Scholarship Produced by Ohio University Students and Recent Graduates of the PhD Program in Mathematics Education

[Students highlighted in **boldface type** for multiauthored works]

PUBLICATIONS

Dissertations

- Adabor, J. K. (2008). An investigation into elementary school teachers' and high school mathematics teachers' attitudes towards the use of calculators in mathematics instruction and learning: A study of selected schools in Ghana. Available from ProQuest Digital Dissertations. (AAT 3327133)
- Blom, V. N. (2009). An investigation of the relationship between mathematics textbook alignment preferences, mathematics beliefs, professional development, attention to the NCTM standards, and teaching experience. Available from ProQuest Digital Dissertations. (AAT 3371490)
- Britt, D. B. (2011). *Retired rural secondary mathematics teachers' perspectives of reform*. Available from ProQuest Digital Dissertations. (AAT 3450191)
- Dogbey, G. Y. (2010). Attitudes of community college developmental students toward mathematics and their perception of mathematically intensive careers. Available from ProQuest Digital Dissertations. (AAT 3413027)
- Nichols, S. D. (2010). Perception and implementation of the Ohio Academic Content and Process Standards for Mathematics among middle school teachers. Available from ProQuest Digital Dissertations. (AAT 3423503)
- Regan, B. B. (2012). The relationship between state high school exit exams and mathematical proficiency: Analyses of the complexity, content, and format of items and assessment protocols.
- Zelkowski, J. S. (2008). Important secondary mathematics enrollment factors that influence the completion of a bachelor's degree. Available from ProQuest Digital Dissertations. (AAT 3327152)

Refereed Journal Articles

- Adabor, J. K., & Foley, G. D. (2010). Maximizing the area of a sector with fixed perimeter. *Ohio Journal of School Mathematics*, 62, 17–23.
- Foley, G. D., Khoshaim, H. B., Alsaeed, M., & Er, S. N. (2011). Professional development in statistics, technology, and cognitively demanding tasks: Classroom implementation and obstacles. *International Journal of Mathematical Education in Science and Technology*. [Published online 30 June 2011; print version forthcoming] doi: 10.1080/0020739X.2011.592616
- Foley, G. D., Strayer, J. F., & Regan, B. (2010). High school mathematics teacher professional development in data analysis, probability, and statistics. *Journal of the Research Center for Educational Technology*, 6(2), 4–17. Available at http://www.rcetj.org/index.php/rcetj/article/view/132
- Hendrickson, K. A. (in press). Assessment in Finland: A scholarly reflection on one country's use of formative, summative, and evaluative practices. *Mid-Western Educational Researcher*.

- Hendrickson, K. A. (in press). Learning from Finland: Formative assessment. *Mathematics Teacher*.
- Hendrickson, K. A. (in press). Student resistance to schooling: Disconnections with education in rural Appalachia. *The High School Journal*.
- Howley, A., Showalter, D., Howley, M. D., Howley, C. B., Klein, R., & Johnson, J. (2011). Challenges for place-based mathematics pedagogy in rural schools and communities in the United States. *Children, Youth and Environments*, 21(1), 101– 127.
- Klein, R. M., & Hendrickson, K. A. (2011). Lesson study on the farm. *Mathematics Teaching in the Middle School*, *16*, 536–543.
- Nirode, W. (2011). Thinking deeply about area and perimeter. *Mathematics Teacher*, 105, 304–310.
- Zelkowski, J. S. (2009). Tackling low-level cognitive task teaching in secondary mathematics: One approach to mold pre-service teachers' pre-conceived beliefs into best practice. *Journal of Inquiry and Action in Education*, *3*(1), 70–94.
- Zelkowski, J. S. (2010). Secondary mathematics: Four-credits, block-schedules, continuous enrollment? What maximizes college-readiness? *The Mathematics Educator*, 20(1), 8–21.
- Zelkowski, J. S. (2011). Defining the intensity of high school mathematics: Distinguishing the difference between college-ready and college-eligible students. *American Secondary Education*, 39(2), 27–49.
- Zelkowski, J. S. (2011). The TI-Nspire CAS: A happy-medium mobile device for grades 9–16 mathematics classrooms. *TechTrends: Linking Research and Practice to Improve Learning*, 55(3), 40–46.
- Zelkowski, J. S. (in press). Evaluating an AP calculus program's struggles: Lessons learned and changes for improvement. *Alabama Journal of Mathematics*, *36*(1).
- Zelkowski, J. S. (in press). Making sense of extraneous solutions. *Mathematics Teacher*. 2012 Focus Issue: Fostering Flexible Mathematical Thinking.
- Zelkowski, J. S., & Mayes, R. (2008). Applied algebra: Modeling technique of least squares. *Mathematics Teacher*, *102*, 46–51.

Chapters in Edited Books

- Er, S. N. (2010). Student and parent experience with online mathematics classes. In J. Sanchez & K. Zhang (Eds.), *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2010* (pp. 1344–1353). Chesapeake, VA: Association for the Advancement of Computing in Education.
- Foley, G. D., Er, S. N., Alsaeed, M., & Khoshaim, H. B. (2010). QUANT participants' perspectives regarding the implementation of high-level tasks. In P. Brosnan, D. B. Erchick, & L. Flevares (Eds.), *Proceedings of the 32nd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 942–948). Columbus: Ohio State University. (CD-ROM; online: http://pmena.org/2010/downloads/PME-NA%202010%20Proceedings%20Book.pdf)
- Hendrickson, K. A. (2010). The "Farmer Dan" project: Implementation of Japanese lesson study in rural mathematics classrooms. In P. Brosnan, D. B. Erchick, & L. Flevares (Eds.), *Proceedings of the 32nd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p.

1398). Columbus: Ohio State University. (CD-ROM; online:

http://pmena.org/2010/downloads/PME-NA%202010%20Proceedings%20Book.pdf) **Regan, B.**, & Foley, G. D. (2010). QUANT program evaluation and revisions based on

- an analysis of TPACK growth among the participants. In P. Brosnan, D. B. Erchick, & L. Flevares (Eds.), *Proceedings of the 32nd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1411–1419). Columbus: Ohio State University. (CD-ROM; online: http://pmena.org/2010/downloads/PME-NA%202010%20Proceedings%20Book.pdf)
- Howley, C., Howley, A., Klein, R., Johnson, J., Showalter, D., & Howley, M. (2010, Oct.) Place-based math education across cases: The phenomenon at seven rural sites. In S. Banister, J. Matuga, & T. Murnen (Eds.), Proceedings of the 33rd Annual Meeting of the Mid-Western Educational Research Association. October 15–18, Columbus, OH.
- Klein, R., & Showalter, D. (2012). Ethnomathematical microproject: Educating with the community. In Diez-Palomar, J. & C. Kanes (Eds.) *Family and community in and out* of the classroom: Ways to improve mathematics' achievement. Universitat Autonoma de Barcelona, Spain: Servei de Publicacions.
- Showalter, D. (2011). Asia, eastern. In S. Greenwald & J. Thomley (Eds.), *Encyclopedia* of mathematics and society (Vol. 1, pp. 68–70). Pasadena, CA: Salem.
- Zelkowski, J. S. (2008). Mini-Monongalia mathematics lesson. In T. M. Hopkins & V. M. Long (Eds.), *Mathematics in rural Appalachia: Place-based mathematics lessons* (pp. 37-42). Clinton, TN: Koinonia Associates LLC.
- Zelkowski, J. S. (2011). Developing secondary mathematics preservice teachers' technological pedagogical content knowledge: Influencing positive change. In C. D. Maddux, D. Gibson, B. Dodge, C. Owen, P. Mishra, & M. Koehler (Eds.), *Research highlights in technology and teacher education 2011* (pp. 31–38). Chesapeake, VA: Society for Information Technology and Teacher Education.

Research Instruments

- Foley, G. D., Johanson, G. A., Er, S. N., & Regan, B. (2010a, September). Survey of practicing high school teachers' pedagogical content knowledge for teaching data analysis, probability, and statistics [QUANT TPACK survey]. Unpublished research instrument, Patton College of Education and Human Services, Ohio University, Athens.
- Foley, G. D., Johanson, G. A., Er, S. N., & Regan, B. (2010b, September). Survey of practicing high school teachers' pedagogical content knowledge for teaching modeling and spatial reasoning [Modspar TPACK survey]. Unpublished research instrument, Patton College of Education and Human Services, Ohio University, Athens.

Curricular Materials Other Than Textbooks

- Foley, G. D., Butts, T. R., Connor, J., & Champine, J. (Eds.). (2010, July). Modspar: Modeling and spatial reasoning [Participant and instructor materials for Modspar institute at Ohio University]. Athens: Ohio University.
- Strayer, J. F., **Regan, B.**, & Foley, G. D. (Eds.). (2010, July). *QUANT: Quantifying uncertainty and analyzing numerical trends* [Participant and instructor materials for

QUANT institute held in Columbus, OH]. Mount Vernon, OH: Mount Vernon Nazarene University.

Book Reviews

- Hendrickson, K. A. (2010). [Review of Compass constructions: Activities for using a compass and straightedge]. Mathematics Teaching in the Middle School, 15, 422– 423.
- Mills, S. (2011). [Review of Culturally responsive mathematics education]. Education Review, 14. Retrieved from http://www.edrev.info/reviews/rev1107.pdf

Book

Dogbey, G. Y. (2010). Attitudes of community college developmental students toward mathematics and their perception of mathematically intensive careers. Saarbrücken, Germany: VDM.

Poster

Showalter, D. (2011, May). The math behind online social networks. [*Math matters, Apply it!* online poster series]. *SIAM Campaign for Applied Mathematics*. Available at http://www.siam.org/careers/pdf/social.pdf

Online Report

Strange, M., Johnson, J., Showalter, D., & Klein, R. (2012). Why rural matters 2011–12: Statistical indicators of the condition of rural education in the 50 states [Online report]. Arlington, VA: Rural School and Community Trust. Available at http://files.ruraledu.org/wrm2011-12/WRM2011-12.pdf

Online Essay

Showalter, D. (2011, March 28). Embracing failure [First place, New Threats to Freedom essay contest]. Posted to http://jooanddaniel.blogspot.com/2011/03/embracingfailure.html

Publications Outside of Mathematics Education

- Chappell, C., Dogbey, G. Y., & Dankart, K. (2011). Evaluating the perception of motion in osteopathic medical students and physicians. *Journal of American Academy of Osteopathy*, 21(1), 38–42.
- Dogbey, G. Y. (2001). Towards a strategic vision for a continent in distress. In O. Adesida & A. O. Oteh (Eds). *African voices–African visions* (pp. 37–52). Uppsala, Sweden: Nordic Africa Institute.
- Dordunoo, C. K., & Dogbey, G. Y. (2002). Globalization and economic reforms in Ghana. In D. Bigman (Ed.) *Globalization and the developing countries; emerging strategies for rural development and poverty alleviation* (pp.123–134). Wallingford, Oxon, UK: CABI Publishing in association with the International Service for National Agricultural Research (ISNAR).

- Güt, D. M., & Regan, B. (2009). Boeing "Educators to Space Camp" program: Final report for Summer 2008. United States Space and Rocket Center. Athens: Ohio University.
- Güt, D. M., & Regan, B. (2010). Boeing "Educators to Space Camp" program: Final report for Summer 2009. United States Space and Rocket Center. Athens: Ohio University.
- Handy, R. G., Jackson, M. J., Rodriguez, M., Goodman, D., Robinson, G., & Lafreniere, M. (2008). An investigation of aerosol particle number and size generated during a drilling process with surface coated tools. *International Journal of Manufacturing Technology and Management*, 15, 253–263. doi: 10.1504/IJMTM.2008.019664
- Handy, R. G., & Lafreniere, M. (2007). Environmental and engineering controls and monitoring in biomedical device manufacturing. In S. Ahmed & M. Jackson (Eds.), *Surface engineered surgical tools and medical devices* (pp. 273–339). Boston, MA: Springer Verlag.
- Holt, R., Dogbey, G. Y., Espinoza, N., & Shubrook, J. (2009). Exercise stress testing in the asymptomatic adult: Family physician adherence to the guidelines. *Osteopathic Family Physician*. 1(2), 29–33.
- Jacobs, B., Phan, K., Bertheau, L., Dogbey, G. Y., Schwartz, F., & Shubrook, J. (2010). Continuous glucose monitoring system in a rural intensive care unit: A pilot study evaluating accuracy and acceptance. *Journal of Diabetes Science and Technology*, 4, 636–644.
- Mather, P. C., Givens, B., Lash, A., & Hendrickson, K. A. (2010). Listening to Santa Rita: A critical examination of service-learning practice. *Journal of College and Character*, 11(3). doi:10.2202/1940-1639.1233
- Petznick, A, Snyder S, & **Dogbey, G. Y.** (2010). Glucose management in a community hospital. *Osteopathic Family Physician*, 2(2), 36–40.

PROFESSIONAL PRESENTATIONS

- Adabor, J. K., & Foley, G. D. (2010, October). *Maximizing the area of a sector of a circle without calculus: An exploration using technology*. Talk presented at the meeting of the Ohio Council of Teachers of Mathematics, Akron, OH.
- **Dogbey, G. Y.**, & Foley, G. D. (2009, November). (*How*) do attitudes of developmental students toward mathematics matter? Report presented at the meeting of the American Mathematical Association of Two-Year Colleges, Las Vegas, NV.
- Er, S. N. (2010, February). The effectiveness of computer-based online mathematics instruction for homeschooled children ages 7–17. Paper presented at the meeting of the Appalachian Association of Mathematics Teacher Educators, Marshall University, Huntington, WV.
- Er, S. N. (2010, September). *Student and parent experience with online mathematics classes*. Talk presented at the meeting of the Choose Appalachian Teaching First Annual Research Symposium, Ohio University, Athens.
- Er, S. N. (2010, October). *Student and parent experience with online mathematics classes*. Paper presented at the meeting of the E-Learn Conference, Orlando, FL.

- Feldhaus, C. A. (2009, August). What all math majors should know about education. Paper presented at the Mathematical Association of America Mathfest, Portland State University, Portland, OR.
- Feldhaus, C. A. (2010, January). What are they thinking? An analysis of how mathematics experiences influences mathematics disposition in preservice elementary teachers. Paper presented at the Joint Mathematics Meetings, San Francisco, CA.
- Feldhaus, C. A., & Adabor, J. K. (2008, August). Students' reflections on learning in an inquiry-based number theory course. Poster presented at the Mathematical Association of America Mathfest, University of Wisconsin, Madison.
- Foley, G. D. (Professor), Blazyk, K., Diehl, R., Hines, A., & Regan, B. (Students).
 (2008, June). *Inquiry-based number theory in action*. One-hour mock classroom presentation followed by a one-hour panel discussion at Inquiry-Based Learning with a Focus on Number Theory: A Transitions-to-Proof Course, a weeklong Mathematical Association of America Professional Enhancement Program, University of Texas at Austin.
- Foley, G. D., Er, S. N., Alsaeed, M., & Khoshaim, H. B. (2010, October). QUANT participants' perspectives regarding the implementation of high-level tasks. Paper presented at the meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Columbus: Ohio State University.
- Foley, G. D., Khoshaim, H. B., Alsaeed, M., & Er, S. N. (2010, February). QUANT participants' perspectives regarding the implementation of high-level tasks. Paper presented at the meeting of the Appalachian Association of Mathematics Teacher Educators, Marshall University, Huntington, WV.
- Foley, G. D., Strayer, J. F., & Regan, B. (2010, January). Quantifying uncertainty and analyzing numerical trends (QUANT): Professional development in data analysis, probability, and statistics. Paper presented at the meeting of the Association of Mathematics Teacher Educators, Irvine, CA.
- Howley, A., **Showalter, D.**, & Johnson, J. (2010, Oct.). *Challenges for place-based mathematics pedagogy in rural schools and communities in the United States.* Presented at the annual meeting of the Mid-Western Educational Research Association, Columbus, OH.
- Khoshaim, H. B., Alsaeed, M., Er, S. N., & Foley, G. D. (2010, April). The QUANT participants' perspectives regarding the implementation of high-level tasks. Paper presented at the meeting of the Society for Information Technology and Teacher Education, San Diego, CA.
- Klein, R., & Showalter, D. (2010, Oct.). *Place-based practices in rural mathematics instruction: A select cross-case comparison study*. Presented at the annual North American meeting of the Psychology of Mathematics Education, Columbus, OH.
- Lafreniere, M. (2011, April). *Creation of a collaboratory for STEM instruction*. Lecturedemonstration at the meeting of the Association of University Regional Campuses of Ohio. Wright State University—Lake Campus, Celina, Ohio.
- Lafreniere, M. (2011, June). *Use of geogebra in a collaboratory*. Lecture-demonstration at the Midwest Regional GeoGebra Conference, Miami University, Oxford, Ohio.
- Lafreniere, M. (2011, October). *Creating a collaboratory for active learning*. Lecturedemonstration at the Ohio Association of Two-Year Colleges, Rhodes State College. Lima, OH.

- Lafreniere, M. (2011, October). *Creation of a collaboratory for mathematics instruction*. Lecture-demonstration at the annual conference of the Ohio Council of Teachers of Mathematics, Toledo, OH.
- Lafreniere, M. (2011, December). *Technology and collaborative learning*. Lecturedemonstration at the Ohio University Regional Campus Faculty Conference, Ohio University, Athens, Ohio.
- Lafreniere, M., & Foley, G. D. (2009, November). *Tablet PCs: A flexible tool for mathematics instruction*. Lecture-demonstration at the meeting of the American Mathematical Association of Two-Year Colleges, Las Vegas, NV.
- Lafreniere, M., & Foley, G. D. (2011, November). *Tablet PCs: A tool for instructional collaboration*. Lecture-demonstration at the meeting of the American Mathematical Association of Two-Year Colleges, Austin, TX.
- Lafreniere, M., & Handy, R. G. (2011, October). *Designing and implementing a collaboratory for STEM education*. Lecture-demonstration at the STEMtech Conference, Indianapolis, IN.
- Lafreniere, M., Sandy, R., & Griffith, P. (2009, April). *Sketchcasting for traditional, hybrid, and online delivery of courses*. Presentation at the meeting of the Association of University Regional Campuses of Ohio. Miami University, Middletown, Ohio.
- Nicely, D., & Lafreniere, M. (2011, November). For common core assessment: Lessons from placement testing and developmental mathematics at a regional campus of Ohio University. Lecture at the conference of the Appalachian Association of Mathematics Teacher Educators, Marshall University, Huntington, WV.
- Regan, B. (2010, April). Using NCTM school standards to help developmental mathematics students achieve mathematical proficiency. Presented at the meeting of the Ohio Mathematics Association of Two-Year Colleges, Salt Fork State Park, OH.
- Regan, B. (2009, May). *QUANT review and exploration*. Poster presented at the Annual Graduate Student Research Exposition. Ohio University, Athens.
- Regan, B. (2010, May). An analysis of mathematics OGT scores based on complexity *level*. Poster presented at the Annual Graduate Student Research Exposition, Ohio University, Athens.
- Regan, B. (2010, October). *Enriched mathematics for all students*. Talk presented at the meeting of the Ohio Council of Teachers of Mathematics, Akron, OH.
- Regan, B. (2011, April). An ethnographic evaluation of the Modspar professional development institute. Presented at the research conference of the Graduate Education Association, Ohio University, Athens.
- **Regan, B.**, & Foley, G. D. (2010, October). *QUANT program evaluation and revisions based on an analysis of TPACK growth among the participants*. Paper presented at the meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Columbus: Ohio State University.
- Showalter, D. (2011, May). Where's the math? A research design to mine everyday mathematics and cognition. Presented at the annual Ohio University Student Expo, Athens, OH.
- Showalter, D. (2011, June). *Cloudy textbook, sunny Geogebra*. Presented at the annual GeoGebra Midwest Regional Conference, Miami University, Oxford, OH.

Showalter, D. (2011, October). *Buried math at a local opera house*. Presented at the annual meeting of the Ohio Council of Teachers of Mathematics, Toledo, OH.

PROFESSIONAL DEVELOPMENT WORKSHOPS

- Foley, G. D. (Director & instructor), Connor, J. (Codirector & instructor), Casey, R. M.,
 & Champine, J. T. (Instructors). (2010, July). *Modspar: Modeling and spatial reasoning*. Two-week professional development institute, Ohio University, Athens.
- Foley, G. D. (Director & instructor), Moss, L. J. (Codirector & instructor), Young, D. A., Houston, M., & Regan, B. (Instructors). (2008, August). QUANT: Quantifying uncertainty and analyzing numerical trends. Two-week professional development institute, Ohio Resource Center, Columbus.