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### **EDUCATION**

B.Sc., Secondary Education, The Pennsylvania State University, 1995  
M.Ed., Curriculum and Instruction (Diverse Student Populations), University of Mary  
Washington, 2006  
M.A., Mathematics, The Pennsylvania State University, 2017  
Ph.D., Curriculum and Instruction (Mathematics Education), The Pennsylvania State University,  
2016. Dissertation:

### **RESEARCH AND SCHOLARLY EXPERIENCE**

Assistant Editor, Journal for Research in Mathematics Education, 2008-2012.

Responsibilities included preparing manuscripts for blind review; compiling lists of reviewers whose expertise matched the qualities of submitted manuscripts; assisted in copyedit and format review for submitted manuscripts and cross-referencing manuscripts against cited sources.

Graduate Fellow, The Mid-Atlantic Center for Mathematics Teaching and Learning, Penn State University, 2007-2013.

Served as member of a research team investigating relationships between preservice and novice teachers' mathematical processes and the instructional activities in which they engaged their students. Participated in data collection, transcription, and analysis.

Presented findings at local and national conferences. Contributed to writing one published article and led writing team for a manuscript that is currently in progress.

Research and Teaching Assistant, College of Education, Pennsylvania State University, 2013-2014.

Assisted in Fall 2013 in implementation of a research-based instructional model for teacher education and served as instructor for a second iteration of implementation in Spring 2014. Assisted in data collection and analysis for a project investigating effects of the instructional model. Contributed to the development of conference proposals and conference presentations of findings based on the research project.

### **PROFESSIONAL EXPERIENCE**

Assistant Professor of Mathematics Education, Syracuse University, College of Arts and Sciences, Department of Mathematics; School of Education, Department of Teaching and Leadership, 2016-present.

Program Coordinator for Mathematics Learning Communities, Penn State Learning, Penn State University, 2014-2016.

Teacher, Mathematics, grades 9-12, Stafford County Public Schools/The Commonwealth Governor's School, Stafford, VA, 2003-2007.

Teacher, Mathematics, grades 9-12, Stafford County Public Schools, Stafford, VA, 1996-2003.

### **PUBLICATIONS**

Graysay, D. (2016, February). Unraveling, synthesizing and reweaving: Approaches to constructing general statements. In T. Fukawa-Connelly, N. E. Infante, M. Wawro, & S. Brown (Eds.), *Proceedings of the 19<sup>th</sup> Annual Conference on Research in Undergraduate Mathematics Education* (pp. 814-820). Pittsburgh, PA: The Special Interest Group of the Mathematics Association of America for Research in Undergraduate Mathematics Education.

Graysay, D. (2015, February). Marginalizing, centralizing, and homogenizing: An examination of inductive-extending generalizing among preservice secondary teachers. In T. Fukawa-Connelly, N. E. Infante, K. Keene, & M. Zandieh (Eds.), *Proceedings of the 18<sup>th</sup> Annual Conference on Research in Undergraduate Mathematics Education* (pp. 566-569). Pittsburgh, PA: The Special Interest Group of the Mathematics Association of America for Research in Undergraduate Mathematics Education.

Johnson, H. L., Blume, G. W., Shimizu, J. K., Graysay, D., & Konnova, S. (2014). A teacher's conception of definition and use of examples when doing and teaching mathematics. *Mathematical Thinking and Learning*, 16, 285-311. doi: 10.1080/10986065.2014.953018

Graysay, D. T., Smith, M. J., Blume, G. W., & Shimizu, J. K. (2013). Relating personal mathematics and classroom mathematics: Mathematical processes as problem-solving strategies and as pedagogical strategies. In M. Martinez & A. Castro Superfine (Eds.), *Proceedings of the 35<sup>th</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1049-1052). Chicago, IL: University of Illinois at Chicago.

Heid, M. K., Graysay, D. T., & Peters, S. A. (2011). Insights about cites. *Journal for Research in Mathematics Education*, 42, 306-307.

### **IN PROGRESS**

Graysay, D. T., Karunakaran, M. J. S., Blume, G. W., & Shimizu, J. K. (2017). *Relating personal mathematics and classroom mathematics: A case of mathematical processes as problem-solving strategies and as pedagogical strategies*. Manuscript in preparation.

### **PRESENTATIONS**

Graysay, D. (2017, January). *Generality-construction processes of undergraduate students*. Presentation at the Joint Mathematics Meetings of the American Mathematical Society and the Mathematical Association of America, Atlanta, GA.

- Graysay, D. (2016, April). *Approaches to constructing general mathematical statements*. Presentation at the NCTM Research Conference, San Francisco, CA.
- Graysay, D. (2016, February). *Unraveling, synthesizing and reweaving: Approaches to constructing general statements*. Presentation at the Nineth Annual Conference for Research in Undergraduate Mathematics Education, Pittsburgh, PA.
- Arbaugh, F., Freeburn, B., Graysay, D., & Konuk, N. (2016, January). *Using rehearsals with secondary preservice mathematics teachers*. Presentation at the Twentieth Annual Meeting of the Association of Mathematics Teacher Educators (AMTE), San Diego, CA.
- Graysay, D. (2015, May). *Preservice secondary mathematics teachers' approaches to generalizing in the context of constructing mathematical structures*. Presentation at the 9<sup>th</sup> Annual Symposium of the Pennsylvania Association of Mathematics Teacher Educators, Shippensburg, PA.
- Graysay, D., Jamshidi, S., & Smith, M. (2015, April). *Using mathematical practices to develop productive disposition*. Presentation at the NCTM 2015 Annual Meeting and Exposition, Boston, MA.
- Graysay, D. (2015, February). *Marginalizing, centralizing, and homogenizing: An examination of inductive-extending generalizing among preservice secondary teachers*. Presentation at the Eighteenth Annual Conference on Research in Undergraduate Mathematics Education, Pittsburgh, PA.
- Graysay, D., Jamshidi, S., & Smith Karunakaran, M. (2015, February). *Effects of engaging students in the practices of mathematics on their concept of mathematics*. Poster session at the Eighteenth Annual Conference on Research in Undergraduate Mathematics Education, Pittsburgh, PA.
- Graysay, D., Konuk, N., Freeburn, B., & Arbaugh, F. (2015, January). *Engaging teachers in analyzing core practices in mathematics teaching*. Presentation at the Nineteenth Annual Meeting of the Association of Mathematics Teacher Educators (AMTE), Orlando, FL.
- Graysay, D. (2014, May). *An examination of mathematical generalizing of preservice secondary teachers*. Presentation at the 8<sup>th</sup> Annual Symposium of the Pennsylvania Association of Mathematics Teacher Educators, Shippensburg, PA.
- Graysay, D., & Jamshidi, S. (2014, November). *Using mathematical practices to promote productive disposition*. Presentation at the 63<sup>rd</sup> Annual Conference of the Pennsylvania Council of Teachers of Mathematics, Harrisburg, PA.
- Graysay, D. (2013, May). *Examining relationships between mathematical beliefs and mathematical generalizing*. Presentation at the 7th Annual Symposium of the Pennsylvania Association of Mathematics Teacher Educators, Shippensburg, PA.

Graysay, D., Smith, M. J., Blume, G. W., & Shimizu, J. K. (2013, November). *Relating personal mathematics and classroom mathematics: Mathematical processes as problem-solving strategies and as pedagogical strategies*. Presentation at the annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education, Chicago, IL.

Blume, G. W., Johnson, H., Shimizu, J., & Graysay, D. (2012, February). *Creating and working from definitions: Mathematical knowledge for teaching (MKT)*. Presentation at the Sixteenth Annual Conference of the Association of Mathematics Teacher Educators, Fort Worth, TX.

Freeburn, B., & Graysay, D. (2012, October). *Using multiple representations to support student reasoning in the classroom*. Presentation at the 61st Annual Conference of the Pennsylvania Council of Teachers of Mathematics, Harrisburg, PA.

Graysay, D., Smith, M. J., Shimizu, J. K., & Blume, G. (2012, October). *Engaging students in Common core mathematical practices: Possibilities of teaching for generalizing and justifying*. Presentation at the 61st Annual Conference of the Pennsylvania Council of Teachers of Mathematics, Harrisburg, PA.

Karunakaran, S., & Graysay, D. (2011, November). *Common core mathematical practice standards*. Presentation at the 60th Annual Conference of the Pennsylvania Council of Teachers of Mathematics, State College, PA.

Graysay, D. (2010, August). *An examination of preservice teachers' interpretations of representations in a dynamic geometry environment*. Presentation at the Graduate Research Conference of the Mid-Atlantic Center for Mathematics Teaching and Learning, State College, PA.

Blume, G. W., Godine, H.L., Graysay, D., Shimizu, J. K., and Konnova, S. V. (2009). *The roles of examples in a prospective secondary mathematics teacher's use of mathematical processes when doing and teaching mathematics*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Graysay, D. (2008, August). *Abstraction and generalization in geometry*. Presentation at the Graduate Research Conference of the Mid-Atlantic Center for Mathematics Teaching and Learning, College Park, MD.

Graysay, D., & Karunakaran, S. (2008, August). *Student notions of proof and diagrams*. Presentation at the Virginia Governor's Schools Instructional Conference, Charlottesville, VA.

## **FELLOWSHIPS, SCHOLARSHIPS, AND AWARDS**

### **Graduate Scholarships and Fellowships**

- Fellowship with the Mid-Atlantic Center for Mathematics Teaching and Learning, 2007-2013

- Donald B. and Mary Louise Elder Tait Scholarship, 2009
- Pauline S. Turner Distinguished Graduate Fellowship, 2007-2008
- Outstanding Student, Master of Education Program, University of Mary Washington, Fredericksburg, VA (2006)

### **Professional Recognition**

Margaret Morfit Award for Outstanding Service, 2002, from the Fredericksburg, VA District PTA/PTSA

## **PROFESSIONAL ORGANIZATION ACTIVITIES**

### Referee

*Journal for Research in Mathematics Education*  
*Yearbook of the Pennsylvania Council of Teachers of Mathematics*  
*The Mathematics Teacher*

### Offices Held and Other Responsibilities

Graduate Student Representative, Pennsylvania Association of Mathematics Teacher Educators, 2015-2016  
 Vice-President, Stafford Education Association, 2004-2005

### Committee Membership and Responsibilities

Virginia Council of Teachers of Mathematics  
 Scholarship Committee, 1999-2015  
 Virginia Education Association  
 Representative Assembly Delegate, 2005

### Membership

National Council of Teachers of Mathematics  
 Pennsylvania Council of Teachers of Mathematics  
 Virginia Council of Teachers of Mathematics  
 Pennsylvania Association of Mathematics Teacher Educators  
 Association of Mathematics Teacher Educators  
 Special Interest Group in Research in Undergraduate Mathematics Education of the Mathematics Association of America  
 American Mathematical Association  
 Mathematical Association of America