

Shannon Olivia Schirack Driskell

University of Dayton
Department of Mathematics
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EDUCATION

- 2004 Doctor of Philosophy, Mathematics Education, University of Virginia
Major Advisors: *Joe Garofalo and Maria Timmerman*
Dissertation: *Fourth-Grade Students' Reasoning About Properties of Two-Dimensional Shapes*
- 1997 Master of Arts, Instructional Technology, East Carolina University
- 1992 Bachelor of Science, Education, Secondary Mathematics,
Edinboro University of Pennsylvania

ACADEMIC EXPERIENCE

- 2015 – present Professor of Mathematics Education
Department of Mathematics
University of Dayton
- 2009 – 2015 Associate Professor of Mathematics Education
Department of Mathematics
University of Dayton
- 2003 – 2009 Assistant Professor of Mathematics Education
Department of Mathematics
University of Dayton
- 2002 – 2003 Full-time Lecturer of Mathematics Education
Department of Mathematics
College of Mount St. Joseph
- 1998 – 2002 Doctoral Student, Graduate Fellow & Graduate Assistant
Department of Curriculum, Instruction and Special Education
University of Virginia
- 1998 – 2000 Part-time Instructor
University of Virginia Division of Continuing Education
- 1997 – 1998 Technology Education Teacher
South Brunswick High School, Southport, North Carolina
- 1994 – 1997 Sixth Grade Mathematics Teacher
Williston Middle School, Wilmington, North Carolina
- 1993 – 1994 Mathematics Teacher
Timken Senior High School, Canton, Ohio

TEACHING

University of Dayton (2003-present)

Undergraduate

ASI 150: *Introduction to the University Experience*

MTH 114: *Contemporary Mathematics*

MTH 204: *Mathematical Concepts I*

MTH 205: *Mathematical Concepts II*

MTH 214: *Mathematical Concepts for Middle School Teachers*

MTH 215: *Algebra, Functions & Graphs*

MTH 216: *Calculus Concepts & Applications*

MTH 266: *Discrete & Finite Mathematics for Middle School Teachers*

MTH 270: *Geometry Concepts & Applications*

MTH 295: *Historical Roots of Elementary Mathematics*

Graduate

MTH 512: *Geometry for Secondary Teachers*

MTH 514: *Advanced Mathematics for Secondary Teachers*

MTH 517: *Research Methods in Mathematics Education*

MTH 541: *Mathematics Clinic*

College of Mount St. Joseph (2002-2003)

Undergraduate

MTH 143: *Number Theory for Elementary School Teachers*

MTH 153: *Geometry for Elementary School Teachers*

MTH 326: *Mathematics Seminar for Secondary School Teachers*

University of Virginia Division of Continuing Education

Graduate

EDIS 589: *Teaching and Learning Algebra*

Mecklenburg County Schools, *July - August 2000*

Pittsylvania County Schools, *July - August 1999*

Mecklenburg County Schools, *July - August 1999*

EDIS 589: *Teaching Mathematics: Patterns, Functions, and Algebra*

Lynchburg City and Campbell County Schools, *October - November 1998*

PUBLICATIONS

Patent

Driskell, S. O., O'Connell, A. M., Smith, D. W., Richardson, L. A., Doepker, P. E., Schenk, D. E., Becker, S. J., Craven, J. R., Tremblay, V. L., & Chung, H. J. (August 24, 2010). *Polygonal Device for Kinesthetic Learners*, Utility Patent EFS ID: 8504587, United States.

Edited Books

M. L. Niess, S. O. Driskell, & K. F. Hollebrands (2016). *Handbook of Research on Transforming Mathematics Teacher Education in the Digital Age*. Hershey, PA: IGI Global.

Referred Journal Articles

Ronau, R. N., Rakes, C. R., Bush, S. B., **Driskell, S. O.**, Niess, M. L., & Pugalee, D. (2015). The quality of mathematics education technology literature. *Journal of Multidisciplinary Evaluation*, 11(24), 12-36.

Ronau, R. N., Rakes, C. R., Bush, S. B., **Driskell, S. O.**, Niess, M. L., & Pugalee, D. (2014). A survey of mathematics education technology dissertation scope and quality: 1968-2009. *American Educational Research Journal: Teaching, Learning and Human Development*, 51(5), 974-1006.

Lee, H. S., Kersaint, G., Harper, S. R., **Driskell, S. O.**, Jones, D. L., Leatham, K. R., Angotti, R. L., & Adu-Gamfi, K. (2014). Teachers' use of transnumeration in solving statistical tasks with dynamic statistical software. *Statistics Education Research Journal*.

Lee, H. S., Kersaint, G., Harper, S., **Driskell, S. O.**, Leatham, K. R. (2012). Teachers' statistical problem solving with dynamic technology: Research results across multiple institutions. *Contemporary Issues in Technology and Teacher Education*, 12(3), 286-307. Retrieved from <http://www.citejournal.org/vol11/iss3/mathematics/article1.cfm>
Manuscript awarded the National Technology Leadership Initiative Award.

Niess, M. L., Ronau, R. N., Shafer, K. G., **Driskell, S. O.**, Harper, S. R., Johnston, C., Browning, C., Özgün-Koca, S. A., Kersaint, G. (2009). Mathematics teacher TPACK standards and development model. *Contemporary Issues in Technology and Teacher Education*, 9(1), 4-24. Retrieved from <http://www.citejournal.org/vol9/iss1/mathematics/article1.cfm>

***Driskell, S. O.**, & Herrelko, J. M. (2007). Using tiers to differentiate instruction on properties of two-dimensional shapes. *New England Mathematics Journal*, XXXIX(2), 36-44.

Harper, S. R., & **Driskell, S. O.** (2006). An investigation of historical geometric constructions. *Convergence*, 3, Retrieved from <http://mathdl.maa.org/convergence/1/?pa=content&sa=view Document&nodeId=1207>

Rodrigues, M., Harper, S. R., & **Driskell, S. O.** (2006). Sliders and parameters extend interactive software. *Mathematics Teacher*, 99(9), 627-631.

Harper, S. R., & **Driskell, S. O.** (2006). Constructing recursive geometric sketches. *Mathematics Teacher*, 99(6), 442-445.

Driskell, S. O. & Harper, S. R. (2005). Capturing video of dynamic computer activity. *Mathematics Teacher*, 99(2), 126-130.

Driskell, S. O. (2004). Students' strategies for fair shares. *Mathematics Teaching in the Middle Grades*, 10(3), 132-135.

****Schirack, S. O.**, & Garofalo, J. (2002). Using the Global Positioning System to teach angles of polygons. *The Virginia Mathematics Teacher*, 28(2), 38-41.

****Schirack, S. O.**, & Garofalo, J. (2002). Using the Global Positioning System to teach distance, perimeter, and area of polygons. *The Virginia Mathematics Teacher*, 29(1), 37-38.

Harper, S. R., ****Schirack, S. O.**, Stohl, H. D., & Garofalo, J. (2001). Learning mathematics and developing pedagogy with technology: A reply to Browning and Klespis. *Contemporary Issues in Technology and Teacher Education*, 1(3). 346-354. Retrieved from <http://www.citejournal.org/vol11/iss3/currentissues/mathematics/article1.htm>.

*Invited contributed for peer review

**My maiden name is Shannon O. Schirack.

Book Chapters and Monographs

Driskell, S. O., Bush, S. B., Ronau, R. N., Niess, M. L., Rakes, C. R., & Pugalee, D. (2016). Mathematics education technology professional development: Changes over several decades. In M. L. Niess, S. O. Driskell, & K. F. Hollebrands (Eds.), *Handbook of Research on Transforming Mathematics Teacher Education in the Digital Age*. Hershey, PA: IGI Global.

Harrington, R., **Driskell, S. O.**, Johnston, C., Browning, C., & Niess, M. L. (2016). Technological pedagogical content knowledge: Preparation and support of mathematics teachers. In M. L. Niess, S. O. Driskell, & K. F. Hollebrands (Eds.), *Handbook of Research on Transforming Mathematics Teacher Education in the Digital Age*. Hershey, PA: IGI Global.

Bush, S. B., **Driskell, S. O.**, Niess, M. L., Pugalee, D., Rakes, C. R., & Ronau, R. N. (2015). The impact of digital technologies in mathematics pre-service teacher preparation over four decades. In M. L. Niess & H. Gillow-Wiles (Eds.), *Handbook of Research on Teacher Education in the Digital Age* (pp. 1-27). Hershey, PA: IGI Global.

Ronau, R. N., Rakes, C. R., Niess, M. L., Wagener, L., Pugalee, D., Browning, C., **Driskell, S. O.**, Matthews, S. (2010). New directions in the research of technology-enhanced education. In J. Yamamoto, C. Penny, J. Leight, & S. Winterton (Eds.), *Technology leadership in teacher education: Integrated solutions and experiences*. Hershey, PA: IGI Global. 263-297.

Niess, M. L., Ronau, R. N., **Driskell, S. O.**, Kosheleva, O., Pugalee, D., Weinhold, M. W. (2008). Technological Pedagogical Content Knowledge (TPCK): Preparation of mathematics teachers for 21st century teaching and learning. In F. Arbaugh & P. M. Taylor (Eds.), *Inquiry into mathematics teacher education. Association of Mathematics Teacher Educators Monograph Series*, 5 (143-156). San Diego, CA: Association of Mathematics Teacher Educators.

Ronau, R. N., Niess, M. L., Browning, C., Pugalee, D., **Driskell, S. O.**, & Harrington, R. (2008). Framing the research on digital technologies and student learning in mathematics. In L. Bell, L. Schrum, & A. D. Thompson (Eds.), *Framing research on technology and student learning in the content areas: Implication for educators* (pp. 13-31). Charlotte, NC: Information Age Publishing.

Refereed Proceedings

Driskell, S. O., Bush, S., Ronau, R. N., Niess, M. L., Pugalee, D. K., & Rakes, C. R. (2015). Research in mathematics educational technology: Trends in professional development over 40 years of research. In T. G. Bartell, K. N. Bieda, R. T. Putnam, K. Bradfield, & H. Dominguez (Eds.), *Proceedings of the 37th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 656-662). East Lansing, MI: Michigan State University, East Lansing. Available:

<http://www.pmena.org/proceedings/>

Driskell, S. O., Ronau, R. N., Rakes, C. R., Bush, S., Niess, M. L., Pugalee, D. K. (2011). Research in mathematics educational technology: Current trends and future demands. In L. Wiest & Lamberg, T. (Eds.) *Proceedings of the 33rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 373-380). Reno, NV: University of Nevada, Reno. Available: <http://www.pmena.org/2011/>

Lee, H.S., **Driskell, S.O.**, Harper, S.R., Leatham, K., Kersaint, G., & Agnotti, R. (2011). Prospective teachers' use of representations in solving statistical tasks with dynamic statistical software. In L. Wiest & Lamberg, T. (Eds.) *Proceedings of the 33rd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 268-275). Reno, NV: University of Nevada, Reno. Available: <http://www.pmena.org/2011/>

Niess, M. L., Browning, C., **Driskell, S. O.**, Johnston, C., Harrington, R. (March 5, 2009). *Mathematics teacher TPACK standards and revising teacher preparation*. Peer-reviewed

published proceedings for the Society for Information Technology & Teacher Education 20th International Conference, Charleston, SC.

Other Scholarly Writing

Ronau, R. N., Rakes, C. R., Bush, S. B., **Driskell, S.**, Niess, M. L., & Pugalee, D. (2011). Research brief: Using calculators for teaching and learning mathematics. *National Council of Teachers of Mathematics Research Brief*. Reston, VA: National Council of Teachers of Mathematics. Full text available at <http://www.nctm.org/news/content.aspx?id=31192>.

LaBeau, B. C., **Driskell, S. O.**, & Pfaffman, J. (2005). Product Reviews. *Learning & Leading with Technology*, 33(2), 40-42, 45.

Browning, C., **Driskell, S.**, Harper, S., Johnston, C., Kersaint, G., Kosheleva, O., Mathews, S., Niess, M., Koca, A. O., Pugalee, D., Ronau, B., Shafer, K., & Weinhold, M. (June 19, 2009). *Mathematics TPACK (Technological Pedagogical Content Knowledge) Framework*. Association of Mathematics Teachers Educators Position Statement. Retrieved from <http://amte.net/sites/all/themes/amte/resources/MathTPACKFramework.pdf>

Manuscript In-Progress

Rakes, C. R., Ronau, R. N., Bush, S. B., Niess, M. L., Pugalee, D., **Driskell, S. O.** (in preparation). An Examination of the Moderating Effect of Research Quality on the Measured Impact of Technology on Student Outcomes in Mathematics.

PRESENTATIONS

Invited Presentation

Harper, S.R., & **Driskell, S.O.** (March 2004). *Implementing performance-based technology standards in mathematics education courses*. Invited paper presented at the annual international meeting of the Society for Information Technology and Teacher Education, Atlanta, GA. Paper presented as the National Technology Leadership Initiative Fellowship Award.

International

Niess, M. L., Browning, C., Driskell, S. O., Johnston, C., & Harrington, R. (March, 2009). *Mathematics teacher TPACK standards and revising teacher preparation*. Session presented at the Society for Information Technology & Teacher Education 20th International Conference, Charleston, South Carolina.

National

Driskell, S. O., Bush, S. B., Ronau, R. N., Pugalee, D., & Rakes, C. R. (2016, January 30). A proposed mathematics education professional development process framework and research framework. Session presented at the Association of Mathematics Teacher Educators Twentieth Annual Conference, Irvine, California.

Driskell, S. O., Bush, S. B., Ronau, R. N., Niess, M. L., Pugalee, D., & Rakes, C. R. (2015, November 7). Research in mathematics educational technology: Trends in professional development over 40 years of research. Session presented at the Thirty-Seventh Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, East Lansing, MI.

Bush, S. B., **Driskell, S. O.**, Rakes, C. R., & Ronau, R. (2015, February 13). Technology inclusion in mathematics teacher preparation: Four decades of research. Session presented at the Association of Mathematics Teacher Educators Nineteenth Annual Conference, Orlando, Florida.

Rakes, C. R., Ronau, R. N., Pugalee, D. L. Bush, S. B., Niess, M. L., **Driskell, S. O.**, (2014). *A survey of mathematics education technology dissertation scope and quality: 1968-2009*. Session presented at the American Education Research Association 2014 Annual Meeting, Philadelphia, PA.

Driskell, S. O., Bush, S. B., Rakes, C. R., Niess, M. L., Pugalee, D. L. (2014). *Professional development shifts in mathematics education technology*. Session presented at the Association of Mathematics Teacher Educators 18th Annual Conference, Irvine, CA.

Rakes, C. R., Ronau, R. N., Bush, S. B., **Driskell, S. O.**, Niess, M. L., Pugalee, D. (2013). *A survey of mathematics education technology dissertation scope and quality: 1968-2009*. Presented at the 35th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education, Chicago, IL.

Driskell, S. O., Browning, C., Johnston, C., Niess, M. L. (2013). *Examining research on teachers' knowledge needed for teaching mathematics with technology using the TPACK framework*. Session presented at the 17th Annual Conference of the Association of Mathematics Teacher Educators, Orlando, Florida.

Harper, S. R., & **Driskell, S. O.** (2012). *Exploring middle grades geometry using Google SketchUp*. Session presented at the National Council of Teachers of Mathematics Annual Conference, Philadelphia, PA.

Rakes, C. R., Ronau, R. N., Bush, S. B., **Driskell, S. O.**, Niess, M. L., Pugalee, D. (2012). Session presented at the Association of Mathematics Teacher Educators 16th Annual Conference, Irvine, CA.

Lee, H.S., Adu-Gyamfi, K., Driskell, S.O., **Harper, S.R.**, Kersaint, G., & Leatham, K.R. (2012). *Teachers' statistical problem solving with dynamic technology: Research results across multiple institutions*. Presented at the annual meeting of the Association of Mathematics Teacher Educators, Fort Worth, TX.

Driskell, S. O., Ronau, R. N., Rakes, C. R., Bush, S., Niess, M. L., Pugalee, D. K. (2011). *Research in mathematics educational technology: Current trends and future demands*. Session presented at the North American Chapter of the International Group for the Psychology of Mathematics Education, Reno, NV.

Lee, H. S., **Driskell, S. O.**, Harper, S. R., Leatham, K. R., Kersaint, G., Agnotti, R. L. (2011). *Prospective teachers' use of representations in solving statistical tasks with dynamic statistical software*. Session presented at the North American Chapter of the International Group for the Psychology of Mathematics Education, Reno, NV.

Driskell, S. O., Browning, C., Johnston, C., Niess, M., & Harrington, R. (2011). *Developing and enhancing teachers TPACK*. Session presented at the National Council of Teachers of Mathematics 2011 Research Presession, Indianapolis, IN.

Lee, H. S., **Driskell, S. O.**, Harper, S. R., Jones, D. L., & Kersaint, G. (2011). *Creating a framework to examine mathematics teachers' exploratory data analysis*. Session presented at the National Council of Teachers of Mathematics 2011 Research Presession, Indianapolis, IN.

Harper, S. R., Shay, N., & **Driskell, S. O.**, (2011). *Interactive geometry in more dimensions using Google SketchUp*. Session presented at the National Council of Teachers of Mathematics 2011 Annual Meeting, Indianapolis, IN.

Driskell, S. O., Browning, C., Harrington, R. A., Johnston, C., & Niess, M. L. (2011). *Preparing teachers to integrate technology in teaching mathematics: What the research tells us*. Session presented at the Association of Mathematics Teacher Educators 15th Annual Conference, Irvine, CA.

Ronau, R. N., Rakes, C. R., Niess, M. L., Pugalee, D. K., **Driskell, S. O.**, Bush, S. (2011). *Research in mathematics instructional technology: Current Trends and Future Demands*. Session presented at the Association of Mathematics Teacher Educators 15th Annual Conference, Irvine, CA.

Johnston, C., Browning, C., **Driskell, S. O.**, Ozgun-Koca, S. A., Harper, S. R., Mathews, S. (2010). *Developing teachers' mathematics TPACK: Showcasing exemplary technology tools and their uses in mathematics education*. Session presented at the 14th Annual Conference of the Association of Mathematics Teacher Educators, Irvine, CA.

Watanabe, T., **Driskell, S. O.**, Grant, J. M., & Millsaps, G. M. (January 30, 2010). *Geometry for prospective elementary school teachers: What? How? Why?* Session presented at the Association of Mathematics Teacher Educators Fourteenth Annual Conference, Irvine, California.

Niess, M. L., **Driskell, S. O.**, Ronau, R. N., Pugalee, D., Harper, S. R., Shafer, K., Johnston, C., Browning, C., Kosheleva, O. (2009). *Using technology standards for mathematics teachers to design learning environments and experiences for methods courses*. Session presented at the 13th Annual Conference of the Association of Mathematics Teacher Educators, Orlando, FL.

Harper, S. R., **Driskell, S. O.**, & Nickell, J. (2008). *Exploring probabilities by simulating card games using Fathom*. Session presented at the 86th Annual Meeting of the National Council of Teachers of Mathematics, Salt Lake City, Utah.

Nickell, J., Harper, S. R., **Driskell, S. O.** (2008). *Using technology-based projects to foster geometric thinking in the middle grades*. Session presented at the 86th Annual Meeting of the National Council of Teachers of Mathematics, Salt Lake City, Utah.

Driskell, S. O., Harper, S. R., & Edwards, M. T. (2008). *Using Fathom with prospective teachers*. Session presented at the 12th Annual Conference of the Association of Mathematics Teacher Educators, Tulsa, Oklahoma.

Niess, M., Harper, S. R., Browning, C., Ronau, R., Shafer, K., Pugalee, D., & **Driskell, S. O.** (2008). *Preparing teachers with mathematics TPACK (Technological Pedagogical Content Knowledge)*. Workshop session presented at the 12th Annual Conference of the Association of Mathematics Teacher Educators, Tulsa, Oklahoma.

Driskell, S. O. (2007). *Using Shape Makers™ to teach properties of two-dimensional shapes*. Session presented at the School Science and Mathematics Association 2007 Annual Convention, Indianapolis, Indiana.

Driskell, S. O., Harper, S. R., & Rider, R. (2007). *Exploring some "Technology Tips" from the Mathematics Teacher*. Session presented at the 85th Annual Meeting of the National Council of Teachers of Mathematics, Atlanta, Georgia.

Harper, S. R., **Driskell, S. O.**, & Rider, R. (2006). *Exploring some "Technology Tips" from the Mathematics Teacher*. Session presented at the 84th Annual Meeting of the National Council of Teachers of Mathematics, St. Louis, Missouri.

Niess, M., Garofalo, J., **Driskell, S. O.**, Pugalee, D., & Chavez, O. (2006). *Technology PCK (or TPACK) and the preparation of mathematics teachers for teaching mathematics with technology*. Session presented at the 10th Annual Conference of the Association of Mathematics Teacher Educators, Tampa, Florida.

Driskell, S. O., & Harper, S. R. (2005). *Integrating The Geometer's Sketchpad in secondary preservice teacher content courses*. Session presented at the 9th Annual Conference of the Association of Mathematics Teacher Educators, Dallas, Texas.

Niess, M., Garofalo, J., **Driskell, S. O.**, Pugalee, D., & Chavez, O. (2005). *Preparing mathematics teachers to teach with technology*. Session presented at the 9th Annual Conference of the Association of Mathematics Teacher Educators, Dallas, Texas.

Harper, S. R., & **Driskell, S. O.** (2004). *Using dynamic geometry software to explore topics in mathematics history*. Session presented at the 82nd Annual Meeting of the National Council of Teachers of Mathematics, Philadelphia, Pennsylvania.

Harper, S. R., & **Driskell, S. O.** (2004). *Implementing performance-based technology standards in mathematics education courses*. Session presented at the 8th Annual Conference of the Association of Mathematics Teacher Educators, San Diego, California.

Driskell, S. O., Harper, S. R., & Timmerman, M. A. (2003). *Uncovering children's misconceptions of shapes using Shape Makers*. Session presented at the 81st Annual Meeting of the National Council of Teachers of Mathematics, Austin, Texas.

Driskell, S. O., Harper, S. R., & Timmerman, M. A. (2003). *Elementary preservice teachers' and students' conceptual understanding of geometric topics*. Session presented at the 7th Annual Conference of the Association of Mathematics Teacher Educators, Atlanta, Georgia.

***Schirack, S. O.**, & Sharp, B. (2002). *Integrating technology in a pre-service secondary methods course*. Session presented at the 6th Annual Conference of the Association of Mathematics Teacher Educators, Austin, Texas.

Sharp, B., & ***Schirack, S. O.** (2002). *Difficulties pre-service teachers face when implementing technology into the secondary mathematics classroom*. Session presented at the 6th Annual Conference of the Association of Mathematics Teacher Educators, Austin, Texas.

***Schirack, S. O.** (2001). *Analyzing data with Geographic Information Systems (GIS)*. Session presented at the 79th Annual Meeting of the National Council of Teachers of Mathematics, Orlando, Florida.

Shockey, T., Garofalo, J., ***Schirack, S. O.**, & Timmerman, M. A. (2000). *Exploring mathematical applications with palmtop technologies*. Session presented at the 78th Annual Meeting of the National Council of Teachers of Mathematics, Chicago, Illinois.

Garofalo, J., Drier, H. S., Harper, S. R., Timmerman, M. A., Pullano, F., Horton, B., ***Schirack, S. O.**, and Enderson, M. (2000). *Integrating technology in preservice secondary methods courses: Evaluation and dissemination of Impact project materials*. Session presented at the 4th Annual Conference of the Association of Mathematics Teacher Educators, Charlotte, North Carolina.

Regional

Driskell, S. O., & Harper, S. R. (2013). *Using dynamic shapes to explore properties of shapes*. Session presented at the National Council of Teachers of Mathematics 2013 Regional Conference & Exposition, Louisville, KY.

Harper, S. R., & **Driskell, S. O.** (2012). *Using GeoGebra to enhance prospective middle school teachers' classification of two-dimensional shapes*. Session presented at the GeoGebra Institute of Ohio Midwest Regional Conference, Oxford, OH.

Harper, S. R., & **Driskell, S. O.** (2008). *Helping middle school students develop spatial visualization skills*. Session presented at the Eastern Regional Conference of the National Council of Teachers of Mathematics, Cleveland, Ohio.

Driskell, S. O., & Harper, S. R. (2005). *Constructing student's understanding about division with fractions*. Session presented at the Western Regional Conference of the National Council of Teachers of Mathematics, Denver, Colorado.

Harper, S. R., & **Driskell, S. O.** (2005). *Developing geometric content knowledge in the middle grades*. Session presented at the Western regional conference of the National Council of Teachers of Mathematics, Denver, Colorado.

State

Driskell, S. O., Minge, S., & Dmytryk, M. (2013). *Reasoning with 2D shapes and their attributes*. Session presented at the 63rd Annual Ohio Council of Teachers of Mathematics Conference, Dayton, Ohio.

Driskell, S. O., & Harper, S. R. (2011). *Geometry and precalculus investigations using GeoGebra*. Session presented at the 61st Annual Ohio Council of Teachers of Mathematics Conference, Toledo, OH.

Driskell, S. O., & Harper, S. R. (2009). *Fostering spatial visualization ability through hands-on and technology-based*. Session presented at the 59th Annual Conference of the Ohio Council of Teachers of Mathematics, Cincinnati, Ohio.

Driskell, S. O., & Harper, S. R. (2006). *Using technology to explore properties of two-dimensional shapes*. Session presented at the 56th Annual Conference of the Ohio Council of Teachers of Mathematics, Toledo, Ohio.

Harper, S. R., & **Driskell, S. O.** (2006). *Using dynamic geometry software for more than just high school geometry*. Session presented at the 56th Annual Conference of the Ohio Council of Teachers of Mathematics, Toledo, Ohio.

Driskell, S. O., & Harper, S. R. (2005). *Hands-on learning about division with fractions*. Session presented at the 55th Annual Conference of the Ohio Council of Teachers of Mathematics, Dayton, Ohio.

Harper, S. R., & **Driskell, S. O.** (2005). *Illustrating some history of Greek mathematics with dynamic geometry software*. Session presented at the 55th Annual Conference of the Ohio Council of Teachers of Mathematics, Dayton, Ohio.

Driskell, S. O. (2004). *Using manipulatives to teach division of fractions*. Session presented at the 54th Annual Conference of the Ohio Council of Teachers of Mathematics, Akron, Ohio.

Harper, S. R., & **Driskell, S. O.** (2003). *Making geometric connections to pre-calculus and calculus topics using The Geometer's Sketchpad*. Session presented at the 53rd Annual Conference of the Ohio Council of Teachers of Mathematics, Cleveland, Ohio.

Timmerman, M. A., & **Schirack, S. O.** (2001). *Exploring interactive number and geometry activities: Click on the E-Standards*. Session presented at the 24th Annual Conference of the Virginia Council of Teachers of Mathematics, Norfolk, Virginia.

Harper, S. R., & **Schirack, S. O.** (2000). *Exploring algebra and pre-calculus topics using The Geometer's Sketchpad*. Session presented at the Virginia Society of Technology in Education, Roanoke, Virginia.

Local

Driskell, S. O. (April, 2016). *Rational Tangles*. Invited talk at the University of Dayton Math Club meeting, Dayton, Ohio.

Driskell, S. O. (March, 2006). *Dynamic capabilities of The Geometer's Sketchpad*. Invited keynote speaker at the University of Dayton Math Club High School Math Contest, Dayton, Ohio.

Driskell, S. O. (2004). *The dynamic understanding of ellipse, hyperbola, and parabola*. Invited talk at the University of Dayton Math Club meeting, Dayton, Ohio.

GRANT ACTIVITY

Funded External Grants

Brown, J. (PI) & **Driskell, S.** (Supporting). (June 2008 - June 2009). Ohio Department of Education, K-12 Math Professional Development. *Dayton Public Schools and Wright State University: Mathematics Inquiry Professional Development Program For Grades 6-12 Teachers*. (\$358,798)

Driskell, S. (Co-PI), & Keen, G. (Co-PI). (2008). WeEXCEL (West Ohio Center of Excellence for Science and Mathematics Education) Mini-Grant 2008. *Programmatic Assessment of Mathematical Content Knowledge for Teaching*. (\$9,000)

Sportsman, S. (Co-PI), & **Driskell, S. (Co-PI)**. (2004). Improving Teacher Quality State Grants Program, Ohio Board of Regents. *Hands-On Geometry*. (\$90,246)

Funded Internal Grants

Driskell, S. (Co-PI), & Herrelko, J. (Co-PI). (2006-2007). University of Dayton Learning Teaching Center Innovation Grants 2006/2007. *Implementing Standards-Based Mathematics Curricula into the Teaching of Mathematics and Education Courses for Prospective Teachers*. (\$7,500)

Driskell, S. (PI). (2005). University of Dayton Research Council Seed Grant. *Actively Engaging Students in Constructing Knowledge about Two-Dimensional Shapes Using Shape Makers*. (\$3,900)

Driskell, S. (PI). (2004). University of Dayton Research Council Seed Grant. *Students' Problem-Solving Strategies with Fractions*. (\$4,000)

HONORS, AWARDS & RECOGNITION

- Teacher and Administrator Appreciation Cookie Shine hosted by the University of Dayton Sisters of Pi Beta Phi, 2013.
- Mathematics Education Fellow 2012 award from the National Technology Leadership Institute for the paper Lee, H.S., Kersaint, G., Harper, S.R., **Driskell, S.**, & Leatham, K. *Teachers' statistical problem solving with dynamic technology: Research results across multiple institutions*. The award was received at the Sixteenth Annual Association of Mathematics Teacher Educators Conference in San Diego, CA, January 23-24.
- 2010 Faculty Award for Outstanding Teaching, College of Arts and Sciences, University of Dayton
- Teacher of the Month Award from the University of Dayton Epsilon Delta Upsilon fraternity, a professional co-ed fraternity for education majors, January 2010.
- Teacher of the Month Award from the University of Dayton Epsilon Delta Upsilon fraternity, a professional co-ed fraternity for education majors, March 2009.
- Favorite Teacher Award from the University of Dayton Theta Phi Alpha fraternity, March 2008.
- Nominated for the American Association of University Women Recognition Award for Emerging Scholars, Spring 2006.
- Teacher of the Month Award from the University of Dayton Epsilon Delta Upsilon fraternity, a professional co-ed fraternity for education majors, March 2006.
- Mathematics Education Fellow 2004 award from the National Technology Leadership Institute for the session: Harper, S. R., & **Driskell, S. O.** *Implementing Performance-Based*

Technology Standards in Mathematics Education Courses at the Eighth Annual Association of Mathematics Teacher Educators Conference in San Diego, CA, January 23-24. The session was presented at the Society for Information Technology and Teacher Education 15th International Conference in Atlanta, Georgia.

- Selected for the University of Dayton Teaching Fellows Program, Fall 2004-Winter 2005
- Teacher of the Year, 1997, Williston Middle School, Wilmington, North Carolina.
- Teacher of the Year Nominee, 1996, Williston Middle School, Wilmington, North Carolina.
- Kappa Delta Pi, International Honor Society in Education, 1990
- Phi Eta Sigma, Honor Society (Secretary), Edinboro University of Pennsylvania, 1989

SERVICE

Service to the University

- Co-Chair of the Stander Symposium Program Committee (August 2016-present)
- University of Dayton Research Council (August 2016-present)
- Faculty Hearing Committee on Grievances, elected position (August 2014-present)
Chair of the Faculty Hearing Committee on Grievances (August 2014-present)
- Co-Chair of the Stander Symposium Steering Committee (August 2015-August 2016)
- Stander Symposium Steering Committee (February 2013-August 2015)
- Faculty Development Committee (FDC) (August 2013-present)
 - Member of the FDC Subcommittee: Programing, Services, and Resources (January 2016-present)
 - Member of the FDC Subcommittee: Successful Faculty Career Pathways (August 2014-May 2015)
 - Member of the FDC Subcommittee: Faculty Exchange Series Proposal Reviewer (Nov 2014-Dec 2014)
 - Member of the FDC Subcommittee: Faculty Exchange Series Proposal Reviewer (May 2014-May 2014)
 - Member of the FDC Subcommittee: Faculty Exchange Series Proposal Reviewer (Nov 2013-Dec 2013)
- Faculty Board, elected position (August 2010-May 2013)
Secretary of the Faculty Board (Fall 2010 and Fall 2011)
- Graduation Marshal (August 2005-May 2013)
- Honors Thesis advisor for Danielle Bott (January 2011-May 2012)
- Learning Teaching Center (LTC) Innovation Grants Committee (September 2009-November 2009)
- Midterm Instructional Diagnosis Facilitator
 - Conducted one MID (Spring 2015)
 - Conducted two MIDs (Fall 2014)
 - Conducted one MID (October 2009-November 2009)
 - Conducted one MID (February 2009-March 2009)
 - Conducted one MID (October 2008-November 2008)
 - Conducted two MIDs (February 2008-March 2008)
 - Conducted two MIDs (October 2007-November 2007)
 - Conducted one MID (February 2006-March 2006)
 - Conducted two MIDs (October 2005-November 2005)
 - Conducted two MIDs (October 2004-November 2004)

Service to the College of Arts & Sciences

- Strategic Visioning Working Group #2: How We Teach and Learn (August 2016-present)
- Academic Affairs Committee (August 2016-present)
- Committee on Equity and Leadership Development (August 2015-present)
- Science Center Renovation Committee with EYP (January 2015-August 2015)
- Faculty Development Committee: Successful Faculty Career Pathways (August 2014-May 2015)
- Search Committee for the Department of Biology (August 2015-May 2016)
- Teacher Education Advisory Board (August 2007-May 2010)
- Ad Hoc College Committee on Student Learning for Inclusive Excellence (September 2009-May 2010)
- Taught ASI 150: *Introduction to the University Experience*, August 2007-May 2008

Service to the Department of Mathematics

- Department of Mathematics Executive Committee, elected position (August 2016-present)
- Department of Mathematics Tenure and Promotion Committee Chair (August 2016-present)
- Department of Mathematics Vision Committee (August 2015-May 2015)
- Tenure Committee for Dr. Jonathan Brown (August 2015-December 2015)
- Sabbatical Review Committee for Dr. Rebecca Krakowski (September 2014-January 2016)
- Sabbatical Review Committee for Dr. Muhammad Islam (September 2014-January 2016)
- Department of Mathematics Vision Committee (April 2014-May 2015)
- Post-Tenure Review Committee for Dr. Rebecca Krakowski (November 2014-April 2015)
- Search Committee for a Mathematician (May 2013-March 2014)
- Department of Mathematics Vision Committee, Chair (August 2009-May 2010)
- Tenure Committee for Dr. Muhammad Usman (August 2008-March 2013)
- Department of Mathematics Executive Committee, elected position (August 2006-August 2009)
 - Chair of the Department of Mathematics Executive Committee (August 2008-August 2009)
- Search Committee for a Mathematics Educator (Fall 2006-Spring 2007)
- Master of Ceremonies (Substitute for faculty on leave) for the University of Dayton 4th Annual Integration Bee (March 2006)
- Search Committee for a Discrete Applied Mathematician (Fall 2005-Spring 2006)
- Department of Mathematics Vision Committee (Fall 2004-Spring 2006)
- Ad hoc Committee with School of Education and Allied Professional to revise the middle childhood mathematics education curriculum (Fall 2003-Fall 2004)
- Program Faculty Member for the Masters of Mathematics Education (Aug 2003-present)
- Advising
 - Undergraduate
 - 7 undergraduate students from August 2015 to present
 - 9 undergraduate students from January 2015 to May 2015
 - 8 undergraduate students from August 2014 to December 2014
 - 8 undergraduate students from January 2014 to May 2014
 - 8 undergraduate students from August 2013 to December 2013
 - 10 undergraduate students from January 2013 to May 2013
 - 10 undergraduate students from August 2012 to May 2012
 - 9 undergraduate students from August 2011 to December 2011
 - 7 undergraduate students from January 2011 to May 2011
 - 8 undergraduate students from August 2010 to May 2010
 - 9 undergraduate students from August 2009 to December 2009

- 7 undergraduate students from January 2009 to May 2009
- 7 undergraduate students from August 2008 to December 2008
- 1 undergraduate student from August 2006 to May 2008

Graduate

- 2 graduate students from June 2009 to August 2011; each student completed a thesis
- 1 graduate student, from June 2008 to July 2009; she completed a thesis
- 2 graduate students from June 2007 to August 2008; each student completed a thesis

Service to the Profession

- Editor: M. L. Niess, S. O. Driskell, & K. F. Hollebrands (Eds.), *Handbook of Research on Transforming Mathematics Teacher Education in the Digital Age*. Hershey, PA: IGI Global.
- Association of Mathematics Teacher Educators (AMTE), *Conference Proposal Reviewer*:
 - *Twenty-first Annual AMTE Conference, June 2016-July 2016*
 - *Twentieth Annual AMTE Conference, June 2015-July 2015*
 - *Nineteenth Annual AMTE Conference, June 2014-July 2014*
 - *Eighteenth Annual AMTE Conference, June 2013-July 2013*
 - *Seventeenth Annual AMTE Conference, June 2012-July 2012*
 - *Sixteenth Annual AMTE Conference, June 2011-July 2011*
 - *Fifteenth Annual AMTE Conference, June 2010-July 2010*
 - *Fourteenth Annual AMTE Conference, June 2009-July 2009*
 - *Thirteenth Annual AMTE Conference, June 2008-July 2008*
 - *Twelfth Annual AMTE Conference, June 2007-July 2007*
- Psychology of Mathematics Education North America, *June 2015-July 2015, Conference Proposal Reviewer for the Thirty-Seventh Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, East Lansing, MI.
- Association of Mathematics Teacher Educators (AMTE), 2012-2015
Past Chair of the 2015 Nineteenth Annual AMTE Conference Program Committee
Chair of the 2014 Eighteenth Annual AMTE Conference Program Committee
Assistant Chair of the 2013 Seventeenth Annual AMTE Conference Program Committee
 The role of the AMTE Program Committee was to prepare the Call for Proposals, identify potential key note speakers, oversee the proposal submission process, review proposals, synthesize proposal reviews to make recommendations about acceptance, and assist at the conference by greeting speakers, being a session discussant, and gathering data about session attendance. As the 2014 Conference Program Committee Chair, I organized several Conference Program Committee meetings for the fourteen (including myself) committee members, created an online AMTE Conference Proposal Reviewer Training session, and finalized the Call for Proposals. I was personally in charge of all communications with the All Academic online convention software group and with the Conference Program Committee AMTE Board liaison. Altogether 409 proposals were submitted; 134 individuals participated in reviewing proposals. Each Conference Program Committee member, including myself, reviewed between 35 and 50 two-page proposals. Using the recommendations from the Conference Program Committee members, I personally scheduled all accepted sessions (218 sessions). I then notified the 429 accepted speakers of their acceptance, monitored speaker registration, notified speakers of the day and time of their session(s), and assisted in editing the entire 2014 Conference Program. (January 27, 2013 - February 8, 2014)
- Association of Mathematics Teacher Educators, 2012-2015
Member of the AMTE Conference Leadership Committee

This appointment was January 2012-February 2015. I was on this committee to provide support to all involved in the planning of the 2013, 2014, and 2015 AMTE national conferences.

- Editorial Advisory Board, *Handbook of Research on Teacher Education in the Digital Age, January 2014-December 2014*
- Teaching Children Mathematics, 2014-present
Manuscript Reviewer
- School Science and Mathematics, 2014-present
Manuscript Reviewer
- Assisted with the Fourth Grade Mathematics Pentathlon, Bell Creek Intermediate School, Bellbrook, Ohio, *September 2014-April 2015*
- Co-Advisor of the Third Grade Mathematics Pentathlon, Bell Creek Intermediate School, Bellbrook Ohio, *October 2013-April 2014*
- National Council of Teachers of Mathematics, 2012-2013
Member for the 2013 Regional Conference Program Committee
I identified and solicited key note speakers, reviewed proposals, and helped ensure the success of the 2013 NCTM Regional Conference & Exposition, Louisville, KY.
- Association of Mathematics Teacher Educators, *January 2013*
Discussion Table Facilitator for the discussion table, “Connecting with Mathematics Teacher Educators in Institutions with Large Teaching Loads”.
- Association of Mathematics Teacher Educators (AMTE), 2011-2012
Member of the 2012 Sixteenth Annual AMTE Conference Program Committee
The role of the AMTE Program Committee was to identify potential key note speakers, review proposals, and ensure the success of the Annual AMTE Conference. I personally reviewed 64 two-page proposals submitted to the Mathematics Content Knowledge strand for the 2012 conference. I also helped identify potential key note speakers, review proposals, and ensure the success of the 2012 conference.
- Key Curriculum Press, *September 2008-October 2009*
Field-tested The Geometer’s Sketchpad v. 5.0 dynamic geometry software
- The Mathematics Teacher, January 2005-January 2007, July 2007-August 2008
Co-editor of the Mathematics Teacher, Technology Tips Department
National Council of Teachers of Mathematics Publication
- Association of Mathematics Teacher Educators, *March 2006-January 2007*
Member of the 2007 Eleventh Annual AMTE Conference Program Committee
I helped identify potential key note speakers, review proposals, and ensure the success of the 2007 conference in Irvine, CA.
- Association of Mathematics Teacher Educators, *January 2004-January 2006*
Member of the Technology Committee
The role of the AMTE Technology Committee is to promote the investigation, engagement, and evaluation of uses of technology in mathematics teacher education. The Committee also recommends policy related to the AMTE website, National Technology Leadership Initiative (NTLI), and other technology issues related to enhancing mathematics teacher education. Specifically, I was in charge of rewriting and implementing the selection process of the NTLI Fellowship Award winner.

MATERIAL DEVELOPMENT

- Developing curriculum for *Math Specialists*, a two-year professional development program

with bi-monthly meetings (5.5 hours) with K-8 grade Kettering City Schools teachers (August 2015-present)

- Developed curriculum for MTH 295 Historical Roots of Elementary Mathematics (Spring 2016)
- Developed curriculum for MTH 216 Calculus Concepts & Applications (Fall 2014)
- Assisted Dr. Krakowski and Dr. Eloë in developing the new Masters in Mathematics Education (MME) program (2004-2005), including attending a meeting on collecting data for the market analysis component of the proposal, attending several meetings on how to prepare the full proposal, gathering information about the Ohio Department of Education licensure requirements (“Statewide Alternatives” section of the MME program) and about similar masters programs offered at Miami University and the University of Cincinnati (“Statewide Alternatives” section of the MME program), assisting in writing descriptions of the proposed mathematics courses (“Advanced Courses in Mathematics for Inservice Teachers” section of the MME program), proof reading and providing feedback on the full proposal several different times, and assisting in presenting the program for approval to the Regents Advisory Committee for Graduate Studies of the Ohio Board of Regents.
- Taught and assisted in creating material for the *Western Ohio Math Academies for Teachers (WOMAT): Geometry and Measurement for Grades 3-6* summer 2006 course. WOMAT is a grant funded through the Ohio Department of Education.
- Taught and created the curriculum for a new Middle Childhood Education mathematics course, MTH 270 *Geometry Concepts & Applications* (Fall 2005)
- Taught and created the curriculum for a new graduate course, MTH 514 *Advanced Mathematics for Secondary Teachers* (Summer 2005)
- Assisted in creating material for the *Hands-On Geometry* (2004) Improving Teacher Quality State Grant funded by the Ohio Board of Regents (Spring 2004 – Spring 2005)
- Co-taught and co-created the curriculum for two new graduate courses, MTH 512 *Geometry for Secondary Teachers* and MTH 517 *Research Methods & Issues in Mathematics Education*, with Dr. Krakowski (Summer 2004)
- Assisted Dr. Krakowski on the revision of the Middle Childhood Education mathematics curriculum (Fall 2003-Winter 2004)
- As a member of the mathematics team at the Center for Technology and Teacher Education at the University of Virginia (1998-2002), I developed materials to help preservice and inservice teachers effectively integrate technology into the middle and secondary mathematics curriculum. The materials utilize technology tools such as *ExploreMath*, *Fathom*, *The Geometer’s Sketchpad*, *Microsoft Excel*, *MicroWorlds (Logo)*, the Global Positioning System (GPS) handheld receiver, and graphing calculators.
- During the fall of 2000, I was responsible for writing and editing several lessons in the *Fractions, Decimals, Proportion, and Percent for Elementary and Middle School Teachers* training modules for the Virginia Department of Education. I also formatted all of the modules for the Internet and assisted in presenting several of the modules to mathematics coordinators from the state of Virginia.

INSERVICE WORKSHOPS & PROJECTS & CONSULTING

- Co-director with Scott Mitter (August 2015-present) of *Developing Math Specialists*, a two-year professional development program with bi-monthly meetings (5.5 hours) with K-8 grade Kettering City Schools teachers.

- Preparing to Teach Mathematics with Technology [PTMT] project partner hosted by North Carolina State University (June 2009-present). The PTMT project has three principal goals: 1) Develop high quality mathematics teacher education curricula, 2) Disseminate materials and build capacity across institutions, 3) Conduct research on effectiveness of materials and issues related to prospective teachers development of TPACK. As a partner, I have been involved with two research studies.
- Member of the *Ask a Mathematician* project through Miami University's iDiscovery Center. My duties included answering questions from middle and high school mathematics teachers. (September 2007-December 2009).
- Director of the professional development program for 6th, 7th, and 8th grade Dayton Public Schools teachers' to enhance mathematics content knowledge, and taught the 7th and 8th professional development sessions for the *Dayton Public Schools and Wright State University Mathematics Inquiry Professional Development Program for Grades 6-12 Teachers*. (August 2008-June 2009).
- Observed nine middle and high school mathematics teachers teaching lessons created for an Improving Teacher Quality grant funded through the Ohio Board of Regents (September 2006-May 2007).
- Taught and assisted in creating material for the *Western Ohio Math Academies for Teachers (WOMAT): Geometry and Measurement for Grades 3-6*. WOMAT was a grant funded through the Ohio Department of Education (March 2006-June 2006).
- **Driskell, S. O.** (November 2, 2005). *The Youth Summit*. A one-day workshop using *The Geometer's Sketchpad* with fourth- and fifth-grade students from the Miami Valley area, University of Dayton, Ohio.
- **Driskell, S. O.** (November 30, 2004). *The Youth Summit*. A one-day workshop using *The Geometer's Sketchpad* with fourth- and fifth-grade students from the Miami Valley area, University of Dayton, Ohio.
- Taught several mathematics lessons to sixth grade students at three local schools, including 6 lessons at Bellbrook Middle School, 2 lessons at Immaculate Conception, and 4 lessons at Moraine Community School. (February 2004)
- **Driskell, S. O.** (October 27, 2003). *The Youth Summit*. A one-day workshop using *The Geometer's Sketchpad* with fourth- and fifth-grade students from the Miami Valley area, University of Dayton, Ohio.
- Garofalo, J., ***Schirack, S. O.**, & Sharp, B. (2000-2002). *Integrating technology in middle and secondary school mathematics*. Professional development projects with public school teachers in Bermuda as part of the XL Education Initiative, Hamilton, Bermuda.
- ***Schirack, S. O.** (October, 2001). A professional development workshop using *The Geometer's Sketchpad* with teachers at Nelson County High School, Lovingston, Virginia.
- Garofalo, J., Timmerman, M. A., Drier, H. S., Harper, S. R., Shockey, T. L., & **Schirack, S. O.** (1998-1999). Using technology to explore middle and secondary school mathematics. A three-day inservice project with teachers in Albemarle County Public Schools, Charlottesville, Virginia.

PROFESSIONAL ORGANIZATION MEMBERSHIPS

American Educational Research Association
 Association for the Advancement of Computing in Education
 Association for Mathematics Teacher Educators

National Council of Teachers of Mathematics
Ohio Council of Teachers of Mathematics
Ohio Mathematics Education Leadership Council
School Science and Mathematics
Society for Information Technology and Teacher Education