**AUBURN UNIVERSITY**

1. **Standard Biographical Data Sheet for Submission with Promotion and Tenure Review**

**Name:** Megan E. Burton, Ph.D.

**Department:** Curriculum and Teaching **College:** Education

**Present Rank:** Associate Professor **Year in Present Ran**k: 5.5

**Year in Faculty Service at AU:** 8 **Year in Faculty Service Elsewhere:** 5.5

**Type of Current Appointment:** Tenured

**Graduate Faculty Status:** Level 2 **Date Awarded:** April 2013

**Date Renewed:** To be renewed Spring 2020

**Education:**

**Institution Degree Major Date Awarded**

The University of Alabama Ph.D. Elementary Education August 2006

Kennesaw State University M.Ed. Early Childhood Education December 1998

Auburn University B.S. Elem. Ed. (Math) March 1994

**Professional Experience:**

**Institution Rank Period of Appointment**

Auburn University Associate Professor August 2014- present

Auburn University Assistant Professor January 2012-August 2014

The University of South Carolina Assistant Professor August 2006-December 2011

The University of Alabama Teacher in Residence August 2004-May 2006

Shelby County Schools Teacher (grades 2 & 4) August 1998-May 2004

Gwinnett County Schools Teacher (grade 2) August 1997-May 1998

Cherokee County Schools Teacher (grades 1 & 3) August 1994-May 1997

I have reviewed (except letters) the contents submitted in the attached dossier:

Signature: Date:

**b.** **Instruction Research Outreach Service**

2020 60% 25% 10% 5%

2019 48% 25% 10% 17%

2018 48% 25% 10% 17%

2017 48% 25% 10% 17%

**c. HONORS AND AWARDS**

**2020 Elected President of Association of Mathematics Teacher Education-** Nominted by a colleague and elected by membership of this professional organization.

**2014 Auburn University Inramural Exploratory Grant Seed Grant**: Developing a Mathematical Teaching Anxiety Instrument Co-PIs: Michel Smith, Margaret Flores, **Megan Burton,** & Vanessa Hinton$8,000.

**2014 Kennesaw State University Distinguished Alumni Award.** Nominee for the Bagwell College of Education and selected as one of three distinguished alumni for the university at large. This is based on professional achievements, community activities, and exemplifying the ideals and mission of Kennesaw State University.

**2011 National Association for Professional Development Schools Award for Exemplary Professional Development School Achievement**. This award was given to the local elementary school, Rice Creek Elementary School, where I served as a university faculty liaison, taught my mathematics methods courses, supervised interns, and worked with teachers on action research projects.

**2009 South Carolina Educators for the Practical Use of Research Distinguished Paper Award.** For Vogler, K. & Burton, M. (April 2009) *Mathematics teachers’ instructional practices in an era of high stakes testing.* Selected as the outstanding paper. Received a cash prize, a certificate, and then presented the paper as a representative for the state organization at the American Educational Researchers’ Association conference.

**2005-2006 Outstanding Research for a Graduate Student in Elementary Education**

at the University of Alabama.

**2004-2005 Outstanding Teaching for a Graduate Student in Elementary Education**

at the University of Alabama.

**2003-2004 Outstanding Service for a Graduate Student in Elementary Education** at

the University of Alabama.

**d. SCHOLARLY CONTRIBUTIONS BY THE CANDIDATE**

**1. Teaching**

**a. Courses taught:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TERM** | **Department/**  **course**  **number** | **Course Title** | **Credit HOUrs** | **Lect**  **-ure** | **Lab** | **EnrolL**  **-ment** |
| **Spring 2020** | **CTEE 8990** | **Research and Dissertation** | **1** | **0** | **1** | **1** |
|  | **CTEE 7440** | **Curr. & Teach: Math (K-6)** | **3** | **3** | **0** | **4** |
|  | **CTEE 7446** | **Curr. & Teach: Math (K-6)** | **3** | **3** | **0** | **3** |
|  | **CTEE 4910** | **Practicum** | **1** | **0** | **1** | **1** |
| **Fall 2019** | **CTEE 4040** | **Curriculum: Mathematics** | **4** | **2** | **2** | **16** |
|  | **CTEE 4910** | **Practicum** | **1** | **0** | **1** | **16** |
|  | **CTEE 4923-002** | **Clinical Residency** | **11** | **0** | **11** | **3** |
|  | **CTEE 4953-02** | **Professional Development Seminar** | **1** | **1** | **0** | **3** |
|  | **CTEE7900** | **Directed Study** | **1** | **1** | **0** | **1** |
| **Summer 2019** | **CTEE 4040** | **Curriculum: Mathematics** | **4** | **2** | **2** | **25** |
|  | **CTEE 4910** | **Practicum** | **1** | **0** | **1** | **17** |
|  | **CTEE 7530/6** | **Organization of Programs in Elementary Education** | **3** | **3** | **0** | **20** |
|  | **CTEE 7900** | **Directed Study** | **3** | **3** | **0** | **1** |
| **Spring 2019** | **CTEE 7440/6** | **Curriculum and Teaching Mathematics** | **3** | **3** | **0** | **13** |
|  | **CTEE 4040** | **Curriculum: Mathematics** | **4** | **2** | **2** | **17** |
| **Fall 2018** | **CTEE 7910/6** | **Practicum Area of Specialization** | **3** | **0** | **3** | **4** |
|  | **CTEE 7510/6** | **Research Studies** | **3** | **3** | **0** | **16** |
|  | **CTEE 4910** | **Practicum** | **1** | **0** | **1** | **22** |
| **TERM** | **Department/**  **course**  **number** | **Course Title** | **Credit HOUrs** | **Lect**  **-ure** | **Lab** | **EnrolL**  **-ment** |
| **Summer 2018** | **CTEE 4040** | **Curriculum: Mathematics** | **4** | **2** | **2** | **25** |
|  | **CTEE 7530** | **Organizations of Programs in Elementary Education** | **3** | **3** | **0** | **17** |
|  | **CTEE 7536** | **Organizations of Programs in Elementary Education** | **3** | **3** | **0** | **3** |
|  | **CTEE 4910** | **Practicum** | **1** | **0** | **1** | **24** |
| **Spring 2018** | **CTEE 4040** | **Curriculum: Mathematics: Co-Instructor** | **4** | **2** | **2** | **24** |
|  | **CTEE 7440** | **Curriculum and Teaching Mathematics** | **3** | **3** | **0** | **12** |
|  | **CTEE 7446** | **Curriculum and Teaching Mathematics** | **3** | **3** | **0** | **3** |
| **Fall 2017** | **CTEE 7910** | **Practicum Area of Specialization** | **3** | **0** | **3** | **4** |
|  | **CTEE 7516** | **Research Studies** | **3** | **3** | **0** | **23** |
| **Summer 2017** | **CTEE 7440** | **CurR. & Teaching: Math (K-6)** | **3** | **3** | **0** | **24** |
|  | **CTEE 7446** | **Curr. & Teach: Math (K-6)** | **3** | **3** | **0** | **2** |
|  | **CTEE 4040** | **Curriculum: Mathematics** | **4** | **2** | **2** | **24** |
|  | **CTEE 8990** | **Research and Dissertation** | **2** | **0** | **2** | **1** |

**b. Graduate students who have completed their degree:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Student Name** | **Degree**  **Awarded** | **Year**  **Awarded** | **Present Position** | **Role** |
| Jessica Milton | Ph.D. | 2020 | TBD | Outside Reader |
| Stacie Finley | Ph.D. | 2019 | Assistant Professor Pittsburgh State University | Committee Member |
| Mustafa Demir | Ph.D. | 2019 | Unknown | Outside Reader |
| Kristin Zimbelman | Ph.D. | 2018 | Assistant Professor- Huntingdon | Committee Member |
| Eric Hogan | Ph.D. | 2018 | Assistant Professor GA Southern | Outside Reader |
| Jason Lowe | Ph.D. | 2017 | HR Auburn City Schools | Major Professor |
| Kelli Hendon | Ph.D. | 2017 | Teacher | Outside Reader |
| Charlesetta Robinson | Ph.D. | 2016 | Administration | Outside Reader |
| Lisa Etheridge | Ph.D. | 2016 | Assistant Professor- Troy | Committee Member |
| Marcia Webb | Ph.D. | 2016 | Adjunct Professor | Committee Member |
| Celeste Granthum | Ph.D. | 2016 | Teacher | Major Professor |
| LaShae King | PhD | 2015 | Teacher | Committee Member |
| Evelyn Stockdale | Ph.D. (USC) | 2015 | Associate Professor Coker College | Committee Member/ Advisor |
| Carol Tarpley | Ph.D. | 2015 | Associate Professor Faulkner University | Committee Member |
| Steven Knott | Ph.D. | 2014 | Unknown | Committee Member |
| Amy Stenson | Ph.D. | 2012 | Unknown | Committee Member |
| Laura Bannon | Ed.S. | 2019 | Teacher | Committee Member |
| Micah Pelham | Ed.S. | 2016 | Instructor at Troy | Committee Member |
| Rebecca Horn | Ed.S | 2015 | Assistant Professor; Dir. of Graduate Prog.s & Assessment | Major Professor |
| Michele Russell | Ed.S | 2015 | Retired Teacher | Major Professor |
| Merri Lynn Gregory | Ed.S | 2015 | Teacher | Major Professor |
| Joanne Wells | Ed.S | 2015 | Teacher | Major Professor |
| Natasha Davis (Walker) | Ed.S | 2015 | Teacher | Major Professor |
| Kimberly Henderson | Ed.S | 2015 | Teacher | Major Professor |
| Sheila Varner | Ed.S | 2015 | Instructor at Starbase Maxwell by Department of Defense | Major Professor |
| Jennifer Boyles | Ed.S. | 2015 | PhD student | Committee Member |
| Lisa Morgan | Ed.S. | 2015 | Teacher | Committee Member |
| Lori Shaw | Ed.S. | 2014 | Teacher | Major Professor |
| Erin Smith | Ed.S. | 2014 | Teacher | Major Professor |
| Georgene Douglas | Ed.S. | 2014 | Retired | Major Professor |
| Rae Norton | Ed.S. | 2014 | Teacher | Committee Member |
| Sabrina Wade | Ed.S. | 2014 | Teacher | Committee Member |
| Lisa Etheridge | Ed.S. | 2013 | Assistant Professor at Troy | Committee Member |
| Cindy Stigelmeyer | Ph.D.- at USC | 2012 | Zayed University Dept. of Mathematics and Statistics | Committee Member |
| Regina McFarlan | Ed.D.- at USC | 2012 | Curriculum Coach | Committee Member |

|  |  |  |  |
| --- | --- | --- | --- |
| **Degree Awarded** | **Year Awarded** | **Role** | **Number Awarded** |
| M.Ed. | 2019 | Major Professor | 4 |
|  |  | Committee | 8 |
| M.Ed. | 2018 | Major Professor | 6 |
|  |  | Committee | 13 |
| M.Ed. | 2017 | Major Professor | 6 |
|  |  | Committee | 10 |
| M.Ed. | 2016 | Major Professor | 4 |
|  |  | Committee | 7 |
| M.Ed. | 2015 | Major Professor | 4 |
|  |  | Committee | 4 |
| M.Ed. | 2014 | Major Professor | 4 |
|  |  | Committee | 13 |
| M.Ed. | 2013 | Major Professor | 6 |
|  |  | Committee | 7 |
| M.Ed. | 2012 | Committee | 2 |

**c. Graduate students on whose committee the candidate is presently serving:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Student Name** | **Degree Seeking** | **Status** | **Role** |
| Brandi Dailey | PhD | Coursework | Committee Member |
| Ashley Kizer | PhD | Coursework | Major Professor |
| Jana Walls | PhD | Dissertation | Major Professor |
| Jennifer VanSlander | PhD | Coursework | Committee Member |
| Montasha Preston | PhD | Coursework | Committee Member |
| Hannah Szatkowski | PhD | Coursework | Committee Member |

|  |  |  |
| --- | --- | --- |
| **Degree Seeking** | **Role** | **Number** |
| M.Ed. | Major Professor | 2 |
|  | Committee Member | 11 |
| M.S. | Major Professor | 1 |

**d. Courses and curricula developed or revised**:

**CTEE 4000: Created and gained approval at the college level for Formative Assessment in Elementary Mathematics to be added to our program of study.** This is a proposal was based on feedback from school partners, student work, and our professional organizations. Creating this syllabus, talking through possible ways to improve our program, and completing the paperwork took a great deal of time, but I believe ultimately it will improve our program for our students and prepare them for teaching and success in EdTPA. The course will focus on creating and utilizing data to inform mathematical instruction. Because it is at the beginning of the program, we will focus on one on one instruction. The assessment course will focus on meeting the needs of all learners through examination and responding to student thinking. The course is currently slated to begin Spring 2021.

**CTEE 7530/6 Organization of Programs (Summer 2018)** This was a course that had not been offered in several years. In order to provide more options for our M.Ed. students and have a course that addressed the role of teacher leader, I was able to adjust this course, while maintaining the same learning objectives. Students were challenged to examine various ways students, teachers and programs are organized within the elementary school system.

**CTEE 4040/4030 Observation Instrument for Lab Experiences (2018) -** This was revised to reflect our updated accreditation requirements more fully. In addition, an area of emerging was added, because previously they were either not approaching competency or approaching competency. Since “Approaching Competency” was the requirement to pass the course, the elementary faculty felt an inbetween category needed to be added. We also adjusted the categories on the observation instrument and added a rubric, because previously there wasn’t a rubric to explain how to score each category. This will be used in all lab placements for our program.

Lesson plan template for lab experiences- This was revised by the elementary faculty to align with these new requirements. It still reflects our core values and beliefs, but pushes students to elaborate on areas that we didn’t require in the past. It added sections for students to consider academic language, descriptions of classroom experiences, and more details about formative and summative assessments.

**CTEE 7440/6 Curriculum and Teaching in Mathematics K-6 (Spring 2018)**

This course was moved to a spring offering, which meant it could incorporate things happening in the classroom for practicing teachers. I adjusted the syllabi and provided sample student data, lesson plans, etc… for those that don’t currently have classrooms. I was very pleased with the adjustments and hoped it helped current teachers make stronger connections to their classroom practice.

**CTEE 7440/7446 (Curriculum and Teaching in Mathematics K-6)- (Summer 2012)**

This course was adapted to meet the needs of distance learning students. I interviewed former distance students. Based on feedback and experiences, many assignments were changed. Classroom video vignettes, discussion groups, and problem posing were added. In addition, students read many articles from the practitioner journal, *Teaching Children Mathematics*. Students research a topic of personal interest and write an article that could be submitted to the *Alabama Journal of Mathematics* or *Teaching Children Mathematics*. The Common Core Standards play a central part of the course. Students explore and discuss all course content in relation to the Common Core Content Standards and the Standards for Mathematical Practice. They are able to see how both sets of standards in the Common Core connect the National Council of Teachers of Mathematics (our professional organization for future and current mathematics teachers) Content Standards and Process Skills, which are research based.

**CTEE 7440/7446 Ed.S/ Ph.D (Curriculum and Teaching in in Mathematics K-6)- (Fall 2012)**

This course was offered specifically to Ed.S. and Ph.D. students. Because these students already had earned their M.Ed., the rigor of this course was intensified. Students were challenged to read, analyze, and synthesize research-intensive articles from journals such as the *Journal of Research in Mathematics Education* and relate this to their current classroom practice, the Common Core Standards, and curriculum. Students created an action research project, authored a manuscript submission for an elementary mathematics practitioner journal, and taught a lesson to the class.

**Certificate for Inclusive Practices**

We had a certificate for inclusive practices approved as part of our graduate program. This means students from special education can take 2 CTEE courses and receive this certificate. Elementary education students can take 2 RSED courses to receive this certificate. While the certificate is not a formal certification, it encourages our students to learn more about the fields where our work overlaps. Many special education and general education teachers co-teach in general education classrooms, yet research suggests both groups lack preparation in how to do this effectively. Since this collaboration in the schools is so important, I am excited about this certificate.

**e. Grants related to teaching.**

None

**f. Publications pertaining to teaching:**

NOTE: Elementary teacher education is my research focus and my teaching area;I have listed citations of scholarly inquiry into my own teaching in Section B “Research and Creative Work”

|  |  |  |
| --- | --- | --- |
| Refereed ! | Invited ^ | Student Author \* |
| Research Journal @ | Practitioner Journal | Other |
| International # | National + | Regional ~ |

1. **Book chapters**

**^\*Burton, M.,** Tripp, L. O., Demoiny, S. B., Cardullo, V. M., and Finley, S. L. (2020). Empowering Preservice Teachers Through Alternative STEM Teaching Experiences. In S. Keengwe (Ed.), *Handbook of Research of* *on Innovative Pedagogies and Best Practices in Teacher Education.* Hershey, PA: IGI Global. (50% contribution).

**ii. Articles in refereed journals and invited articles**

!+@**Burton, M**. (2019).Teaching mathematics: Multiple perspectives among teacher candidates during a STEM field experience. *Journal of Mathematics Education, 12*(1), 82-98. <https://doi.org/10.26711/007577152790040>.

!+@Cardullo, V., **Burton, M**., & Tripp, L. (2019). Professional identities of teacher candidates collaborating and developing in an alternative placement. *The Field Experience Journal, 24*, 1-19.

!#@\*Cardullo, V., Finley, S. **Burton, M**., & Tripp, L.O. (2017). Pre-service teachers: Attitudes, perceptions, and knowledge about academic language and academic vocabulary. *Journal of Higher Education Theory and Practice, 17*(9), <https://doi.org/10.33423/jhetp.v17i9.1418>

(15% contribution). Acceptance Rate: 20%

@!+Hinton, V., **Burton, M.**, Flores, M., & Curtis, M. (June 2015). An investigation into pre-service special education teachers’ mathematical skills, efficacy, and teaching methodology. *Issues in the Undergraduate Preparation of School Teachers: The Journal, 1.* ISSN 2165-7874

(25% contribution). Acceptance Rate: 30%

!+\***Burton, M**. & Mims, P.! (2012) Calculating puddle size. *Teaching Children*

*Mathematics, 18*(8), 474- 480. (80% contribution). Acceptance Rate: 17%

@!+\*Evans, K., Holley, J., Richburg-Sellers, F., Robey, S., Suber, S, Field, B., & **Burton, M.** (2012). Rice Creek Elementary School and the University Partnerships. The University of South Carolina: A shared vision for excellence. *School-University Partnerships: The Journal of the National Association of Professional Development Schools, 5*(1), 19-27(30% contribution). Acceptance Rate: 35%. (Teachers from school were listed first, but writing was predominately done by Field, B. and Burton, M.)

@**!+Burton, M**. (2012). What is math? Exploring the perception of elementary pre-

service teachers. *Issues in the Undergraduate Preparation of School Teachers: The Journal*, *5*. Retrieved from

<http://www.k-12prep.math.ttu.edu/journal/5.attributes/burton02/article.pdf>

Acceptance Rate: 30% Google Scholar Citations 38

@!+\*Field, B., Blakeney, R., **Burton, M.**, Dunlap, E., Faile, J., Hudson, Z., & Jackson,

M. (2010). The University of South Carolina Professional Development School

Network: Twenty years of effective collaboration. *School-University Partnerships: The Journal of the National Association of Professional Development Schools. 4*(10), 31-42.(15% contribution). Acceptance Rate: 35%

**iii. Published Proceedings**

!@#\* **Burton, M.,** Cardullo, V, Tripp, O., Demoiny, S. & Woods, S. (2020, January). Elementary Preservice Teachers’ Perceptions of Teaching in a Summer STEM Teaching Experience. *Hawaii International Conference on Education Published Proceedings.* Honolulu, HI. (45% contribution).

!#**Burton, M.** (2019, August). Student Thinking: An Examination into the Relationship Between Observing and Teaching Field Experiences. In Jamila Novotna and Hana Moraova (*Eds.), Proceedings of the International Symposium of Eementary Mathsmatics Teaching: Opportunities in Teaching and Learning Elementary Mathematics.* Prague, the Czech Republic.

!#**Burton, M**. & Tripp, L. O. (2019, March). Empowering Preservice Teachers Through STEM: An Alternative Field Experience. In Arthur White *(Ed). International Consortium for Research in Science and Mathematics Education*. San Jose, Costa Rica. (75% contribution).

!#@**Burton, M**., Tripp, L. O., & Cardullo, V. (2018, November). Portraiture of Elementary Preservice Teachers During a STEM Camp Experience. In Thomas Hodges, George Roy, and Andrew Tyminski (*Eds.), Proceedings of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Greenville, SC. (50% contribution).

!#@**Burton, M**. (2017, September). Co-planning for Inclusive Mathematics in Teacher

Preparation: Examining Perspectives. *Proceedings of the Fourteenth International Conference Mathematics Education in a Global Community.* Balatonfured, Hungary.

!@#\*Cardullo, V., Finley, S., **Burton, M.,** Tripp, O. (2017, January). Preservice teachers: Attitudes, perceptions, and knowledge about academic language and academic vocabulary. *Hawaii International Conference on Education Published Proceedings.* Honolulu, HI. (20% contribution).

@!#**Burton, M.** (2016, February). Learning about elementary preservice teachers from their observations of struggling learners. *Proceedings for the 43rd Annual Meeting of the Research Council on Mathematics Learning.* Orlando, FL.

@!#**Burton, M**. (2009, October). **Exploring the changing perception of mathematics among elementary teacher candidates through drawings.** In S.L. Swars, D.W. Stinson, S. Lemons-Smith (Eds.) *Proceedings of the Thirty First Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 363-370). Atlanta, GA: Georgia State University.<http://www.pmena.org/2009/proceedings/>

@!~**Burton, M.** & Geddings, D. (2008,September). A triad approach to elementary mathematics teaching. In M. Qazi (Ed.). *Proceedings of the 5th Annual TEAM Math Partnership Conference Pre-Session.* (pp. 62-69). Tuskegee, AL: Tuskegee University. <http://www.team-math.net/tuskegeeconference/proceedings/5th/index.html>.

**g. Other contributions related to teaching:**

1. **Coordinating & supervising field placement** experiences – CTEE 4040 requires a field placement experience. Each semester, I meet with the clinical educators at each of the placement sites (between 3-4) to discuss the lab expectations, divide students into their placements and meet to discuss expectations, and coordinate and compose the lab schedule and lab manual. If I am teaching the course, I also conduct weekly observations at multiple school sites within a sixty mile radius.
2. **Advisement-** I advise 100+ undergraduate students. Advising consists of mentoring students about professional aspirations, serving as a reference for scholarships and job applications, and supporting them as they progress in their degree program. During undergraduate advising, I write job and graduate school recommendations for students. I also work with the Elementary Education faculty to interview 75+ students per year for entrance into the program, and I participate in follow-up conferences after the initial interviews
3. **Instructional Supports for Adjuncts for Program Consistency and Quality**

**CTEE 4040 (Curriculum: Mathematics)-** We had adjuncts/ GTAs teach this course Spring of 2018, Fall of 2018, and Spring of 2020. All required weekly meetings to discuss content, since this was not their area of expertise. In addition, in the spring of 2018, I observed students in the lab placement, because the GTA teaching the course was unable to commit that extra time. This meant I visited clinical teachers and students once a week. I was listed as the instructor on record.

**h. Statement of teaching philosophy and self-evaluation**

My philosophy of teaching focuses on helping my students, whether preservice or inservice teachers, understand themselves, their subject, and their students and how these entities combine to create effective instruction. I am a socio-constructivist, which means I believe that learning is an active social process. Vygotsky (1978) noted the importance of creating learning situations that create cognitive dissonance and scaffold learning through exploration and discussion. This is something I work to do in my coursework.

In my mathematics courses, creating a positive, safe, supportive learning environment that challenges students to move beyond past preconceptions of mathematics instruction is important. My courses are designed to reduce mathematics anxiety and increase mathematics teacher efficacy, while also focusing on pedagogical content knowledge. This part of my teaching has also been a part of scholarship as well. Currently I am researching mathematics teacher identity and voice in co-teaching settings and STEM placements. I am also exploring how the implementation of Mathematics’ Teaching Practices advocated by NCTM (2014) are impacted by teacher identity.

A specialized knowledge of mathematics is needed to effectively teach elementary mathematics (Hill, Rowen, and Ball, 2005). This involves understanding and connecting the learning trajectories, common errors, and various representations of content. My role is to provide experiences that challenge my students (both preservice and practicing) to critically examine various strategies, content, and understandings. This occurs through exploring elementary mathematics lessons, problem solving, discussing case studies, cooperative learning, and reflection. I challenge my students to evaluate why: Why do students struggle with place value? Why do we invert and multiply? Why do we choose to use or not use technology? In addition, I work to help them see how mathematics connects and builds on itself, so students are asked to identify areas of strength and areas of growth for every student. This specialized content knowledge for teaching mathematics is an integral part of my research agenda, but also informs my teaching.

Teaching is about relationships. Teachers begin where students are and create situations that challenge them to analyze, clarify, and deepen their knowledge and beliefs. In addition, I want my students to understand the importance of classrooms that are “mirrors and windows.” It is important that students see themselves in their classroom, but also appreciate this diverse world and all that it has to offer. Sometimes this involves pushing students beyond their comfort zone, to ensure they are able to meet the needs of all future elementary students in their classrooms.

Teaching is the heart of teacher education. It involves connecting the research I conduct, the research in my field, and my own experiences with my students’ needs in order to support their professional growth. Teaching provides a forum for me to conduct research and share findings about the professional identities of teachers. It allows me to hear the voices and needs of both the pre- and in- service teachers with whom I work. As a socio-constructivist, I believe that learning is an active process that occurs within a community context. As American author and educator, Parker J. Palmer, adocates my teaching combines the needs of the students, subject, and my own experiences.

**2. Research/ Creative Work**

**Publications:**

|  |  |  |
| --- | --- | --- |
| Refereed ! | Invited ^ | Student Author \* |
| Research Journal @ | Practitioner Journal | Other |
| International # | National + | Regional ~ |

1. **Books**

!Flores, M. M., **Burton, M.,** & Hinton, V. (2017). *Making mathematics standards accessible to students with diverse learning needs: Using the concrete-representational-abstract sequence*. San Diego, CA: Plural Publishing, Inc. (33% contribution). Google Scholar Citations 2.

**b. Article-length publications**

**i. Book chapters**

**^\*Burton, M.,** Tripp, L. O., Demoiny, S. B., Cardullo, V. M., and Finley, S. L. (2020). Empowering preservice teachers through alternative STEM teaching experiences. In S. Keengwe (Ed.), *Handbook of research of* *on innovative pedagogies and best practices in teacher education.* Hershey, PA: IGI Global. (50% contribution).

**^\*Burton, M**. & Mims, P. (2018). How do you measure a puddle? In S. McMillen, E. Friedland, & P. del Prado Hill (Eds.), *Integrating math across the K-6 curriculum*. Reston, VA: NCTM. Reprint of 2012 article, with additional reflections and resources for teachers to utilize.

**^**Silver, E., **Burton, M.** & Audrict, W. (2018) Why focus on formative assessment in relation to mathematics instructional tools, and approaches. InE. Silver & V. Mills (Eds.), *Eliciting and using evidence of student thinking to guide instruction: linking formative assessment to other effective instructional practices.* Reston, VA: NCTM. (33% Contribution).

**^Burton, M.** & Audrict, W. (2018). Focusing on formative assessment to improve mathematics teaching and learning. InE. Silver & V. Mills (Eds.), *Eliciting and using evidence of student thinking to guide instruction: linking formative assessment to other effective instructional practices.* Reston, VA: NCTM. (60% Contribution).

!# Thompson, D. R., **Burton, M.,** Cusi, A., Wright, D. (2018) Formative assessment: A critical component in the teaching-learning process. In D. R. Thompson, M. Burton, A., Cusi, & D., Wright (Eds.), *Classroom assessment in mathematics: Perspectives from around the globe (In ICME-13 Monograph Series Edited by G. Kaiser).* (pp. 1-5). Springer International Publishing. (30% contribution). Google Scholar Citations 3

!#**Burton, M.,** Silver, E., Mills, V., Audrict, W., Strutchens, M., & Petit, M. (2018) Formative assessment and mathematics teaching: Levering powerful linkages in the U.S. context. In D. R. Thompson, M. Burton, A., Cusi, & D., Wright (Eds.), *Classroom assessment in mathematics: Perspectives from around the globe (In ICME-13 Monograph Series Edited by G. Kaiser.).* (pp. 193-205). Springer International Publishing. https://doi.org/10.1007/978-3-319-73748-5\_13 (20% contribution). Google Scholar Ciations 3

^#Cardullo, V. & **Burton, M.** (2016). Building relationship through learning communities and participation in online learning environments. In L. Kyei-Blankson (Eds.), *Handbook of research on strategic management of interaction, presence, and participation in online courses*. (pp. 448-471). IGI Global. <https://doi.org/10.4018/978-1-4666-9582-5.ch18>. (40% contribution). Google Scholar Citations 1

**^+ \*Burton, M.** & Stockdale, L. (2015) Rural schools. In G. Scarlett (Ed.) *Invitation to*

*classroom management: An A-to-Z guide*. Thousand Oaks, CA: SAGE. (70% contribution).

^+**Burton, M.** (2012). Five strategies for creating meaningful mathematics experiences

in the primary years. In A. Shilllady (Ed.), *Spotlight on young children: Exploring math.* (pp. 10-14). Washington, D.C.: National Association for the Education of Young Children. (Reprinted from Burton, M (2010)). Five strategies for creating inclusive mathematics communities. *Young Children,* *65*(6) 92-96).

@!+**Burton, M**. (2009). Integrating tablet technology into an elementary mathematics

methods course. In C. Maddux (Ed.), *Research highlights in technology and teacher education 2009* (pp. 27-32). Chesapeake, VA:Society for Information Technology and Teacher Education.

**ii. Articles in refereed journals and invited articles**

**Published**

!+@**Burton, M**. (2019).Teaching mathematics: Multiple perspectives among teacher candidates during a STEM field experience. *Journal of Mathematics Education, 12*(1), 82-98. <https://doi.org/10.26711/007577152790040>.

!+@Cardullo, V., **Burton, M**., & Tripp, L. (2019). Professional identities of teacher candidates collaborating and developing in an alternative placement. *The Field Experience Journal, 24*, 1-19.

!+@\*Milton, J., Flores, M., Moore, A., Taylor, J., & **Burton, M.** (2019). Using the Concrete-representational-abstract sequence to teach conceptual understanding and fluency in multiplication and division. *Learning Disabilities Quarterly, 42*(1), 32-45. (10% contribution). [DOI: 10.1177/0731948718790089](https://doi.org/10.1177%2F0731948718790089) Impact factor: 1.525 Acceptance Rate: 25% Google Scholar citations 5

!#@\*Cardullo, V., Finley, S. **Burton, M**., & Tripp, L.O. (2017). Pre-service teachers: Attitudes, perceptions, and knowledge about academic language and academic vocabulary. *Journal of Higher Education Theory and Practice, 17*(9), <https://doi.org/10.33423/jhetp.v17i9.1418> (15% contribution). Acceptance Rate: 20%

!@#Flores, M., Hinton, V., & Burton, M. (2016). Teaching problem solving to students receiving tiered interventions using the Concrete-Representational-Abstract Sequence and Schema Based Instruction. *Preventing School Failure: Alternative Education for Children and Youth, 60*(4), 345-355.(30% Contributione). Impact factor 1.525 Acceptance Rate 25% Google Scholar Citations 15

!@#Hinton, V., Flores, M., Schweck, M., **Burton, M.** (2016). The effects of a supplemental explicit counting intervention for preschool children. *Preventing School Failure: Alternative Education for Children and Youth.60*(3), 183-193.(20% contribution). Impact factor: 1.525 Acceptance Rate: 25% Google Scholar Citations 4

@!+Hinton, V., **Burton, M.**, Flores, M., & Curtis, M. (June 2015). An investigation into pre-service special education teachers’ mathematical skills, efficacy, and teaching methodology. *Issues in the Undergraduate Preparation of School Teachers: The Journal, 1.* ISSN 2165-7874 (25% contribution). Acceptance Rate: 30% Google Scholar Citations 14

**@!~\***Nunes-Bufford, K., **Burton, M.,** & Eick, C. (2013). Developing elementary preservice teachers’ initial conceptions of common practices in science and mathematics teaching. *Alabama Journal of Mathematics, 37,* 1-10. (20% Contribution). Acceptance Rate: unknown. Google Scholar Citations 2

**@!# Burton, M.,** Brown, K., & Johnson, A. (2013). Storylines about rural teachers in

the United States: A narrative review of the literature. *Journal of Research in Rural Education (Online), 28*(12) 1-18. (45% contribution). Acceptance Rate: 10% Google Scholar Citations 63

**!+\*Burton, M**. & Mims, P. (2012) Calculating puddle size. *Teaching Children*

*Mathematics, 18*(8), 474- 480. (80% contribution). Acceptance Rate: 17% Google Scholar Citations 2

@!+\*Evans, K., Holley, J., Richburg-Sellers, F., Robey, S., Suber, S, Field, B., & **Burton, M.** (2012). Rice Creek Elementary School and the university partnerships. The University of South Carolina: A shared vision for excellence. *School-University Partnerships: The Journal of the National Association of Professional Development Schools, 5*(1), 19-27.(30% contribution). Acceptance Rate: 35%. (Teachers from school were listed first, but writing was predominately done by Field, B., and Burton, M.)

@**!+Burton, M**. (2012). What is math? Exploring the perception of elementary pre-

service teachers. *Issues in the Undergraduate Preparation of School Teachers: The Journal*, *5*. Retrieved from

<http://www.k-12prep.math.ttu.edu/journal/5.attributes/burton02/article.pdf>

Acceptance Rate: 30%. Google Scholar Citations 38

@!+\*Field, B., Blakeney, R., **Burton, M.**, Dunlap, E., Faile, J., Hudson, Z., & Jackson,

M. (2010). The University of South Carolina Professional Development School

Network: Twenty years of effective collaboration. *School-University Partnerships: The Journal of the National Association of Professional Development Schools. 4*(10), 31-42.(15% contribution). Acceptance Rate: 35% Google Scholar Citations 6

@!+**Burton, M.** & Johnson, A. (2010). Where else would I teach? *Journal of Teacher*

*Education, 61*(4), 376-386. DOI: 10.1177/0022487110372362. (50% contribution). Impact Factor: 3.263 Acceptance Rate: 5% Google Scholar Citations 62

@!+Vogler, K. & **Burton, M.** (2010). Mathematics teachers' instructional practices in an

era of high stakes testing. *School Science and Mathematics, 110*(5), 247-261*.*

(35% contribution). Acceptance Rate: 20% Google Scholar Citations 22

!#**Burton, M** (2010). Five strategies for creating inclusive mathematics communities.

*Young Children,* *65*(6), 92-96. Acceptance Rate: 25% Google Scholar Citations 23.

!+**Burton, M.** & Baum, A. (2009). Engage families in meaningful mathematics.

*Teaching Children Mathematics, 16*(1), 12-15. (50% contribution). Aacceptance Rate: 17% Google Scholar Citations 5

!~**Burton, M.** (2009). Using think- tac- toe in the elementary classroom.Math Mate: The

Official Journal of the South Carolina Council of Teachers of Mathematics,32(2), 7-9. Acceptance Rate: unknown.

@!+**Burton, M.**, Daane, C., & Giesen, J. (May 2008). Infusing mathematics content into

a methods course: Impacting content knowledge for teaching.  Issues in the Undergraduate Mathematics Preparation of School Teachers: The Journal, 1. Retrieved from [www.k-12prep.math.ttu.edu](http://www.k-12prep.math.ttu.edu). (80% contribution). Acceptance Rate: 30% Google Scholar Citations 30

!~**Burton, M.**(2006). How can I meet the various needs of **ALL** students? Math Mate:

The Official Journal of the South Carolina Council of Teachers of Mathematics, 30(1), 6-8. (Acceptance rate unknown).

**iii. Published Proceedings**

!@#\***Burton, M.,** Cardullo, V, Tripp, O., Demoiny, S. & Woods, S. (2020). Elementary preservice teachers’ perceptions of teaching in a summer STEM teaching experience. *15th Hawaii International Conference on Education Published Proceedings.* Honolulu, HI. (45% contribution).

!#**Burton, M.** (August 2019). Student thinking: An examination into the relationship between observing and teaching field experiences. In J. Novotna & H.Moraova (*Eds.), Proceedings of the International Symposium of Elementary Mathematics Teaching: Opportunities in Teaching and Learning Elementary Mathematics*. (pp.98-104). Prague, the Czech Republic.

!#@**Burton, M**., Tripp, L. O., & Cardullo, V. (November 2018). Portraiture of elementary preservice teachers during a STEM camp experience. In T. Hodges, G. Roy, & A. Tyminski (*Eds.), Proceedings of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 715-719). Greenville, SC. (50% contribution).

!@#\*Cardullo, V., Finley, S., **Burton, M.,** Tripp, O. (January 2017). Preservice teachers: Attitudes, perceptions, and knowledge about academic language and academic vocabulary. 12th *Hawaii International Conference on Education Published Proceedings.* Honolulu, HI. (20% contribution).

!#**Burton, M.,** Silver, E., Mills, V., Audrict, W., & Strutchens, M. (2016) Connecting formative assessment to current instructional practices. *Thirteenth International Congress on Mathematical Education Published Proceedings.* (40% contribution).

@!#**Burton, M.** (2016). Learning about elementary preservice teachers from their

observations of struggling learners. In K. V. Adolphson, & T. A. Olson, (Eds.)

*Proceedings for the 43rd Annual Meeting of the Research Council on Mathematics Learning.*(pp. 43-49).Orlando, FL.

@!#**Burton, M**. (2009). **Exploring the changing perception of mathematics among**

**elementary teacher candidates through drawings.** In S.L. Swars, D.W. Stinson, S. Lemons-Smith (Eds.) *Proceedings of the Thirty First Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 363-370). Atlanta, GA: Georgia State University.<http://www.pmena.org/2009/proceedings/>Google Scholar Citations 8

@!#**Burton, M**. (2009). Integrating tablet technology into an elementary mathematics methods course.  In I. Gibson, R. Weber, K. McFerrin, R. Carlsen & D. Willis (Eds.), Proceedings of SITE 2009--Society for Information Technology & Teacher Education International Conference (pp. 3241-3246). Charleston, SC, USA: Association for the Advancement of Computing in Education (AACE). Retrieved January 27, 2020 from <https://www.learntechlib.org/primary/p/31145/> Google Scholar Citations 2

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@!~**Burton, M.** & Geddings, D. (2008). A triad approach to elementary mathematics

teaching. In M. Qazi (Ed.). *Proceedings of the 5th Annual TEAM Math Partnership Conference Pre-Session.* (pp. 62-69). Tuskegee, AL: Tuskegee University. <http://www.team-math.net/tuskegeeconference/proceedings/5th/index.html>. Google Scholar Citations 1

!#**Burton, M.** (2007). Giving all students a voice in the elementary mathematics

classroom. In David K. Pugalee (Ed.). *Proceedings of the Ninth International Conference Mathematics Education in a Global Community*. (pp. 106-111). Charlotte, NC: The Mathematics Education into the 21st Century Project. ISBN Number 83-919465-8-4.

**iv. Book reviews**

^**Burton, M.** (2019) Review of *Friends Count* for author and editors of a mathematics picture book by Lori Brown.Gloucester, VA: Bluewater Publications.

^+**Burton, M.** (2012, August). [Review of the book *Old dogs, new math: Homework help*

*for puzzled parents,* by Rob Eastaway and Mike Askew]. *Teaching Children*

*Mathematics, 19*(1), 60-61*.*

^+**Burton, M.** (2011, April). [Review of book *Knowing and teaching elementary Mathematics: Teachers’ understandings of fundamental mathematics in China and the United States,* by Li Ping Ma]. *Teaching Children Mathematics, 17*(8),507-508.

**v. Non-refereed articles**

^ +%\***Burton,** M. & Evans, K.(2011). Small and tall teachers learning together in a

professional development school setting. *PDS Partners, 7*(1),13-14*.*

**c. Papers or lecture presentations**

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| Student \* |

1. **International**

Hatisaru , V., Murphy, C., Vollstedt, M., **Burton, M** & Wong, L.F. (2020, July). *“In my picture there is just a mathematician whose brain is exhausted:” Getting to the heart of images of mathematics through drawings*. 14th International Congress on Mathematics Education. Shanghai, China. (20% contribution).

**Burton, M.** (2019, August). *Student thinking: An examination into the relationship between observing and teaching field experiences.* International Symposium of Elementary Mathematics Teaching: Opportunities in Teaching and Learning Elementary Mathematics. Prague, the Czech Republic.

**Burton, M**., Tripp, L. O., & Cardullo, V. (2018, November*). Portraiture of elementary preservice teachers during a STEM camp experience*. North American Chapter of the International Group for the Psychology of Mathematics Education Conference. Greenville, SC. (50% contribution).

**Burton, M.** (2017, September). *Co-planning for inclusive mathematics in teacher*

*preparation: Examining perspectives.* Fourteenth International Conference Mathematics Education in a Global Community. Balatonfured, Hungary.

**Burton, M**., Silver, E., Mills, V., Audrict, W., Strutchens, M. (2016, July). *Connecting formative assessment to current educational instructional strategies.* International Congress on Mathematical Education. Hamburg, Germany.

**Burton, M.** (2009, April). *Using a tablet PC in an elementary mathematics methods course.* Society for Information Technology and Teacher Education Conference. Charleston, SC. April 2009.

1. **National**

**Burton, M** (2020, February). *Which is the tool? Elementary teacher candidates’ analysis of instruction in STEM experiences*. Association of Mathematics Teacher Educators Annual Conference. Phoenix, AZ.

Cardullo, V., **Burton, M**., & Tripp, L.O. (2019, April). *Professional identities of teacher candidates: Collaborating and developing in an alternative placement.* National Field Experience Conference, Greely, Colorado.

**Burton, M.** (2019, February). *The power of perspectives: Preservice teachers’ multiple perspectives of a STEM.* Association of Mathematics Teacher Educators Annual Conference. Orlando, FL.

**Burton, M.,** Cardullo, V., Tripp, L. O.(2018, April). *Preservice teachers’ multiple perspectives on teaching and learning.* National Council of Teachers of Mathematics Research Conference. Washington, D.C.

Tripp, L. O., Cardullo, V., & **Burton, M.** (2018, March). *Creative and imaginative ideas: STEM + providing real world application*. National Science Teachers Association.. Atlanta, GA.

Tripp, L. O., Cardullo, V., & **Burton, M.** (2018, March). *The sheep are in the jeep: Forces in motion*. National Science Teachers Association. Atlanta, GA.

**Burton, M.,** Cardullo, V., & Tripp, L. O. (2018, March). *Professional identities of teacher candidates: Collaborating and developing in an alternative placement.* American Association of Colleges for Teacher Education. Baltimore, MD.

Silver, E., **Burton, M.,** & Strutchens, M. (2018, February). *Tying it together:*

*Preparing teachers of mathematics to integrate equity, formative assessment, and effective teaching.* Association of Mathematics Teacher Educators. Houston, TX.

**Burton, M.** (2017, April). *Utilizing a collaborative planning tool for inclusive mathematic*s. National Council of Teachers of Mathematics Research Conference. San Antonio, TX.

\***Burton, M.** Daniel, E., & Hutto, M. (2017, April). *Fractions: Developing understanding through meaningful tasks and discussion*. National Council of Teachers of Mathematics Annual Conference. San Antonio, TX.

Pugalee, D., **Burton, M**., Musgrave, S., Conner, K., Bezuk, N. (2017, February). *Global perspectives on teacher preparation: Topics from ICME 13*. Association of Mathematics Teacher Educators. Orlando, FL

Lee, J., Salinas, A. Miller, T., Sjostrom, M., Evitts, T., & **Burton, M**. (2017, February). *Individual and collective capacities: Strengthening affiliates to become stronger* *advocates*. Association of Mathematics Teacher Educators. Orlando, FL.

Mills, V.L., Silver, E.A., Strutchens, M., **Burton, M**., & Audrict, W. (2016, April). *Findings from the NCSM/ AMTE Joint Task Force on Formative Assessment: Two new powerful lenses on a familiar topic.* National Council of Supervisors of Mathematics. Oakland, CA.

**Burton, M**. (2016, February). *Learning about elementary preservice teachers from their observations.* Research Council on Mathematics Learning. Orlando FL.

Eddy, C; Krupa, E.; Lee, J.; Grady, M.; Miller, T.; & **Burton, M.** (2016, February).

*Connecting and becoming stronger advocates through affiliates*. Association of Mathematics Teacher Educators. Irvine, CA.

Strutchens, M. & **Burton, M**. (2015, April). *Using professional learning communities to improve teacher’s use of formative assessment: Increasing student learning*. National Council of Supervisors of Mathematics. Boston, MA.

**Burton, M**. (2015, April). *Supporting teacher teams in meeting the needs of all students in inclusive classrooms: Involving all educators*. NationalCouncil of Supervisors of Mathematics. Boston, MA.

Coomes, J., Eddy, C. **Burton, M**., Lee, J., & Franz, D. (2015, February). *Affiliates: Becoming stronger advocates.* Association of Mathematics Teacher Educators. Orlando, FL.

Hinton, V., Smith, M., & **Burton, M**. (2015, February). *Inclusive classrooms: Special and general education teachers working together for all students*. Association of Mathematics Teacher Educators. Orlando, FL.

Flores, M., **Burton, M**., & Hinton, V. (2014, October). *Collaborative PD for effective differentiated math instruction.* Conference on Learning Disabilities. Philadelphia, PA.

Hickman, E., **Burton**, M., & Rubio, T. (2014, April). *State initiative and university professional development partnerships.* National Council of Teachers of

Mathematics. New Orleans, LA.

Hickman, B., Rubio, T., & **Burton,** M. (2013, February). *Advancing effective PD:*

*The journey of one state initiative from inservice to preservice*. Association of Mathematics Teacher Educators Annual Conference. Orlando, FL.

**Burton M.** (2012, April). [*Storylines about rural teachers in the United States: A synthesis of the research literature*](http://convention2.allacademic.com/one/aera/aera12/index.php?click_key=1&cmd=Multi+Search+Search+Load+Publication&publication_id=535700&PHPSESSID=6jurao032h33i29rrmdieqlds0)*.* American Educational Research Association Conference, Vancouver, BC.

\***Burton, M.,** Evans, K. Fickling, J, Holley, J., Richardson, D. & Sellers, F. (2011, March). *Brain compatible learning in a PDS? A mind stretching process for all.* National Association of Professional Development Schools Annual Conference. New Orleans, LA.

**Burton, M.** & Geddings, D.(2011, January). *From freshmen to seniors: A triad, collaborative approach to preparing prospective teachers.* Association of Mathematics Teacher Educators Annual Conference. Irvine, CA.

\***Burton, M.,** Evans, K. Suber, S., Robey, S., & Sellers, F. (2010, March). *Active instruction in math? The journey of enacting brain-based research for one PDS elementary school and university.* National Association of Professional Development Schools Annual Conference. Orlando, FL.

Johnson, A. & **Burton, M.** (2009, April). *“Where else would we teach?”* American Educational Research Association Annual Conference. San Diego, CA.

Vogler, K. & **Burton, M***.* (2009, April). *South Carolina Educators for the practical use of research: Mathematics teachers’ instructional practices in the era of high stakes testing.* American Educational Research Association Annual Conference. San Diego, CA.

Geddings, D. & **Burton, M.** (2009, April). *The triad approach to preparing preservice teachers to effectively teach elementary mathematics*. National Council of Teachers of Mathematics Annual Conference. Washington, D.C.

\***Burton, M.,** Evans, K., Suber, S., & Sellers, F.(2009, March). *Growing as a professional development school: Expanding and enriching.* National Association of Professional Development Schools Annual Conference. Daytona Beach, FL.

**Burton, M.** (2008, April). *Sustaining instructional change through teacher leaders using inquiry and integration.* National Council of Supervisors of Mathematics Annual Conference. Salt Lake City, UT.

Baum, A. & **Burton, M.** (2008, March). *Empowering families to engage preschool children in meaningful math*. Association of Childhood Education International Conference. Atlanta GA.

**Burton, M.** (2008, January). *Experiencing, implementing, and leading mathematics inquiry & integration.* Association of Mathematics Teacher Educators Annual Conference. Tulsa, OK.

VanScoy, I., Field, B., & **Burton, M.** (2007, October). *Continual renewal of school university partnerships: Analysis of new commitments, roles, and strategies at the University of South Carolina*. National Network for Educational Renewal Conference. Charleston, WV.

Sternberg, L., VanScoy, I, Field, B., Chaplin, P., **Burton, M.,** & Baum, A. (2007, March). *Sixteen years of professional development schools at the University of South Carolina: The ebb and flow of a partnership.* National Association of Professional Development Schools Conference. Las Vegas, NV.

Daane, C.J., **Burton, M.,** & Green, A. (2007, March). *Improving problem solving skills using non-routine problems.* National Council of Teachers of Mathematics Annual Conference. Atlanta, GA.

**Burton, M.** (2007, March). *Increasing elementary preservice teachers’ mathematical content knowledge for teaching in a combined mathematics methods and content course.* National Council of Teachers of Mathematics Annual Conference. Atlanta, GA.

**Burton, M.,** Schwery, C., & Ridgway, K. (2006, May). *The changing pedagogical expertise of teacher candidates during their second semester of teaching field experience*. American Educational Research Association Conference. San Francisco, CA.

**Burton, M.** (2005, October). *Dialogue in the mathematics classroom.* National Council of Teachers of Mathematics Regional Conference. Birmingham, AL.

**Burton, M.** (2005, April). *Dialogue in the mathematics classroom.* National Council of Teachers of Mathematics National Conference. Anaheim, CA.

**Burton, M.** (2004, November). *Differentiation of instruction.* National Council of Teachers of Mathematics Regional Conference. New Orleans, LA.

**Burton, M.** (2004, April). *Differentiation of instruction.* National Council of Teachers of Mathematics National Conference. Philadelphia, PA.

**Burton, M.** & Wilson, E. (2003, April). *Social studies journals to promote higher order thinking.* American Educational Research Association Conference. Chicago, IL.

1. **Regional**

**Burton, M.** (2019, October). *Keeping the "M" in STEM: Engaging elementary students in meaningful mathematics*. NCTM Regional Conference: Nashville, TN.

**\*Burton, M.,** Maynard, A., Shell, S. (November, 2018). *Keepting the “M” in STEM: Project-Based learning in a summer STEM experience. Alabama* Council of Teachers of Mathematics Annual Conference. Birmingham, AL (70% Contribution).

Cardullo, V., **Burton, M.,** Tripp, L.O., & Demoiny, S. (2018). *Preparing elementary education pre-service teachers: STEM alternate field placements.* Auburn Research Faculty Symposium. Auburn, AL.

**Burton, M.**, Flores, M., & Hinton, V. (2017, November). *Reaching students with*

*diverse learning needs.* Alabama Council of Teachers of Mathematics. Birmingham, AL.

\***Burton, M.,** Daniel, E., & Hutto, M. (2016, November). *Connecting formative assessment to current instructional strategies*. Alabama Council of Teachers of Mathematics Annual Conference. Birmingham, AL.

\*Webb, K. & **Burton, M.** (2015, October). *Cooperative learning in the elementary classroom.* Alabama Council of Teachers of Mathematics. Birmingham, AL.

\*Hutto, M. $ **Burton, M**. (2015, October).*Listening and learning from our students: One preservice teacher’s journey.*Alabama Council of Teachers of Mathematics. Birmingham, AL.

Flores, M., **Burton,** M., Hinton, V., & Smith, M. (2015, February). *Professional development for collaborative mathematics instruction*. Outreach Scholarship Symposium: Advancing Transformative Engagement. Auburn, AL.

Barry, N. **Burton,** M., Tripp, L.O., Love, A., Thomas, C., & Russell, J. (2013, April). *Destination Malawi, Africa: Student reactions to a study abroad experience*. Global Perspectives on College and University Teaching. Auburn, AL.

**2. Invited Speaking Engagements**

**2019 Invited Elementary STEM teacher** in Shenzhen, China. December 2019- January 2020 on topic of exploring STEM fields through architecture.

**2019 Invited speaker** at Buffalo State University.Focus on to teacher candidates. Original date: February 2019 rescheduled due to weather delay to April 2019.

**d. Exhibitions- None**

**e. Performances- None**

**f. Patents and inventions- None**

**g. Other research/creative contributions- None**

**h. Funded grants and contracts**

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| --- | --- | --- | --- | --- |
| *Years* | *Project* | *Principal Investigators* | *Role* | *Amount/ Source* |
| 2015-2017 | STEM Enrichment in Physics, Mathematics and Project based  Learning: Meeting K-12 Needs in Alabama | Dr. Allen L. Landers & Dr. Marilyn Strutchens | Consultant- Provide OGAP training and support for professional learning communities for teachers in grades K-5. | $390,000  Math Science Partnership- Alabama State Department of Education |
| 2014-2016 | Improving Students’ Mathematical Proficiency through Formative Assessment:  Responding to an Urgent Need in the Common Core Era | Edward Silver and Valerie Mills | Grant Board: Plan, facilitate and analyze results from a survey and working meeting on formative assessment within existing mathematical frameworks. The working meeting will be held Oct. 12-15 in Ann Arbor Michigan and will include leaders in the field of: Culturally Relevant Pedagogy, Response to Intervention, Cognitively Guided Instruction, Classroom Discourse Tools, & Mathematical Tasks Framework | National Science Foundation |
| 2012-  2013 | TEAM-Math and AMSTI Professional Learning Communities Partnership | Strutchens, M., Hickman, E., Martin, W.G., Stuckwisch, S., & Albrecht, U. | Member of Grant Writing and Implementation Team: Senior Researcher and Mathematics Education faculty member. Participate in triads that provide support for professional learning communities and Grade Level Leaders. Provide professional development training | $234,000  Alabama State Department of Education |

**Unfunded grant applications**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Years* | *Project* | *Principal Investigators* | *Role* | *Amount/ Source* |
| Submitted 2018  For 2019-2022 | Advancing Informal STEM Learning: Facilitating STEM Learning Pathways for Students through a Systemic STEM Environment (SysSTEM-E) | Dr. Christine G. Schnittka | Co-PI – Dr. Schnittka did a majority of the writing. I did help include some mathematics education research and served as a second reader | $1,656,425  National Science Foundation |
| Submitted 2018  For 2019-2022 | Assessment and Support Software for Elementary mathematics students: Meeting the Needs of All Learners | Drs. Margaret Flores | Co-PI- Dr. Chris Roger and I met regularly with Dr. Flores and helped co-write the grant. | $192,722  Presidental Awards for Interdisciplinary Teams (PAIR) Grant |

**i. Description of candidate’s scholarly program:**

My research, teaching, and outreach are underpinned in the belief that people learn through relationships, experiences, and discourse. Currently I am researching teacher voice in STEM education and equity. I focus on telling the stories and perspectives teachers bring to their experiences, because often these are missing in the research. My research gives voice to the teachers and preservice teachers with whom I work. For example, a practitioner piece under review that was co-written by a teacher in my master’s course. I also believe in the importance of sharing my work with teachers through publishing manuscripts in teacher practitioner journals and publishing with K-6 classroom teachers as coauthors.

I explore various facets of preservice teacher voice and identity in relation to STEM Education (Science, Technology, Engineering, and Mathematics). Drs. Cardullo, Tripp, and I are working on an NSF grant to expand this to involve developing STEM teacher leaders. In addition, we have two publications under review in which I am first author on our findings.

Drs. Flores, Hinton and I collaborated to support teachers with students with identified special needs and prepare preservice teachers to meet these needs. This work produced publications, presentations, and a book to support inclusive teachers. While we come from very different perspectives, I believe the collaborative research changed both our practices and informed our teaching. I have a publication under review, in which I am first author, on this work. I was invited to speak on this topic at Buffalo State University in Buffalo, New York. Also, Dr. Williams and I submitted a practitioner piece to TEEM on bilingual education in mathematics, which is in the revise and resubmit phase..

As my research relates to advocacy and teacher voice, I served on a task force with members of the National Council of Supervisors of Mathematics and the Association of Mathematics Teacher Educators to utlize the membership’s voices to explore ways to promote formative assessment. We hosted a working meeting at the University of Michigan, analyzed a survey we sent to our membership, presented at multiple venues, created a position statement for our organizations on the topic, published our work in published proceedings and our monograph, and published a book through NCTM to share the findings from our work. This book sold out and is now in its second printing.

Each of my current research projects evolved from a consideration of teacher voice and needs for advocacy and equity. The value is evidenced through the publications, invitations to speak, requests to collaborate, requests to serve as expert to validate on colleagues work, requests to be an external reviewer, requests to be an editor for a book series, etc… In addition,my growing reputation is evidenced bythe fact that I was asked to serve as an elementary expert to give feedback on projects that colleagues are doing at the University of Central Arkansas, Bowling Green State University, and the University of Michigan

**3. Outreach**

1. **Commentary**

My outreach since becoming associate professor has evolved from giving teachers a voice in supporting all learners. Sometimes outreach involves the students impacted by services that are preparing preservice teachers, sometimes it includes the students impacted while I am supporting teachers in the field, and sometimes it is utilizing my platform in higher education to advocate for connections that teachers in the field and research support (such as integrating formative assessment). Each of these connect to supporting teachers in the field and giving voice to their needs and practice. My outreach has involved: 1) supporting students in our community through our Science, Technology, Engineering, and Mathematics (STEM) summer camp, 2) Supporting teachers in STEM education 3) working with teachers and students who are identified as needing tier 2 mathematics interventions, and 4) raising visibility of formative assessment and mathematics teacher preparation standards in our field. Below is a description of most of my outreach proects.

**A. Response to Intervention Support with local schools 2014-2018**

1. *Description-* I worked at Carver Elementary, Morris Avenue, West Forest Intermediate School, Cary Woods Elementary, Pike Road, and Pick Elementary Schools to support teachers and students in the struggles that emerge regarding teaching mathematics. Dr. Hinton, Dr. Flores, and I worked with students and teachers in the Lee County and Auburn Schools to support students who are struggling in mathematics and teachers working with students that are identified as tier 2 in the Response to Intervention model. I expanded on this work by speaking to mathematics teachers at Prattville Middle School who were struggling with ways to effectively reach tier 2 students in their classroom. We also work with our preservice teachers in elementary and special education to provide opportunities to collaborate and coplan to meet student needs.

1. *Mission-***“**As a land-grant institution, Auburn University is dedicated to **improving the lives of the people** of Alabama, the nation, and the world through **forward-thinking education**, life-enhancing research and scholarship, and selfless service.” <http://www.auburn.edu/main/welcome/visionandmission.php>. This project is designed to improve education for all learners by supporting students and teachers. This project is aimed at improving the lives of people through education.
2. *Scholarship-* My outreach scholarship aligns with my teaching and research.This outreach has led to publications of a book, articles, published proceedings, and preesntations that are cross listed in Section B “Research and Creative Work”

Milton, J., Flores, M., Moore, A., Taylor, J., & **Burton, M.** (2019). Using the Concrete-representational-abstract sequence to teach conceptual understanding and fluency in multiplication and division. *Learning Disabilities Quarterly, 42*(1), 32-45 (10% contribution). Impact factor: 1.525 Acceptance Rate: 25%

Flores, M. M., **Burton, M.,** & Hinton, V. (2017). *Making Mathematics Standards Accessible to Students with Diverse Learning Needs: Using the Concrete-Representational-Abstract Sequence*. San Diego, CA: Plural Publishing, Inc. (33% contribution).

**Burton, M**. (2017, September). Co-planning for Inclusive Mathematics in Teacher

Preparation: Examining Perspectives. *Proceedings of the Fourteenth International Conference Mathematics Education in a Global Community.* Balatonfured, Hungary.

**Burton, M.**, Flores, M., & Hinton, V. (2017, November). *Reaching students with*

*diverse learning needs.* Alabama Council of Teachers of Mathematics. Birmingham, AL.

Hinton, V., Flores, M., Schweck, M., **Burton, M.** (2015). The effects of a supplemental explicit counting intervention for preschool children. *Preventing School Failure: Alternative Education for Children and Youth.* (20% contribution). Impact factor: 1.525 Acceptance Rate: 25%

Hinton, V., **Burton, M.**, Flores, M., & Curtis, M. (2015). An investigation into pre-service special education teachers’ mathematical skills, efficacy, and teaching methodology. *Issues in the Undergraduate Preparation of School Teachers: The Journal.* (25% contribution). Acceptance Rate: 30%

Hinton, V., Smith, M., & **Burton, M**. (2015, February). *Inclusive classrooms: Special and general education teachers working together for all students*. Association of Mathematics Teacher Educators. Orlando, FL.

Flores, M., **Burton,** M., Hinton, V., & Smith, M. (2015, February). *Professional development for collaborative mathematics instruction*. Outreach Scholarship Symposium: Advancing Transformative Engagement. Auburn, AL.

Flores, M., **Burton, M**., & Hinton, V. (2014, October). *Collaborative PD for effective differentiated math instruction.* Conference on Learning Disabilities. Philadelphia, PA.

4. *Impact-*This work impacted the 25 teachers we worked with directly, the 70 students we supported directly, the students who will be impacted by the professional growth of the teachers, and those that were impacted by our publications and presentations. The textbook we produced is meant to support both general and special elementary education teachers.

**B. STEM Professional Development 2016-2018**

1. *Description-* AMSTI faculty , the mathematics department faculty, Lee County Schools, Opelika City Schools, and I worked as partners for 2 years to support the development of elementary mathematical content knowledge and assessment skills. Funding for this project falls under a larger grant entitled: *STEM Enrichment in Physics, Mathematics, and Project Based Leading: Meeting K-12 Needs in Alabama*. Using the professional development tool of the Ongoing Assessment Project, teachers participated in summer training and meetings throughout the year.

1. *Mission-* This project is designed to improve education for all learners by supporting the development teachers’ content and pedagogical knowledge. This project is aimed at improving the lives of people through education.
2. *Scholarship-* My outreach scholarship aligns with my teaching and research.This outreach has led to publications of a book, articles, published proceedings, and preesntations that are cross listed in Section B “Research and Creative Work”

\***Burton, M.** Daniel, E., & Hutto, M. (2017, April). *Fractions: Developing understanding through meaningful tasks and discussion*. National Council of Teachers of Mathematics Annual Conference. San Antonio, TX.

4. *Impact-* This work impacted the 50+ teachers that I trained in the Ongoing Assessment Project (OGAP), their current students, and their future students. Our test scores indicate that it increased both pedagogical and content knowledge. Through our master’s course, I was able to observe how teachers who had not been to the PD were impacted, as they selected OGAP as part of their research in my course, because they saw peers utilizing it successfully in the schools.

1. **STEM Camp 2016-present**

1. *Description* Our first summer camp for elementary age students was in 2016. This outreach opportunity was for rising third through fifth grade students. The camp lasted from 8am-3pm for two weeks. Our 13 preservice teachers (PSTs) planned and implemented the curriculum, based upon standards for the appropriate grades. This was a wonderful opportunity for PSTs to gain real world teaching experience under our mentorship. It also provided a meaningful learning opportunity for the community.

In 2017, we focused this work into a Science, Technology, Engineering, and Mathematics (STEM) Camp, due to the growing interest in this area expressed by our community partners. We planned different activities for every grade level and each week had an overarching theme: structures, robotics, and forces in motion. Mrs. Finley and I planned advertising, parental communication, ordering supplies, medical issues, and planning transportation. In order to provide tuition waivers and make the camp reasonably priced, we were responsible for things like: drop off, pick up, registration, advertising, etc… We had approximately 100 students, 60% of which were on tuition waivers based on need and teacher recommendation. Students attended from 8-12 for 15 days (3 weeks).

In 2018, we expanded our STEM Camp to approximately 165 students. We provided scholarships to partner schools, but also to a local day care which services families in financial need. We met the needs of students in poverty, students with special identified needs, and many others. We increased the teacher candidates involved from 25 to 49. 2019 was similar to 2018 and our plans for the future are to continue serving our community with this opportunity. We are currently working on an NSF grant with Bullock County to expand our STEM Camp and begin to prepare teachers for STEM instruction.

1. *Mission-* “As a land-grant institution, Auburn University is dedicated to **improving the lives of the** people of Alabama, the nation, and the world through forward-thinking education, life-enhancing research and scholarship, and selfless service.” <http://www.auburn.edu/main/welcome/visionandmission.php> This project is designed to improve education for all learners by supporting students and future teachers. This project is aimed at improving the lives of people through education.
2. *Scholarship-* My outreach scholarship aligns with my teaching and research.This outreach has led to publications of a book, articles, published proceedings, and preesntations that are cross listed in Section B “Research and Creative Work”

**Burton, M.,** Tripp, L. O., Demoiny, S. B., Cardullo, V. M., and Finley, S. L. (2020). Empowering Preservice Teachers Through Alternative STEM Teaching Experiences. In Sangri Keengwe (ed.), *Handbook of Research of* *on Innovative Pedagogies and Best Practices in Teacher Education.* Hershey, PA: IGI Global. (50% contribution).

**Burton, M.,** Cardullo, V, Tripp, O., Demoiny, S. & Woods, S. (January, 2020). Elementary Preservice Teachers’ Perceptions of Teaching in a Summer STEM Teaching Experience. *Hawaii International Conference on Education Published Proceedings.* Honolulu, HI. (45% contribution).

**Burton, M** (February, 2020). *Which is the tool? Elementary teacher candidates’ analysis of instruction in STEM experiences*. Association of Mathematics Teacher Educators Annual Conference. Phoenix, AZ.

**2019 Invited Elementary STEM teacher** in Shenzhen, China. December 2019- January 2020 on topic of exploreing STEM fields through architecture.

**Burton, M**. (2019).Teaching mathematics: Multiple perspectives among teacher candidates during a STEM field experience. *Journal of Mathematics Education, 12*(1). 82-98. <https://doi.org/10.26711/007577152790040>.

Cardullo, V., **Burton, M**., & Tripp, L. (2019). Professional Identities of Teacher Candidates Collaborating and Developing in an Alternative Placement. *The Field Experience Journal, 24*. 1-19.

**Burton, M.** (August 2019). Student Thinking: An Examination into the Relationship Between Observing and Teaching Field Experiences. In Jamila Novotna and Hana Moraova (*Eds.), Proceedings of the International Symposium of Eementary Mathsmatics Teaching: Opportunities in Teaching and Learning Elementary Mathematics.* Prague, the Czech Republic.

**Burton, M**. & Tripp, L. O. (March 2019). Empowering Preservice Teachers Through STEM: An Alternative Field Experience. In Arthur White *(Ed). International Consortium for Research in Science and Mathematics Education*. San Jose, Costa Rica. (75% contribution).

**Burton, M.** (August 2019). Student Thinking: An Examination into the Relationship Between Observing and Teaching Field Experiences. *International Symposium of Eementary Mathsmatics Teaching: Opportunities in Teaching and Learning Elementary Mathematics.* Prague, the Czech Republic.

Cardullo, V., **Burton, M**., & Tripp, L.O. (April 2019). *Professional identities of teacher candidates: Collaborating and developing in an alternative placement.* National Field Experience Conference, Greely, Colorado.

**Burton, M.** (February, 2019). *The power of perspectives: Preservice teachers’ multiple perspectives of a STEM.* Association of Mathematics Teacher Educators Annual Conference. Orlando, FL.

**Burton, M.,** Cardullo, V., Tripp, L. O.(2018, April). *Preservice teachers’ multiple perspectives on teaching and learning.* National Council of Teachers of Mathematics Research Conference. Washington, D.C.

Tripp, L. O., Cardullo, V., & **Burton, M.** (2018, March). *Creative and imaginative ideas: Stem + providing real world application*. National Science Teachers Association.. Atlanta, GA.

Tripp, L. O., Cardullo, V., & **Burton, M.** (2018, March). *The sheep are in the jeep: Forces in motion*. National Science Teachers Association.. Atlanta, GA.

**Burton, M.,** Cardullo, V., & Tripp, L. O. (2018, March). *Professional identities of teacher candidates: Collaborating and developing in an alternative placement.* American Association of Colleges for Teacher Education. Baltimore, MD.

**Burton, M**., Tripp, L. O., & Cardullo, V. (November, 2018*). Portraiture of elementary preservice teachers during a STEM camp experience*. North American Chapter of the International Group for the Psychology of Mathematics Education Conference. Greenville, SC. (50% contribution).

**Burton, M**., Tripp, L. O., & Cardullo, V. (November 2018). Portraiture of Elementary Preservice Teachers During a STEM Camp Experience. In Thomas Hodges, George Roy, and Andrew Tyminski (*Eds.), Proceedings of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Greenville, SC. (50% contribution).

Cardullo, V., **Burton, M.,** Tripp, L.O., & Demoiny, S. (2018). *Preparing elementary education pre-service teachers: STEM alternate field placements.* Auburn Research Faculty Symposium. Auburn, AL.

1. *Impact-*Over 400 elementary students and 100+ preservice teachers have been impacted directly. In addition,the future students of the preservice teachers will have the benefit of teachers who have experience in STEM and project based teaching. Finally, the publications and presentations have a ripple effect in education.
2. **K-5 Alabama Math Strategic Planning Committee Member 2019**
   1. *Description-* I served on the Alabama Math Strategic Planning Committee and provided feedback on the need for increase mathematics methods courses for preservice teachers in our state, the need for more mathematics background for our state mathematics specialists/ coaches, and the need for more mathematics/coaches across the state. In addition, I advocated for research to be conducted to explore the impact of mathematics specialists and coaches upon teacher practice and student achievement.
   2. *Mission-* **“**As a land-grant institution, Auburn University is dedicated to **improving the lives of the people** of Alabama, the nation, and the world through **forward-thinking education**, life-enhancing research and scholarship, and selfless service.” <http://www.auburn.edu/main/welcome/visionandmission.php>. This project was an effort to advocate and impact mathematics support for teachers across the state. This project is aimed at improving the lives of people through education.

3.*Scholarship-* N/A

1. *Impact-* The final report noted the need for two methods courses in undergraduate preparation, which supported the additional course that we added to Auburn’s curriculum. In addition, elementary school mathematics coaches are being trained through a pilot program in the Huntsville area that the Superintendent of Education, Dr. Mackey, supported. This will impact the schools in that area and their students and hopefully lead to more mathematics coaches in elementary schools across sthe state.

**b. Activities and Products**

*1. Instructional activities:*

Co-developer of Auburn University Elementary STEM Camp, which had 150 3rd-5th grade students in attendance. June 2019, Auburn University. 24 hours of Professional development for teachers beyond course time. In addition, for 15 days, I supported teachers and students from 6am-3:30pm through the car line in the morning through the debriefing and planning sessions in the afternoons.

Co-developer of Auburn University Elementary STEM Camp, which had 150 3rd-5th grade students in attendance. June 2018, Auburn University. 24 hours of Professional development for teachers beyond course time. In addition, for 15 days, I supported teachers and students from 6am-3:30pm through the car line in the morning through the debriefing and planning sessions in the afternoons.

Co-presenter Ongoing Assessment Project Professional Development Outreach- Multiplicative Thinking Training for Opelika and Lee County Teachers. (8am-4pm, July 11-25, 2017, AMSTI Center).

Co-developer of Auburn University Elementary STEM Camp, which had 100 3rd-5th grade students in attendance. June 12-30, 2017, Auburn University. 24 hours of Professional development for teachers beyond course time. In addition, for 15 days, I supported teachers and students from 6am-3:30pm through the car line in the morning through the debriefing and planning sessions in the afternoons.

Co-presenter Ongoing Assessment Project Professional Development Outreach - Multiplicative Thinking Training for Opelika and Lee County Teachers. (8am-4pm, 2016, AMSTI Center).

Co-developer University A+ Elementary Camp. 8am-3pm, June 6-17, 2016, Auburn University. 24 hours of Professional development for teachers beyond course time. In addition, for 10 days, I supported teachers and students from 6am-3:30pm through the car line in the morning through the debriefing and planning sessions in the afternoons.

Presenter on Response to Invention in the Middle Grades. October 2015, Prattville Junior High

School, Prattville, AL

Team member in Response to Intervention Mathematics Research and Support at Pick and Cary

Woods Elementary with Dr. Hinton & Flores. We work with 2-5 grade students.

October 2014- 2016, Cary Woods and Pick Elementary School, Auburn, AL

Team member and participant in triad training meetings to coordinate and plan outreach and

progression of grant, July 2012- present, Auburn University, Auburn, Alabama.

Facilitator and Triad Member for “TEAM-Math and AMSTI Professional Learning Communities

Partnership” in Alexander City Schools and Tallapoosa County Schools. This includes

meeting individually with administrators at six elementary and middle schools in

Tallapoosa County Schools and Alexander City Schools, October 2012- present (83 participants; approximately 36 hours), Alexander City and Dadeville, Alabama.

Presenter and participant at “Alabama Mathematics, Science, and Technology Initiative’s

training for faculty involved in training preservice teachers” May 9-10, 2013 (25 participants), Birmingham, Alabama.

Leadership team for “TEAM-Math and AMSTI Administrator Professional Learning

Communities Meetings” monthly administrator meetings at schools through East

Alabama, August 2012- May 2013 (approximately 25 participants each meeting;

approximately 24 hours).

Presenter and facilitator of “Teacher Kick-Off of TEAM-Math and AMSTI Professional

Learning Communities Partnership,” March 2, 2013 (140 participants), Auburn

University, Auburn, Alabama.

Presenter and facilitator at “Grade Level Leader Workshop of TEAM-Math and AMSTI

Professional Learning Communities Partnership,” February 2, 2013 (68 participants), Auburn University, Auburn, Alabama.

*2. Technical assistance:* None

*3. Outreach publications:* NOTE: Since my outreach publications are grounded in research, these publications are also listed under “B. Research/Creative Work.”

*4. Electronic products: video, job aids, etc***:** None

*5. Other outreach products: videos, job aids, etc.:* None

*6. Copyrights, patents, and inventions:* None

*7. Contracts, grants, and gifts:*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Years* | *Project* | *Principal Investigators* | *Role* | *Amount/ Source* |
| 2014 | Professional Development: Mathematics in Inclusive Environments | Margaret Flores, Megan Burton, Michel Smith | Grant writing team, planned and co-led a 6 day professional development for elementary and special education teachers in which they planned and co-taught math lessons to elementary students. | $26,000  Auburn University Outreach Grant |
| 2010- 2012 | Unveiling Mathematics Standards | Newman, J., Izzard, M. | Member of grant writing team: Mathematics Educator contracted consultant for writing and implementing the grant for the University of South Carolina- Sumter. Provided summer professional development sessions, monthly sessions during the school year, online support, and coaching observations during the school year | $175,000  South Carolina Commission on Higher Education |

**4. Service**

**a. University service**

**1. Auburn University**

2016-2019 Student Conduct Advisory Committee

2013-2018 Auburn University Faculty advisor for Auburn University Wesley Foundation

2013-2016 Advisory Committee for a Drug-free Campus and Workplace

**2. College of Education**

2020- Scholarship and Innovation Committee

2017-2020 Undergraduate Education Committee

2015-Present Kappa Delta Pi: Education Honor Society Counselor

Dec. 2017- received official AU Student Involvement Student Organization status

2016-2017 Received Phoenix Rising Award

2015-2016 Received National Chapter Membership Award

2012- 2015 College of Education Faculty Governance Committee

**3. Department**

2020- Ad Hoc Website/ Communications Committee

2020- Ad Hoc Committee on Graduate Faculty Status

2019 Search Committee Chair for Elementary Clinical Faculty

2017- Present Mentoring Committee of Sarah Demoiny

2017-2019 Chair of Mentoring Committee for Stacie Finley

2016-2019 Program Coordinator

2016-2017 Search Committee for Elementary Clinical Faculty

2016-2017 Search Committee for Elementary Social Studies Faculty

2016-2018 Faculty Affairs Committee

2016 Search Committee for Elementary Faculty (failed)

2016 Search Committee for Department Chair

2015- 2016 Graduate Studies Committee

2013- 2018 Mentoring Committee of Victoria Cardullo

2012-2016 Strategic Planning Equity Working Group

2013 Strategic Planning Professional Learning Community Working Group

2012-2013 Strategic Planning Professional Status Working Group

**Program Coordinator focusing on graduate programs and overall program issues (2016- August 2019):** As program coordinator, I found myself answering questions daily about our programs for potential students, handling issues students have (such as meal plans, placements, scheduling issues, etc.). In addition, I communicated with PES regarding all placements, collected and organized internship placements for our students, collected and communicated information regarding those accepted into our professional program, communicated about registration issues with all cohorts, met with students about petitions, confirmed class schedules and room locations, organized comprehensive examinations for our M.Ed. students, communicated with potential students and students, completed hiring forms for adjuncts and GTAs as well as supervised their work, created syllabi for all adjuncts teaching our courses, created internship materials for cluster teachers, supervisors, and interns, arranged elementary meetings, and attended program chair meetings. I also communicated with other program areas that teach our students to address scheduling and student issues that arise.

The elementary program made adjustments to our interview process, submitted proposal changes to our graduate programs, submitted a course additionof an assessment course in mathematics for our undergraduate program, and revised our process for accepting doctoral students.

**Program Coordinator additional responsibilities until spring 2018 when our undergraduate coordinator assumes full responsibilities for undergraduate programs: Supervising Adjuncts and GTAs (2016-2017):**

At this time, we hired quite a few adjuncts and GTAs to teach core courses in our undergraduate and graduate program. In addition, we hired adjuncts to supervise our interns in the cluster teacher model. Supported 4 new supervisors with interns, led internship meetings with interns and teachers at beginning and end of semester, led professional program orientation meetings, supported a GTA teaching 3 new courses, an adjunct teaching intro in spring and adjunct teaching classroom management in the fall. I prepared syllabi, Canvas courses, put in requests for placements, contacted schools, met with field experience teachers, met each adjunct or GTA multiple times before and during the semester to discuss concerns, content, students, and ensure the quality of our program is maintained. I also completed hiring requests, internship and lab placement requests, issues related to student and faculty concerns (such as creating academic contracts scheduling with faculty in other program areas and departments).

**Professional Program Applications (2013-2016):**

Through Spring 2016, I coordinated the acceptance to the professional program for the elementary education program area. In the fall, Dr. Cardullo took full lead in this responsibility beginning spring 2017. This responsibility involves coordinating faculty schedules to arrange interview times, organizing interview and writing materials, communicating with students, printing student resumes and preparing folders for faculty, maintaining the database, sharing results with the department head and other departments as needed, etc…

**4. Local Community**

2018-present Auburn High School Advisory Committee for the Education and Training program

2012- 2014 Auburn City Schools Advisory Federal Programs Advisory Committee

**b. Professional service**

**1. National Level**

2020-2024 Association of Mathematics Teacher Educators- President Elect/ President/ Past President

2019-2020 Association of Mathematics Teacher Educators Constitution and By Laws Chair

2018 Mentor for Early Childhood Early Career Faculty North American Chapter of the

International Group for the Psychology of Mathematics Education

2018- 2020 Association of Mathematics Teacher Educators Conference Program Committee Member

2017-2020 Constitution and By Laws Committee of the Association of Mathematics Teacher Educators

2017-2019 Standards Dissemination Task Force- Association of Mathematics Teacher Educators

2013-2017 Affiliate Director of the Association of Mathematics Teacher Educators

2013-2017 NCSM/ AMTE- Formative Assessment Steering Committee

2011- 2017 Member, Affiliate Committee of Association of Mathematics Teacher Educators

2015- 2016 AMTE Board Subcommittee on Equity

2013-2014 Women in Mathematics Education- Bibliography Committee

2012-2013 Chair, Affiliate Committee of Association of Mathematics Teacher Educators. Submit proposal and organize affiliate meeting at the national conference, communicate affiliate needs to the AMTE board and board needs to affiliates.

2012-2014 Member, Special Task Force on Nonprofit Affiliate Status for Association of Mathematics Teacher Educators

**Formative Assessment Task Force**

Beyond Auburn, have served on a joint committee for the Association of Mathematics Teacher Educators and The National Council of Supervisors of Mathematics. This outreach effort has worked to raise national attention to formative assessment in mathematics. We received a small NSF grant to host a working meeting of experts in the field, we surveyed our membership about their current practices, presented at numerous conferences (See section 2: Research/ Creative Work), published a few articles, and created a position paper for our organizations. We have a book published through the National Council of Teachers of Mathematics (NCTM) about our work. This book sold out within months of publication and is now in its second printing. The book is available in paperback or electronic form. Our formative assessment committee made a difference through international, national, and state presentations and publications.

**Standards for Preparing Teachers of Mathematics Dissemination Task Force 2017-2019**

In 2017, the Association of Mathematics Teacher Educators released the Standards for Preparing Teachers of Mathematics. This document provides an aspirational vision for effective teacher preparation. It is designed to support teacher educators in planning courses, revising programs, and advocating for the needs of teachers with whom they work. I served for two years on a panel that was tasked with increasing the visibility of these standards. It included producing short video sgments about these, leading presentations, raising awareness among affiliate members, and vetting supplementary materials provide concrete examples that teacher educators could use.

**2. State level**

2018-2019 AMTE-A Past President

2016-2018 AMTE-A President

2015-2016 AMTE-A President Elect

2012-2015 AMTE-A Board Member at Large

2012-2016NCTM Government Relations Officer for ACTM

2007-2010 President/President-Elect, South Carolina Association of Mathematics Teacher Educators (SCAMTE)

2008-2011 Representative to Advisory Assembly of South Carolina Council of

Teachers of Mathematics

2006-2007 Organizational and Constitutional committee for SCAMTE

**3. Editing/ Reviewing**

2019 Served as an external reviewer for an elementary education candidate seeking promotion from assistant to associate professor at a peer institution.

2019 Reviewer for *Elementary and Middle School Mathematics: Teaching Developmentally, 10th edition* by Van de Walle/Karp/Bay-Williams.

2018- present Reviewer for *Mathematics Teacher: Learning and Teaching Pre-K-12*

2018 Served as External Expert Reviewer for a project on pedagogical content knowledge assessment via video sorts by the University of Central Arkansas

2018-present Editorial Board for *Journal of Global Education and Research*

2018 Provided feedback on a framework for Bowling Greeen State University colleagues.

2018 Served as External Expert Consultant for an National Science Foundation sponsored project with the University of Michigan study on simulation assessments of student thinking for Meghan Shaughnessy and Tim Boerst.

2018 Proposal reviewer for The Psychology of Mathematics Education- North America Annual Conference

2018 Served as an external reviewer for two candidates seeking promotion from assistant to associate professor at two different state universities in the Southeast. One recommended me, because of my focus in elementary education and the other was due to my focus in elementary mathematics education.

2017 Served as external reviewer for a candidate seeking promotion from assistant to associate professor at a state university in the Southeast. I was recommended, because my work in rural and elementary education aligns with his research area

2016-2018 Editorial Board for the Classroom Assessment in Mathematics: Perspectives from Around the Globe: ICME 13 Monograph Series (in press).

2016-2018 Editorial Board for *Eliciting and Using Evidence of Student Thinking to Guide Instruction: Linking Formative Assessment to Other Effective Instructional Practices.* Reston, VA: NCTM (in press).

2016- present Reviewer for *Investigations in Mathematics Learning*

2016-present Reviewer for *The Mathematics Educator*

2016-2018 Proposal reviewer for NCTM Research Conference

2012-2018 Manuscript reviewer for *NCSM Journal*

2011-2019 Manuscript reviewer for *Journal of Teacher Education*

2009-present Proposal reviewer for the Association of Mathematics Teacher Educators

2007- 2018 Manuscript reviewer for *Teaching Children Mathematics-* In 2019 this

journal will cease to exist as NCTM is now only publishing one practitioner journal for Pre-K-12. This means there will not be any nationally or internationally recognized publications focused strictly on mathematics for young learners (practitioner or research)

2015 Reviewer for the *International Congress on Mathematics Education*

2008-2015 Manuscript reviewer for *The MathMate*

2006-09, 2011, 2017 Proposal reviewer for Division K, American Educational Research Association

2007-2009 Proposal reviewer for National Council of Teachers of Mathematics

**4. Current Membership in Professional Organizations:**

Alabama Council of Teachers of Mathematics

American Educational Research Association

Association of Mathematics Teacher Educators

Association of Mathematics Teacher Educators- Alabama

National Council for Teachers of Mathematics

National Council of Supervisors of Mathematics

Psychology of Mathematics Education- North America

TODOS: Mathematics for All

SIG: Educators of Native American Students (EONAS)