

Christine M. Phelps-Gregory

Professor

Department of Mathematics, Central Michigan University

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EDUCATION

Ph.D. in Mathematics Education	2009
University of Delaware	Newark, DE
<i>Investigating the development of pre-service teachers' mathematics self-efficacy beliefs and learning goals: A review of research and a mixed methods study.</i>	
<i>Chair: Dr. Amanda Jansen. Committee: Drs. Dawn Berk, Alfinio Flores, & Anne Morris</i>	
M.A. in Education	2007
University of Delaware	Newark, DE
M.S. in Mathematics	2005
University of Delaware	Newark, DE
B.S. in Mathematics	2003
Michigan Technological University	Houghton, MI

PROFESSIONAL EXPERIENCE

Central Michigan University	2019 – present
<i>Associate Department Chair, Department of Mathematics</i>	Mt. Pleasant, MI
Central Michigan University	2019 – present
<i>Professor, Department of Mathematics</i>	Mt. Pleasant, MI
Central Michigan University	2014 – 2019
<i>Associate Professor, Department of Mathematics</i>	Mt. Pleasant, MI
Central Michigan University	2009 – 2014
<i>Assistant Professor, Department of Mathematics</i>	Mt. Pleasant, MI

HONORS, AWARDS, AND DISTINCTIONS

* University Excellence in Teaching Award	2019
<i>Nominated, Central Michigan University</i>	
Michigan MAA Distinguished Teaching Award	2015
<i>Won, Michigan MAA</i>	
University Excellence in Teaching Award	2013
<i>Nominated, Central Michigan University</i>	
CST Award for Outstanding Teaching	2012
<i>Won, College of Science and Technology, Central Michigan University</i>	
Project STaR (Service, Teaching, and Research)	2010
<i>Selected Participant, Park City, UT</i>	

* Items marked with an asterisk are since my promotion to professor.

Mathematics Education Award Won, University of Delaware	2009
EDGE (Enhancing Diversity in Graduate Education) Selected Participant, Pomona College	2003
Mathematics Departmental Scholar Won, Michigan Technological University	2002

PUBLICATIONS

Note that in mathematics education, order of authors is determined by contribution. The author listed first contributed the most.

Peer Reviewed or Reviewed Articles and Book Chapters

- ***Phelps-Gregory, C. M.**, Frank, M., & Spitzer, S. M. (accepted). Prospective elementary teachers' beliefs about mathematical myths: A historical and qualitative examination. *The Teacher Educator*. DOI: 10.1080/08878730.2019.1618423
- Phelps-Gregory, C. M.**, & Spitzer, S. M. (2018). Assessing prospective teachers' analysis of teaching: How well can they link teaching and learning? *Mathematics Teacher Educator*, 7(1), 34 - 49.
- Spitzer, S. M., & **Phelps-Gregory, C. M.** (2018). Using online collaboration to improve prospective teachers' analysis of teaching. *Mathematics Teacher Educator*, 6(2), 26 - 38.
- Spitzer, S. M., & **Phelps-Gregory, C. M.** (2017). Using mathematical learning goals to analyze teacher noticing. In E. Schack, J. Wilhelm, & M. Fisher (Eds.), *Teacher Noticing: Bridging and Broadening Perspectives, Contexts, and Frameworks*. Cham, Switzerland: Springer.
- Phelps-Gregory, C. M.**, & Spitzer, S. M. (2017). Developing prospective teachers' ability by classroom intervention: Replicating a classroom intervention. In T. Leuders, J. Leuders, & K. Philipp (Eds.), *Diagnostic Competence of Mathematics Teachers: Unpacking a complex construct in teacher education and teacher practice*. New York: Springer.
- Flores, A., Jansen, A., **Phelps, C.**, & Cline, L. (2017). A mathematics inquiry course: Teaching mathematics in a humanistic way. In B. Gold (Ed.), *Using Mathematics in the Philosophy of Teaching Mathematics: MAA Notes Volume 86*. Washington DC: MAA Press.
- Flores, A., **Phelps, C.**, & Jansen, A., (2016). Reflections on transformative experiences with mathematical inquiry: The case of Christine. *PRIMUS*, <http://www.tandfonline.com/doi/abs/10.1080/10511970.2016.1172689>
- Piatek-Jimenez, K., & **Phelps, C. M.** (2016). Using Disney's Frozen to motivate mathematics: Bring fractals into the classroom. *Australian Primary Mathematics Classroom*, 21(2), 18 - 25.
- Phelps, C. M.**, & Spitzer, S. M. (2015). Prospective teachers' conceptions and values about learning from teaching. *Teachers and Teaching: Theory and Practice*, 21(1), 61 - 73.
- Phelps, C. M.**, Shore, F. S., & Spitzer, S. M. (2014). Using Classroom Evidence to Inform and Improve Teaching. In Karp, K., & McDuffie, A. R. (Eds.), *Annual Perspectives in Mathematics Education, 2014*. Reston, VA: National Council of Teachers of Mathematics.

- Phelps, C. M.**, & Spitzer, S. M. (2012). Systematically improving lessons in teacher education: What's good for prospective teachers is good for teacher educators. *The Teacher Educator*, 47, 328 – 347.
- Piatek-Jimenez, K., Marcinek, T., **Phelps, C. M.**, & Dias, A. (2012). Helping students become quantitatively literate. *Mathematics Teacher*, 105(9), 692 – 696.
- Spitzer, S. M., **Phelps, C. M.**, Beyers, J. E. R., Johnson, D. Y., & Sieminski, E. S. (2011). Developing pre-service elementary teachers' abilities to identify evidence of student mathematical achievement. *Journal of Mathematics Teacher Education*, 14(1), 67 – 87.
- Phelps, C. M.** (2010). Factors that pre-service elementary teachers perceive as affecting their motivational profiles in mathematics. *Educational Studies in Mathematics*, 75, 293 – 309.

Other Publications

- Phelps-Gregory, C.M.** (2018). Teaching Interculturally: A book review. Invited book review in *Teachers College Record*.

PRESENTATIONS

Note that in mathematics education, order of presenters is determined by contribution. The presenter listed first contributed the most.

Peer Reviewed Conference Presentations and Invited Talks

- * Spitzer, S. M. & **Phelps-Gregory, C.M.** (2019). Examining the Links between Prospective Teachers' Mathematical Knowledge for Teaching and Noticing of Student Thinking. Presentation at the Annual Meeting of the Association of Mathematics Teacher Educators (AMTE), Orlando, FL.
- Spitzer, S. M. & **Phelps-Gregory, C.M.** (2017). Preservice teachers' analysis of learning goals: The role of mathematics knowledge for teaching. *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Indianapolis, IN.
- Spitzer, S. M. & **Phelps-Gregory, C. M.** (2017). Developing prospective teachers' noticing skills using a virtual interview subject. Poster presentation at the Annual Meeting of the Association of Mathematics Teacher Educators (AMTE), Orlando, FL.
- Phelps, C. M.** (2016). Improving mathematics teaching by tinkering. Invited talk at the Annual Michigan Section MAA meeting. Hillsdale College, MI.
- Phelps, C. M.**, & Spitzer, S. M. (2016). Analyzing evidence of students mathematical thinking: What do prospective teachers notice? Paper presentation at the American Educational Research Association Annual Meeting, Washington, DC.
- Chamblin, R., & **Phelps, C. M.** (2015). Investigating the effects of classroom climate on math self-efficacy. *Proceedings of the 37th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Lansing, MI.
- Spitzer, S. M., & **Phelps, C. M.** (2015). Examining prospective teachers' ability to notice and analyze evidence of students' mathematics learning. *Proceedings of the 37th annual*

meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Lansing, MI.

Phelps, C. M., & Frank, M. (2015). *Teaching prospective teachers to analyze mathematics teaching: Examining the effects of one course.* Presented at the Conversations Among Colleagues Conference, Wayne State University.

Phelps, C. M., & Spitzer, S. M. (2014). *Prospective elementary teachers' conceptions of lesson experiments.* Poster presentation at the National Council of Teachers of Mathematics Research Conference, New Orleans, LA.

Spitzer, S. M., & **Phelps, C. M.** (2012). Assessing prospective elementary teachers' ability to make links between teaching and learning. In Van Zoest, L. R, Lo, J., & Kratky, J. L. (Eds.), *Proceedings of the 34th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.* Kalamazoo, MI.

Phelps, C. M., & Spitzer, S. M. (2012). *Developing a Research Trajectory.* Invited talk at the Mathematics Education Friday Seminar, School of Education, University of Delaware.

Spitzer, S. M., & **Phelps, C. M.** (2011). Prospective teachers' use of lesson experiments: The effects of an online discussion board. In Wiest, L. R. & Lamberg, T. (Eds.), *Proceedings of the 33rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education.* Reno, NV.

Phelps, C. M. (2010). *The development of pre-service teachers' motivation in mathematics.* Presentation at the research pre-session of the National Council of Teachers of Mathematics Annual Meeting, San Diego, CA.

Phelps, C. M., & Spitzer, S. M. (2010). *Improving prospective elementary teachers' abilities to evaluate evidence of student mathematical achievement.* Presentation at the Annual Meeting of the Association of Mathematics Teacher Educators (AMTE), Irvine, CA.

Steele, M., Flores, A., Jansen, A., Newton, K. J., Sword, S., & Wilkerson, T. L. (2009). *Math experiences for math educators: Exploring open mathematical spaces.* Symposium at the research pre-session of the Annual Meeting of the National Council of Teachers of Mathematics, Washington, D.C. **Additional presenter.**

Phelps, C. M. (2007). How pre-service elementary teachers define being good at mathematics. In Lamberg, T. & Wiest L. R. (Eds.), *Proceedings of the 29th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* [CD-ROM]. Eugene, OR: All Academic.

Greene, S. M., Beyers, J. E. R., **Phelps, C. M.**, Johnson, D. Y., & Sieminski, E. M. (2007). *Pre-service teachers' evaluations of student understanding.* Presentation at the research pre-session of the National Council of Teachers of Mathematics Annual Meeting, Atlanta, GA.

Other Presentations

*Gill, J., & **Phelps-Gregory, C. M.** (2019, April). *Mathematics Self-Efficacy and Its Relation to Perseverance and Study Habits.* Presented at the annual Student Research and Creative Endeavors Exhibition, Central Michigan University.

- Bell, R., & **Phelps-Gregory, C. M.** (2018, December). *Understanding Pre-Service Teachers' Mathematical Beliefs: Comparing Student Experiences*. Presented at the 6th Annual Honors Research and Creative Endeavors Exhibition, Central Michigan University.
- Phelps-Gregory, C. M.** (2017, April). *Faculty Spotlight*. Presented at the AMS Graduate Chapter Meeting, Mathematics Department, Central Michigan University.
- Chamblin, R., & **Phelps-Gregory, C.** (2017, April). *Investigating Student Math Self-Efficacy*. Presented at the annual Student Research and Creative Endeavors Exhibition, Central Michigan University.
- Phelps, C. M.** (2014, February). *Using a Discussion Board to Support Prospective Teachers in Analyzing a Lesson*. Presented as part of a research spotlight, Graduate Student Seminar, Mathematics Department, Central Michigan University.
- Phelps, C. M.** (2012, April). *Systematically studying and improving mathematics teaching*. Presented at Kappa Mu Epsilon meeting, Mathematics Department, Central Michigan University.
- Phelps, C. M.** (2011, March). *Overview of math education area*. Presented at the Graduate Program Open House, Mathematics Department, Central Michigan University.
- Phelps, C. M., & Spitzer, S. M.** (2011, January). *Collaboratively learning to learn from teaching: The effects of an online discussion board*. Poster presented at the STaR pre-session of the Annual Meeting of the Association of Mathematics Teacher Educators (AMTE), Irvine, CA.
- Phelps, C. M.** (2010, March). *Overview of math education area*. Presented at the Graduate Student Recruiting Event, Mathematics Department, Central Michigan University.
- Phelps, C. M. & Spitzer, S. M.** (2010, March). *Investigating a learning-from-teaching approach to an elementary mathematics methods course*. Presented at the Mathematics Education Seminar, School of Education, University of Delaware.
- Phelps, C. M.** (2009, December). *Motivation: Self-efficacy and learning goals*. Presented at the Mathematics Education Seminar, Central Michigan University.
- Phelps, C. M.** (2009, November). *Prospective teachers' evaluations of student understanding*. Presented at the Mathematics Department Colloquium, Central Michigan University.

TEACHING EXPERIENCE

Undergraduate Courses

Analytic Geometry and Calculus I

Calculus I (Teaching Assistant)

* Discrete Mathematics

Mathematics for Elementary Teachers I

* Mathematics for Elementary Teachers II

Problem Solving with Technology for K – 8 Math Teachers

Probability and Statistics for Mathematics Teachers

Mathematical Structures for K – 8 Math Teachers
 Mathematics in Popular Culture
 Studying and Improving Math Teaching
 History of Elementary Mathematics for K – 8 Teachers
 Mathematics Methods for Elementary Teachers

Graduate Courses

* Qualitative Research Methods in Mathematics Education
 Doctoral Seminar I in Collegiate Mathematics Education
 Doctoral Seminar II in Collegiate Mathematics Education
 Graduate Assistant Teaching Workshop

ADVISING

Ph.D. Advising

* Jordan Gill, in progress, Dissertation Advisor. Dissertation Titled: *Mathematics Self-Efficacy and its Relation to Perseverance and Study Habits*

* Bryan Crouch, Dissertation Committee Member.

Robert Chamblin, December 2018, Dissertation Advisor. Dissertation Titled: *Investigating the Effects of Classroom Climate on Math Self-Efficacy*. Received tenure-track position at Montana Tech University.

Olaseni Fadipe, Fall 2017, Dissertation Committee Member. Dissertation Titled: *The Development of Quantitative Literacy (QL) in College Students*

Tharanga Wijetunge, Summer 2013, Dissertation Committee Member. Dissertation Titled: *The Role Of Advanced Student Response Systems In The Development Of Pre-Service Mathematics Teachers' Perspectives On Student Engagement, Communication, And Assessment*

Master's Degree Advising

* Stephanie Shilander, Plan B Advisor.

Will Persall, Spring 2016, Plan B Advisor. Paper Titled: *Building a Visual Model of Student Motivation*

Erin Shade, Fall 2012, Plan B Advisor. Paper Titled: *Mathematics Motivation for the Community College Population: Exploring Short-Term and Long-Term Interest*

Honor's Project Advising

Becky Bell, Fall 2018. Paper Titled: *Understanding Pre-Service Teachers' Mathematical Beliefs: Comparing Student Experiences*

General Advising

* Elementary math education. (Fall 2011 – Present). *Advisor*.

Secondary math education. (Fall 2010 –Spring 2018). *Transfer credit evaluation advisor.*

* Graduate program. (Spring 2010 – Present). *Graduate student advisor.*

SERVICE

National

* *Ad hoc reviewer, Journals:* The Teacher Educator, International Journal of Education Research, Journal of Teacher Education, Journal for Research in Mathematics Education, Mathematical Thinking and Learning, ZDM – The International Journal on Mathematics Education, Mathematics Teacher Educator

Ad hoc reviewer, Conferences: Psychology of Mathematics Education Conference, Association of Mathematics Teacher Educators Conference

* *Member of the Editorial Review Board:* The Teacher Educator

Michigan

MI-MAA Distinguished Teaching Award Committee (Fall 2015 – Spring 2018). *Chair & Member.*

MI-AMTE Communications Committee. (May 2015 – Fall 2017). *Chair & Member.*

MI-AMTE Conference Committee. (May 2015 – May 2016). *Member.*

Central Michigan University

* Library Committee. (Fall 2011 – Fall 2013, Fall 2017 – Present). *Member.*

* Elementary Banding Taskforce. (Fall 2018 – Spring 2019). *Member.*

Interviewer for the School of Education Professional Skills Interview. (Fall 2018).

Academic Senate. (October 2010 – May 2011, Spring 2018). *Senator from Mathematics.*

Speaker Series Committee. (Fall 2013 – Fall 2015). *Member & Secretary.*

Teacher Preparation Implementation Committee. (Summer 2014 – Fall 2014). *Member.*

Ad hoc Book Recognition Review Committee. (Spring 2013). *Member.*

Department of Mathematics, Central Michigan University

* Executive Council. (Fall 2017 – Present). *Member, chair of the mathematics education area.*

Bylaws Committee. (Fall 2016 – Spring 2018). *Member.*

Chair Review Committee. (2015, 2017). *Member, 2015 & Chair, 2017.*

Personnel Committee. (Fall 2015 – Spring 2017). *Member.*

Math Ed Elementary Curriculum Ad hoc Committee. (Fall 2012 – Fall 2015). *Chair & Member.*

Chair Search Committee. (Fall 2015). *Member.*

Graduate Committee. (Fall 2010 – Spring 2012, Fall 2013 – Spring 2015). *Member.*

Library Committee. (Fall 2009 – Spring 2014). *Member.*

Newsletter Committee. (Fall 2013 – Spring 2014). *Member.*

Conversations among Colleagues (CaC) Conference Committee. (2012 – 2013). *Member.*

Math Education Ph.D. Program Ad hoc Committee. (Fall 2009). *Member.*

University of Delaware

Graduate Student Senate. (2008 – 2009). *Senator.*

Graduate Student Senate. (2007 – 2008). *Senate Proxy.*

GRANTS AND FELLOWSHIPS

External Grants

Proposal for “Central Michigan University GAANN Program.” (January, 2012). Submitted to the US Department of Education. Role: Faculty Advisor. *Not Funded.*

Proposal for “Developing Prospective Teachers’ Questioning Skills through Interaction with a Virtual Interview Subject.” (December, 2011). Submitted to The National Science Foundation. Role: Co-PI. *Not Funded.*

Internal Grants and Funding

* CST Faculty Development Fund. (February, 2019). College of Science and Engineering, Central Michigan University (\$800).

FRCE Premier Display Grant. (October, 2017). Central Michigan University (\$800).

CST Faculty Development Fund. (January, 2017). College of Science and Engineering, Central Michigan University (\$614).

FRCE Premier Display Grant. (April, 2016). Central Michigan University (\$800).

CST Faculty Development Fund. (April, 2016). College of Science and Technology, Central Michigan University (\$446).

CST Faculty Development Fund. (November, 2014). College of Science and Technology, Central Michigan University (\$740).

CST Faculty Development Fund. (February, 2014). College of Science and Technology, Central Michigan University (\$800).

FRCE Type A Research Grant. (January, 2014). Central Michigan University (\$3440).

CST Faculty Development Fund. (January, 2013). College of Science and Technology, Central Michigan University (\$600).

FRCE Premier Display Grant. (October, 2012). Central Michigan University (\$835).

FRCE Premier Display Grant. (November, 2011). Central Michigan University (\$1000).

CST Faculty Development Fund. (January, 2011). College of Science and Technology, Central Michigan University (\$600).

FRCE Premier Display Grant. (February, 2010). Central Michigan University (\$978).

CST Faculty Development Fund. (January, 2010). College of Science and Technology, Central Michigan University (\$400).

Doctoral Fellow. (2005 – 2009). Mid-Atlantic Center for Mathematics Teaching and Learning,
College of Education, University of Delaware.

UNIDEL Fellowship (2003 – 2004). Mathematics Department, University of Delaware.

PROFESSIONAL AFFILIATIONS

* Association of Mathematics Teacher Educators (AMTE)

* The Michigan Association of Mathematics Teacher Educators (MI-AMTE)

North American Chapter of the International Group for the Psychology of Math Education
(PME-NA)