survey Design and Validation”, American Educational Research Association (AERA).

2020 Participant, “Introduction to Systematic Review and Meta-Analysis”, American Educational Research Association (AERA).

2020 Participant, “Writing Successful NSF CAREER Award Proposals”, The Office of Research and Sponsored Programs (ORSP), Sam Houston State University (SHSU).

2019 Participant, Online Course Redesign and Faculty Certification Program, Sam Houston State University (SHSU).

2018 Participant, Division C New Faculty Mentoring Program, American Educational Research Association (AERA). New York, NY. Mentor: Paul A. Cobb, Vanderbilt University

2017-18 ACUE Fellow, Association of College and University Educators (ACUE) Course in Effective Teaching Practices, Sam Houston State University (SHSU).

SOFTWARE SKILLS

Proficient in the following mathematics/statistical analysis software/code:

- SPSS
- MAXQDA Analytics Pro
- NVIVO
- Adobe Illustrator
- MatLab

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- LaTek
- Wolfram Mathematica
- Geometer's SketchPad
- GeoGebra
- Desmos
- R