

# DANA CHRISTINE COX

Curriculum vitae

Miami University  
Department of Mathematics  
100 Bishop Cir, 210-D  
Oxford, OH 45056  
(513) 529-9728  
Dana.Cox@MiamiOH.edu

## EDUCATION

- Ph.D. 2008 Western Michigan University, Kalamazoo, Michigan**  
Dissertation: Understanding Similarity: Bridging numeric and geometric contexts for proportional reasoning
- M.A. 2004 Western Michigan University, Kalamazoo, Michigan**  
Masters in Counselor Education and Counseling Psychology  
Limited License Professional Counselor (LLPC)  
National Certified Counselor (NCC)
- B.A. 1997 Hope College, Holland, Michigan**  
Areas: Mathematics and German  
Michigan Professional Secondary Teaching Certificate

## ACADEMIC EXPERIENCE

Professor, Department of Mathematics, Miami University, 2020-Present

Special Assistant to the Provost for Faculty Affairs, Miami University, 2020-2021, 2023

Associate Provost for Faculty Affairs, Miami University, 2021-2023

Associate Professor, Department of Mathematics, Miami University, 2014-2020

Assistant Professor, Department of Mathematics, Miami University, 2008-2014

Secondary Mathematics Teacher, Portage Public Schools, Portage, Michigan, 1999-2004

Secondary Mathematics Teacher, Black River Public Schools, Holland, Michigan.  
1997-1999

## **CERTIFICATIONS**

*Certificate in AI Fundamentals, Miami University.* AI Fundamentals is a series of microlearnings designed to introduce core concepts in Artificial Intelligence. Modules in this course are developed by Miami University experts across the disciplines, each of whom is on the cutting edge of AI research and teaching, to be completed December 2025.

*Certificate in Fostering a Culture of Belonging, Association of College and University Educators.* This certificate signifies completion of a course requiring the implementation of evidence-based instructional approaches. Certificate holders have demonstrated knowledge of and skill in implementing strategies to create a more equitable and just environment and promote a sense of belonging, completed November 2023.

*Human Research, Humans as Subjects IRB Basic Course, and Refresher 2 Course, CITI Program,* valid August 2025 - August 2027.

*Diversity, Equity and Inclusion,* completed online professional development course created by Miami University, completed Spring 2022.

*Safe Zone Training,* a campus-wide program designed to educate students, faculty, and staff on LGBTQ identities and experiences and build their skills in actively creating a Miami community that is inclusive for people of all sexual orientations and gender identities and expressions, completed February 2012.

## **PUBLICATIONS**

### **Books**

Harper, S.R. & Cox, D.C. (Eds.) (2023). *Modern Math Tasks: Transforming Change through Political, Social, Civic, and Design Literacies.* NCTM.

### **Book Chapters**

Simon, L.M, Harper, S.R. & Cox, D.C (2023). Developing Design Literacy to Support a Culture of Mathematical Modeling. In: Harper, S.R. & Cox, D.C. (Eds.), *Modern Math Tasks: Transforming Change through Political, Social, Civic, and Design Literacies.*

Cirillo, M. & Cox, D.C. (2022). Reasoning is in the Eye of the Lens-Holder: Observations Made through the Lenses of Justification, Argumentation, and Proof at the Secondary Level. In: M. Staples, A. Conner, and K. Bieda (Eds.), *Conceptions and Consequences of Argumentation, Justification and Proof.*

Chapman, O., Kastberg, S., Suazo-Flores, E., Cox, D., & Ward, J. (2020). Mathematics teacher educators' learning through self-based methodologies. In K. Beswick &

O. Chapman (eds.), *International Handbook of Mathematics Teacher Education* (2<sup>nd</sup> Edition. Volume 4): *The Mathematics Teacher Educator as a Developing Professional* (157-187). Leiden, The Netherlands: Brill-Sense Publishers.

Cox, D.C., Harper, S.R., & Edwards, M.T. (2018). Screencasting as a tool to capture moments of authentic creativity. In V. Freiman & J. Tassell, (Eds.), *Creativity and Technology in Mathematics Education* (Vol. 9 in *Mathematics Education in the Digital Era Series*). New York: Springer.

Lopes, C. E. & Cox, D. C. (2018). The Impact of Culturally Responsive Teaching on Statistical and Probabilistic Learning of Elementary Children. In A. Leavy, M. Meletiou-Mavrotheris & E. Paparistodemou (Eds.), *Statistics in Early Childhood and Primary Education: Supporting Early Statistical and Probabilistic Thinking* (pp 75-88). Singapore: Springer.

Cox, D. C., Meichenheimer, J., & Hickey, D. (2017). Eliciting and Using Evidence of Student Thinking: Giving Students Voice. In D. A. Spangler & J. J. Wanko (Eds.), *Enhancing Classroom Practice* (pp. 89–98). Reston, VA: National Council of Teachers of Mathematics.

Cox, D.C. & Harper, S.R. (2016). Documenting a developing vision of teaching mathematics with technology. In M.L. Niess, S. Driskell & K. Hollebrands, (Eds.), *Handbook of Research on Transforming Mathematics Teacher Education in the Digital Age* (pp 166-189). Hershey, PA: IGI Global.

### **Non-Refereed Journal Articles**

Fernandez, E., Benzing, A., Snow, M., Grossman, J., Mateas, V., Cox, D., & Bolognese, C. (2019). Motivating Mathematics: Why Do You Do What You Do? *The Mathematics Teacher*, 112(7), 484-484.

### **Refereed Journal Articles**

Cox, D., Harper, S., & Simon, L. (2025). Enhancing formative assessment practices with strategic use of the activity builder. *Ohio Journal of School Mathematics*, 101, 126-133.

Cox, D. C., Harper, S., & Keiser, J. M. (2021). Preservice Elementary Teachers' Beliefs about the Role of Definition in the Learning of Mathematics. *Journal of Educational Research and Innovation*, 9(1), 4.

Lo, J-J, & Cox, D.C. (2020). Reasoning about Composite Shapes with Transformations. *Mathematics Teacher Learning and Teaching PK-12*. 113(12). 85-90.

Simon, L. M., & Cox, D. C. (2019). The role of prototyping in mathematical design thinking. *The Journal of Mathematical Behavior*, 56, 100724.

- Cox, D.C. (2019). Toward an Empathetic Understanding of Scholarship. *Revista Brasileira de Pesquisa (Auto)biográfica*, 4(10), 68-79.
- Harper, S. R., & Cox, D. C. (2017). Quickfire Challenges to Inspire Problem Solving. *Mathematics Teacher*, 110(9), 686-692.
- D'Ambrosio, B.S. & Cox, D.C. (2015). An Examination of Current Methodologies in Mathematics Education Through the Lenses of Purpose, Participation, and Privilege. *Revista Perspectivas da Educação Matemática* 8 (18). 687-708.
- Cox, D.C., Naresh, N., D'Ambrosio, B.S., Keiser, J.M. (2014). Repositioning Ourselves: Acknowledging contradiction. *Bolema* 28 (49). 990-1011.
- Edwards, M.T., Harper, S.R., Quinlan, J., Phelps, S. and Cox, D.C. (2014). Cultivating deductive thinking with angle chasing. *Mathematics Teacher* 107 (6). 426-432.
- Cox, D.C. & Lo, J.-J. (2014). Detecting Distortion: bridging visual and quantitative reasoning on similarity tasks. *Mathematics Education Research Journal*, 26 (1). 1-23.
- Zelkowsi, J., Gleason, J., Cox, D.C. & Bismarck, S. (2013). Developing and validating a reliable TPACK instrument for secondary mathematics preservice teachers. *Journal of Research on Technology in Education*, 46 (2). 173-206.
- Beisiegel, M., Chesler, J., Cox, D.C., Kenney, R., Newton, J.A., Stone, J.A. (2013). Reconsidering the mathematics preparation of pre-service secondary mathematics teachers. *Notices of the AMS* 60 (8). 1056-1058.
- Cox, D.C., Chesler, J. Beisiegel, M., Kenney, R., Newton, J.A., Stone, J.A. (2013). The status of capstone courses for pre-Service secondary mathematics teachers. *Issues in the Undergraduate Mathematics Preparation of Secondary Teachers, Volume 4 (Curriculum)*. Retrieved from:  
<http://www.k-12prep.math.ttu.edu/journal/curriculum/beisiegel01/article.pdf>.
- Cox, D.C. (2013). Similarity at the crossroads of geometry and number. *Mathematical Thinking and Learning*, 15 (1). 3-23.
- Edwards, M.T., Harper, S.R. & Cox, D.C. (2013). Authentic tasks in a standards-based world. *Mathematics Teacher*, 106 (5). 346-353.
- Cox, D.C & Edwards, M.T. (2012). Sizing up the Grinch's heart. *Mathematics Teaching in the Middle School*, 18 (4). 228-235.
- Cox, D.C. & Lo, J.-J. (2012). Discuss similarity using visual intuition. *Mathematics Teaching in the Middle School*, 18 (1), 30-36.
- Edwards, M.T. & Cox, D.C. (2011). The frame game. *Journal of Mathematics Education at Teachers College*, 2 (1), 18-25.
- Cox, D.C. & Lo, J.-J. (2009). Comparing sizes. *Teaching Children Mathematics*, 16 (4), 204-208.

Reys, R., Cox, D.C., Dingman, S. & Newton, J. (2009). Transitioning to careers in higher education: Reflections from recent Ph.Ds in mathematics education. *Notices of the AMS*, 56 (9), 2-7.

## Conference Proceedings

Cox, D.C., & Lo, J-J. (2024). Toward Decomposing the Circle: Learning to Justify the Area Formula for a Circle. In K.M.Kosko, J.Caniglia, S.Courtney, M.Zolfaghari & G.A.Morris (Eds.), *Proceedings of the forty-six annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 456–460). Kent State University. Cleveland, Ohio. DOI: <https://doi.org/10.51272/pmena.46.2024>

Harper, S.R., Cox, D.C., & Keiser, J.M. (2024). Responding to mathematical empathy. In K.M.Kosko, J.Caniglia, S.Courtney, M.Zolfaghari & G.A.Morris (Eds.), *Proceedings of the forty-six annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 456–460). Kent State University. Cleveland, Ohio. DOI: <https://doi.org/10.51272/pmena.46.2024>

Cox, D.C., Harper, S.R., & Keiser, J.M. (2024). Mathematical empathy: At the intersection of teacher beliefs and mathematical knowledge for teaching. To be published in the *Proceedings of the 15<sup>th</sup> International Congress on Mathematics Education*. Sydney, Australia. <https://icme15-c10000.eorganiser.com.au/data/clients/1/773/submissions/172750/abstract.pdf>

Cox, D. C., Harper, S. R., & Keiser, J. M. (2023). Widening the Epistemological Window. In T. Lamberg & D. Moss (Eds.) *Proceedings of the forty-fifth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. 2)(pp. 267-271). University of Nevada, Reno.

Keiser, J. M., Harper, S. R., & Cox, D. C. (2023). Using number talks to reason about early number concepts in authentic ways. *Proceedings of the forty-fifth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. 2)(pp. 841-842). University of Nevada, Reno.

Cox, D. C., & Harper, S. R. (2022). Empathetic methodologies: opening the epistemological door for others. In G. Cobbs (Ed.) *Proceedings of the 50th Annual Meeting of the Research Council on Mathematics Learning*.

Harper, S.R. & Cox, D.C. (2020). Influences on early-career mathematics' teachers vision of teaching with technology: A longitudinal study. In A.I. Sacristán & J.C. Cortés, (Eds.) *Proceedings of the 42nd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1863-1867). Mazatlán, Sinaloa, Mexico: PME-NA. DOI: 10.51272/pmena.42.2020

- Cox, D.C. & Lo, J-J. (2019). Measurement and Decomposition: Making Sense of the Area of a Circle. In S. Otten, A.G.Candela, Z. de Araujo, C. Haines & C. Munter, (Eds.) *Proceedings of the 41st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 802-210). St. Louis, MO: University of Missouri.
- Suazo-Flores, E., Kastberg, S.E., Cox, D.C. Ward, J., Chapman, O. and Grant, M. (2019). Mathematics Teacher Educators' exploring Self-Based Methodologies. In S. Otten, A.G.Candela, Z. de Araujo, C. Haines & C. Munter, (Eds.) *Proceedings of the 41st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 2012-2019). St. Louis, MO: University of Missouri.
- Cox, D.C., Harper, S.R., & Keiser, J.M. (2018). "Reflecting on the Act of Defining." In *Proceedings of the 40th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, edited by Thomas E. Hodges, George J. Roy, and Andrew M. Tyminski, 735–738. Greenville, SC: PME-NA.
- Lo, J-J. & Cox, D.C. (2018). "Developing and Using Definitions for Prisms and Pyramids." In *Proceedings of the 40th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, edited by Thomas E. Hodges, George J. Roy, and Andrew M. Tyminski, 247–254. Greenville, SC: PME-NA.
- Suazo-Flores, E., Kastberg, S., Ward, J., Cox, D.C., & Chapman, O. (2018) "Mathematics Teacher Educators Inquiry into Their Practice: Unpacking Methodologies for Professional and Personal Growth." In *Proceedings of the 40th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, edited by Thomas E. Hodges, George J. Roy, and Andrew M. Tyminski, 247–254. Greenville, SC: PME-NA.
- Cox, D. C., & Harper, S. R. (2017). Using narratives to articulate mathematical problem solving and posing in a technological environment. In E. Galindo & J. Newton, (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 985–988). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.
- Harper, S.R. & Cox, D.C. (2017). Screencasting to study creative insight and create records of authentic problem solving practice. In J. Foster (Ed.) *Proceedings of the Twenty-ninth Annual International Conference on Technology in Collegiate Mathematics [ICTCM]*. Available: <https://www.pearson.com/us/about/news-events/events/ictcm-archive.html>
- Cox, D.C. & D'Ambrosio, B.S. (2015). Finding Voice: Teacher Agency and Mathematics Leadership Development. In Bartell, T.G., Bieda, K.N., Putnam, R.T. Bradfield, K., & Dominguez, H. (Eds.) *Proceedings of the 37<sup>th</sup> annual meeting of the North*

*American Chapter of the International Group for the Psychology of Mathematics Education* (pp.640-648). East Lansing, MI: Michigan State University.

- Cox, D. C., Naresh, N., D'Ambrosio, B.S., & Keiser, J. M. (2012). Honoring teacher's identity: A journey towards non-evaluative listening. In L.R. Van Zoest, J.-J. Lo, & J.L. Kratky (Eds.) *Proceedings of the 34th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp.417-422). Kalamazoo, MI: Western Michigan University. Available: <http://www.pmena.org/2012/>
- Harper, S.R. & Cox, D.C. (2012). Developing TPACK alongside professional vision of teaching mathematics with technology. In L.R. Van Zoest, J.-J. Lo, & J.L. Kratky (Eds.) *Proceedings of the 34th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1073-1080). Kalamazoo, MI: Western Michigan University. Available: <http://www.pmena.org/2012/>
- Chesler, J., Cox, D., Beisiegel, M., Kenney, R., Newton, J., & Stone, J. (2012). The status of capstone courses in the preparation of secondary mathematics teachers. *Proceedings of the 15th Annual Conference on Research in Undergraduate Mathematics Education*, 1, 108–122.
- Cox, D.C. (2010). Proportion and Distortion: Exploring the potential of complex figures to develop reasoning on similarity tasks. In P. Brosnan, Erchick, D., & Flevares, L. *Proceedings of the Thirty-Second Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp 590-598). Columbus, OH: The Ohio State University.
- Cox, D.C. (2009). Blending Perspectives: Student mediations of geometric and numeric reasoning to make sense of similarity, In Swars, S. L., Stinson, D. W., & Lemons-Smith, S. (Eds.). *Proceedings of the Thirty-First Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp 551-559). Atlanta, GA: Georgia State University.
- Sutter, A., Cox, D. C., & Fonkert, K. L. (2008). Reflections on assessment. In Z. Usiskin (Ed.), *Proceedings of the First CSMC International Conference on Mathematics Curriculum*. Charlotte, NC: Information Age Publishing, Inc. *Invited CSMC publication*.
- Cox, D. C., Lo, J., & Mingus, T.(2007) Low-ability middle school students' conceptions of 'same shape'. In PME-NA (Ed.), *Proceedings of the Twenty Ninth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Reno, NV.
- Hirsch, C. (with Cox, D. C., Kasmer, L., Madden, S., & Moore, D.). (2007). Analysis of curriculum recommendations. In: Center for the Study of Mathematics Curriculum (Ed.), *K–12 Mathematics: What Should Students Learn and When*

*Should They Learn It? Conference Highlights.* Center for the Study of Mathematics Curriculum.

- Lo, J., Cox, D. C., & Mingus, T. (2006). A conceptual-based curricular analysis of the concept of similarity. In S. Alatorre, J. L. Cortina, M. Sáiz, & A. Méndez (Eds.), *Proceedings of the Twenty Eighth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. Mérida, Mexico: Universidad Pedagógica Nacional.
- Lo, J., Mingus, T., Cox, D. C., Hervás, D., & Thomas, T. (2005). A curriculum analysis framework for conceptual understanding of mathematics. In G. M. Lloyd, M. Wilson, J. L. Wilkins, & S. L. Behm (Eds.), *Proceedings of the 27th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* [CD-ROM]. Eugene, OR: All Academic.

### **Other Publications**

- Cox, D.C. (2010). *Ratios and rates: Beyond speed and conversion*. Professional development module developed for the Michigan Mathematics Rural Initiative Project.
- Lo, J.-J. & Cox, D.C. (2009). Proportional Reasoning I. Professional development module developed for the Michigan Mathematics Rural Initiative Project.
- Lo, J.-J. & Cox, D.C. (2009). Proportional Reasoning II. Professional development module developed for the Michigan Mathematics Rural Initiative Project.

### **INVITED TALKS**

- Cox, D. C. (2018). *Toward Understanding Research and Teaching as Empathetic Activities*. Keynote address given at the Seventh Annual Indiana Mathematics Education Research Symposium. March 2.
- Cox, D.C. (2014). *Learning To Lead: Lessons from Project DOVETAIL*. Western Michigan University Mathematics Department Colloquium Series. October 24.
- Cox, D.C. (2014). *Project DOVETAIL: Developing Ownership and Vision, Empowering Teachers as Instructional Leaders*. Co-facilitated breakout session on Training Teacher Leaders and Coaches at the Federal Mathematics and Science Partnerships Conference. Washington D.C. September 30-October 1.
- Harper, S.R. & Cox, D.C. (2014). *Changing Perspective: Supporting secondary preservice mathematics teachers in developing a vision of teaching with technology*. Wittenberg University Robert Noyce Colloquium (Invited Talk). September 29.

Otten, S. (Producer). (2013). Conversations with Mathematics Education Researchers, Episode 1310: Dana Cox [Audio podcast]. Retrieved from <http://mathed.podomatic.com/>

Cox, D.C., Harper, S.R. & Edwards, M.T. (2010). *Project EFFECT: Strengthening preservice teacher mathematical content knowledge*. Invited talk given for the Wright State Mathematics Department Colloquium Series. May 14.

Cox, D.C., Newton, J.A., & Kasten, S. (2010). *Looking toward careers in mathematics education in colleges/universities—Some lessons learned by recent graduates*. Invited talk given for the Michigan State University Mathematics Learning Research Group. February 9.

### **CONFERENCE ACTIVITY/PARTICIPATION**

Cox, D.C., Ogle, K.K., & Ghimire, S. (2025). Using Constructive Dialogue to Support Small Group Discussion. Presented at the Original Lilly Conference on College Teaching. Miami University. Oxford, Ohio.

Cox, D.C. & Harper, S.R. (2025) Learning from Mistakes: Designing Lessons that Incorporate Formative Assessment Using Desmos Activity Builder. Presented at the 2025 Ohio Council of Teachers of Mathematics Annual Conference. Dayton, Ohio.

Cox, D.C., & Lo, J-J. (2024). Toward Decomposing the Circle: Learning to Justify the Area Formula for a Circle. Presented at the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Cleveland, Ohio.

Harper, S.R., Cox, D.C., & Keiser, J.M. (November 2024). Responding to mathematical empathy. Presented at the forty-sixth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Cleveland, Ohio.

Cox, D. C., & Harper, S.R. (July 2024). Mathematical empathy: At the intersection of teacher beliefs and mathematical knowledge for teaching. Session presented at the 15th International Congress on Mathematics Education, Sydney, Australia.

Harper, S.R., Cox, D.C., Simon, L.M., Glassmeyer, D. (2023). Modern Math Tasks: Transforming Change through Political, Social, Civic, and Design Literacies. Session presented at the NCTM Annual Meeting & Exposition. Washington D.C.

Cox, D. C., Harper, S. R., & Keiser, J. M. (October 2023). Widening the epistemological window. Session presented at the 45th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Reno, NV.

Keiser, J. M., Harper, S. R., & Cox, D. C. (October 2023). Using number talks to reason about early number concepts in authentic ways. Session presented at the 45th annual meeting of

the North American Chapter of the International Group for the Psychology of Mathematics Education, Reno, NV.

Harper, S.R., Cox, D.C., Simon, L., Kurtz, B., & Glassmeyer, D. (2023). Putting Math into Action: Developing Political, Social, Civic, and Design Literacies in Context. Session to be presented at the National Council of Teachers of Mathematics Conference in October 2023, Washington, D.C.

Harper, S.R. & Cox, D.C. (2021). Influences on Early-Career Mathematics Teachers' Vision of Teaching with Technology: A Longitudinal Study. Presented at the 42<sup>nd</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Mazatlán, Sinaloa, Mexico. June 2021.

Cox, D.C. & Harper, S.R. (2020). Engaging Alumni: Linking Longitudinal Research to Program Evaluation and Innovation. Presented at the 24<sup>th</sup> Annual Meeting of the Association of Mathematics Teacher Educators. Phoenix, AZ. February 6-8, 2020.

Cox, D.C. & Lo, J.J. (2019). Measurement and Decomposition: Making Sense of the Area of a Circle. Presented at the 41<sup>st</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. St. Louis, MO. November 14-17.

Suazo-Flores, E., Kastberg, S.E., Cox, D.C. Ward, J., Chapman, O. and Grant, M. (2019). Mathematics Teacher Educators' exploring Self-Based Methodologies. Presented at the 41<sup>st</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. St. Louis, MO. November 14-17.

Harper, S.R. & Cox, D.C. (2019). A Longitudinal Study of Inservice Teachers' Vision for Teaching with Technology. Presented at the 41<sup>st</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. St. Louis, MO. November 14-17.

Cox, D.C. & Harper, S.R. (2019). The geometry of gerrymandering. Session presented at the Careers Involving Quantitative Skills (CIQS) Conference, Miami University, Oxford, OH.

Lo, J-J. & Cox, D.C. (2018). Developing and Using Definitions for Prisms and Pyramids. Presented at the 40<sup>th</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Greenville, SC. November 15-18.

Cox, D.C., Harper, S.R., & Keiser, J.M. (2018). Reflecting on the Act of Defining. Presented at the 40<sup>th</sup> annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Greenville, SC. November 15-18.

Suazo-Flores, E., Kastberg, S., Ward, J., Cox, D.C., & Chapman, O. (2018) Mathematics Teacher Educators Inquiry into Their Practice: Unpacking Methodologies for Professional and

- Personal Growth. Presented at the 40th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Greenville, SC. November 15-18.
- Corotis, K. & Cox, D.C. (2018). Topology as Art: Designing an Educational Display Case. Presented at the Miami University Department of Mathematics Annual Fall Conference, Miami University, Oxford, OH. September 21-22.
- Cox, D. C., Harper, S. R., & Keiser, J. M. (2018, February). Reflecting on the act of defining. Poster presented at the Association of Mathematics Teacher Educators. Houston, TX.
- Harper, S. & Cox, D. (2017). Using mathematical quickfire challenges as opportunities for modeling, problem solving, and formative assessment. Session presented at the annual meeting of the Ohio Council of Teachers of Mathematics, Columbus, OH. October 20, 2017.
- Cox, D. & Harper, S. (2017). Connecting via Twitter: Which one doesn't belong? Session presented at the annual meeting of the Ohio Council of Teachers of Mathematics, Columbus, OH. October 20, 2017.
- Cox, D.C. & Harper, S.R. (2017). Using narratives to articulate mathematical problem solving and posing in a technological environment. Presented at the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education. Indianapolis, IN. October 7.
- Harper, S.R. & Cox, D.C. (2017). Using Geogebra to Explore the Geometry of Integration. Presented at *Algebra and Connections to Geometry*, the Miami University Department of Mathematics Conference. Oxford, OH. September.
- Harper, S.R. & Cox, D.C. (2017). Screencasting to study creative insight and create records of authentic problem solving practice. Presented at the Twenty-ninth Annual International Conference on Technology in Collegiate Mathematics. March 9-12.
- Cox, D.C. & Harper, S.R. (2017). *Screencasting as a Tool to Create Records of Authentic Problem Solving Practice*. Presented at the Twenty-first Annual Meeting of the Association of Mathematics Teacher Educators. Irvine, CA. February 9-11.
- Cirillo, M., Hummer J. & Cox, D.C. (2017). *Common Core Geometry: Preparing Teachers Across the Grades*. Presented at the Twenty-first Annual Meeting of the Association of Mathematics Teacher Educators. Irvine, CA. February 9-11.
- Lo, J-J & Cox, D.C. (2016). *What's So Hard About 3-D Composite Shapes?* Presented at the 2016 Teaching Mathematics Content Courses. Ann Arbor, MI. October 29.
- Cox, D.C., Meichenheimer, J. & Hickey, D. (2016). *Giving students voice: Eliciting and using*

- evidence of student thinking*. Presented at the 2016 National Council of Teachers of Mathematics Annual Meeting & Exposition. San Francisco, CA. April 13-16.
- Harper, S.R. & Cox, D.C. (2016). *Get on board with Geogebra*. Presented at the 2016 National Council of Teachers of Mathematics Annual Meeting & Exposition. San Francisco, CA. April 13-16.
- Cox, D.C., Lo, J.J., Cirillo, M. & Rathauz, M. (2016). *Preparing preservice teachers (K-8) to teach geometry*. Presented at the Twentieth Annual Meeting of the Association of Mathematics Teacher Educators. Irvine, CA. January 28-30.
- Cox, D.C. & Galbreath, V. (2015). *Coteaching calculus*. Session presented at the Ohio Council of Teachers of Mathematics, Cincinnati, OH. October 15-16.
- Harper, S.R. & Cox, D.C. (2015). *Function and preCalculus investigations using GeoGebra*. Session presented at the Ohio Council of Teachers of Mathematics, Cincinnati, OH. October 15-16.
- Cox, D.C. & Harper, S.R. (2015). *Getting our feet wet: Exploring GeoGebra tube*. Presented at the Midwest Geogebra Conference, Oxford, OH. June 20.
- Harper, S.R. & Cox, D.C. (June 2015). *From the ground up: Constructing your own GeoGebra files*. Presented at the Midwest Geogebra Conference, Oxford, OH. June 20.
- Keiser, J.M, Naresh, N, Edwards, M.T., Harper, S.R., D'Ambrosio, B.S, Suiter, D. & Cox, D.C. (2015). *Straddling two worlds: Co-creating teaching-centered professional development*. Presented at the Nineteenth Annual Meeting of the Association of Mathematics Teacher Educators. Orlando, FL. February 11-14.
- Cox, D.C. & Harper, S.R. (2014). *Developing a course in mathematical problem solving with technology for preservice secondary teachers*. Presented at the Eighteenth Annual Meeting of the Association of Mathematics Teacher Educators. Irvine, CA. February 6-8.
- Kastberg, S., Harkness, S.S., Naresh, N., Cox, D. C., & Keiser, J. M. (2013). *Developing as a mathematics teacher educator: Living contradictions*. Presented at the Seventeenth Annual Meeting of the Association of Mathematics Teacher Educators. Orlando, FL. January 24-26.
- Cox, D. C., Naresh, N., D'Ambrosio, B.S., & Keiser, J. M. (2012). *Honoring teacher's identity: A journey towards non-evaluative listening*. Presented at the Thirty-fourth Annual Meeting of PME-NA. Kalamazoo, MI. November 1-4.
- Harper, S.R. & Cox, D.C. (2012). *Developing TPACK alongside professional vision of teaching mathematics with technology*. Presented at the Thirty-fourth Annual Meeting of PME-NA. Kalamazoo, MI. November 1-4.

- Cox, D.C. & Harper, S.R. (2012). *Creating opportunities for TPACK development in preservice secondary mathematics teachers*. Presented at the Sixteenth Annual Meeting of the Association of Mathematics Teacher Educators. Fort Worth, TX. February 9-11.
- Beisiegel, M., Cox, D.C., Chesler, J., Newton, J.A., Kenney, R. (2012). *Uncovering the capstone*. To be presented at the Sixteenth Annual Meeting of the Association of Mathematics Teacher Educators. Fort Worth, TX. February 9-11.
- Beisiegel, M. & Cox, D.C. (2012). *Uncovering the capstone*. Presented at the Joint Mathematics Meetings of the Mathematical Association of America and American Mathematical Society. Boston, MA. January 4-7.
- Harper, S.R., Edwards, M.T. & Cox, D.C. (2011). *Kick it up a notch: Transform procedural problems into opportunities*. Presented at the 61<sup>st</sup> Annual Conference of the Ohio Council of Teachers of Mathematics. Toledo, OH. October 13-14.
- Landreman, R. & Cox, D.C. (2011). *When math becomes a balancing act*. Presented at the National Council of Teachers of Mathematics Annual Meeting & Exposition. San Indianapolis, IN. April 13-16.
- Cox, D.C. *Measuring the value of listening to students*. Presented at the National Council of Teachers of Mathematics Annual Meeting & Exposition. San Indianapolis, IN. April 13-16.
- Cox, D.C. (2011). *Project EFFECT: Early and Focused Field Experiences for Candidate Teachers*. Poster presented at the Association for Mathematics Teacher Educators STaR Presession. Irvine, CA. January 28.
- Zelkowsi, J. & Cox, D.C. (2011). *Developing a TPACK instrument for secondary mathematics preservice teachers*. Poster presented at the Association for Mathematics Teacher Educators STaR Presession. Irvine, CA. January 28.
- Reys, R., Cox D.C., Dingman, S., & Newton, J.A. (2010). *Looking toward careers in mathematics education in colleges/universities—Some lessons learned by recent graduates*. Presented at the Annual Meeting of the Association of Mathematics Teacher Educators. Irvine, CA. January 28-30.
- Cox, D.C. & Edwards, M.T. (2010). *Two Sizes Too Small? Geometry meets The Grinch*. Presented at the National Council of Teachers of Mathematics Annual Meeting & Exposition. San Diego, CA. April 21-24.
- Cox, D.C. (2010). *Proportion and distortion: Exploring the potential of complex figures to develop reasoning on similarity tasks*. Presented at the Thirty-second Annual Meeting of PME-NA. Columbus, OH. October 28-31.
- Cox, D.C., D'Ambrosio, B., Keiser, J. M. & Naresh, N. (2010). *Exploring children's mathematical voices as input for improving the teaching of mathematics*. Poster presented

at the Thirty-second Annual Meeting of PME-NA. Columbus, OH. October 28-31.

Cox, D.C. *Distortion detectives!* (2009). Presented at the fifty-ninth annual conference of the Ohio Council of Teachers of Mathematics. Cincinnati, OH. November 12-14.

Cox, D.C. (2009). *Blending perspectives: Student mediations of geometric and numeric reasoning to make sense of similarity*. Presented at the Thirty-first Annual Meeting of PME-NA. Atlanta, GA. September 23-26.

Cox, D.C. & Edwards, M.T. (2009). *Two sizes too small! Solving the Grinch Heart Task from multiple perspectives*. Presented at the University of Chicago Laboratory Schools and Metropolitan Mathematics Club Conference of Workshops. Chicago, IL. January 28.

Cox, D.C. (2008). *Similarity: An exploration of the conceptualization of proportion in a geometric context*. Roundtable presentation at the 2008 Annual Meeting of the American Educational Research Association. New York, NY. March 24-28.

Cox, D.C. (2008). *The perception of proportion: Designing the Similarity Perception Test*. Poster presented at the Center for the Study of Mathematics Curriculum Research Conference. Phoenix, AZ.

Cox, D.C. (2008). *What a drag! Using MSWord to explore the continuity of scaling*. Presented at Math In Action. Grand Valley, MI. February 27.

## GRANTS RECEIVED

2017                      **Towards Equity in Mathematics: Understanding the intersection between mathematics and special education.** (\$7535, Funded). College of Education Health and Society's Interdisciplinary Research Seed Grant, Principal Investigator. PI: Sarah Watt (Educational Psychology), Dana C. Cox, & Wayne Nirode (Department of Mathematics, Miami University). Accepted February 28, 2017.

2013 – 2015            **Project DOVETAIL: Developing Ownership & Vision: Empowering Teachers As Instructional Leaders.** (\$696,568.49, Funded). Ohio Mathematics and Science Partnership [Program Solicitation ODE], Principal Investigator. PI: Dana C. Cox & Nirmala Naresh (Department of Mathematics, Miami University); Co-PI: Jane Keiser, Suzanne Harper & Beatriz D'Ambrosio (Department of Mathematics, Miami University) & M. Todd Edwards (Department of Teacher Education, Miami University). Accepted September 16, 2013.

2008                      **Invented Strategies for Similarity Problems: Documenting the ways middle school students visualize geometric proportional growth.**

(\$5,000, Funded). Grant sponsored by the College of Arts and Sciences New Tenure-Track Faculty Summer Research Grant Program, October 2008.

## **PROFESSIONAL HONORS**

- |             |   |
|-------------|---|
| 2022        | <b>Prodesse Quam Conspici Award</b><br>Miami University   |
| 2021        | <b>Miami University Presidential Medallion.</b><br>Gregory P. Crawford, President, Miami University   |
| 2018        | <b>Outstanding Professor Award Top 10 Nominee.</b><br>Miami University Associated Student Government.   |
| 2014        | <b>Barney Fellowship</b><br>The Barney Fellowship is a departmental honor that supports a major teaching project for one year. I used the fellowship to design an online course for our M.A.T. program titled, "Interpretation and Application of Research in Mathematics Education."                 |
| 2012 – 2020 | <b>Letters of Commendation</b><br>Sent from the Center for the Enhancement of Learning, Teaching and Undergraduate Assessment, these recognitions indicated that graduating students identified me as someone who made a positive impact on their learning and development while at Miami University. |

## **COURSES TAUGHT**

### **Undergraduate Level Courses**

Mathematics for Elementary School Teachers I (4 credit hours)  
Mathematics for Elementary School Teachers II (4 credit hours)  
Pre-Calculus (3 credit hours)  
Calculus (5 credit hours)  
Mathematics for Middle Childhood Teachers: Structure of Arithmetic and Algebra (3 credit hours)  
Geometry for Middle Childhood Teachers (3 credit hours)  
Introduction to Proof (3 credit hours)  
Mathematical Problem Solving with Technology (3 credit hours)  
Mathematical Structures Through Inquiry (3 credit hours)  
School Mathematics from an Advanced Perspective (1 credit hours)

### **Graduate Level Courses**

Mathematical Problem Solving with Technology (3 credit hours)

Mathematics Teaching and Learning for Understanding (3 credit hours)  
Mathematics Content Through Lesson Study, K-2 (3 credit hours)  
Topics in Mathematical Sciences for Teachers: Number and Operation (K-2) (3 credit hours)  
Research in Mathematics Education (3 credit hours)  
Algebra for Secondary Teachers (3 credit hours)

## **WORKSHOPS PRESENTED**

- Cox, D.C. (with Naresh, N., Keiser, J., D'Ambrosio, B.S., Harper, S.R. and Edwards, M.T.) *Developing Ownership and Vision: Empowering Teachers As Instructional Leaders*. Designed and conducted a two year-long Leadership seminar and accompanying Summer Conference for Talawanda School District and McGuffey Montessori School. Oxford, OH. September 2013 – June 2015.
- Cox, D.C. *Miami University Partnership for Enhancing the Teaching of Mathematics*. Designed and conducted a workshop utilizing a lesson study model for Hamilton City Schools' Elementary School teachers. Hamilton, OH. September 2009 – April 2010.
- Cox, D.C. *Miami University Partnership for Enhancing the Teaching of Mathematics*. Designed and conducted over 46 hours of instruction for Hamilton City Schools' Elementary School teachers. Hamilton, OH. August 3-13, 2009.
- Cox, D.C. *Miami University Partnership for Enhancing the Teaching of Mathematics*. Designed and conducted a workshop utilizing a lesson study model for Hamilton City Schools' Elementary School teachers. Hamilton, OH. September 2008 – April 2009.
- Cox, D.C. *Miami University Partnership for Enhancing the Teaching of Mathematics*. Designed and conducted over 46 hours of instruction for Hamilton City Schools' Elementary School teachers. Hamilton, OH. August 4-14, 2008.
- Cox, D. C. (with Kasmer, L.). *MiGlance training*. Planned and conducted a countywide training session for sixth grade teachers based on the published MiGlance materials. Kalamazoo, MI. August 14–15, 2006.
- Cox, D. C. (with VanZoest, L. R., & Fonkert, K.). *VideoCases for Mathematics Professional Development (VCMPPD)*. Planned and conducted a series of eight professional development sessions for secondary teachers using the VCMPPD curriculum. Kalamazoo, MI. September 2002–May 2003.
- Cox, D. C. (with Kasmer, L.). *Using curriculum as a basis for developing a professional learning community*. Designed a series of six after-school professional development seminars for mathematics teachers at W. K. Kellogg Middle School, Battle Creek, MI. September 2002–May 2003.

Cox, D. C. (with Kasmer, L.). *Using curriculum as a basis for developing a professional learning community: A follow-up*. Designed and conducted a follow-up session to previous work with mathematics teachers at W. K. Kellogg Middle School, Battle Creek, MI. September 2003.

Cox, D. C. *Teaching a Connected Mathematics Project (CMP) Unit: Filling and Wrapping*. Designed and conducted a series of professional development seminars including one full day and two half-day sessions for Kalamazoo Public Schools mathematics teachers intended to be an introduction to the Connected Mathematics Project and a detailed look at one unit. Kalamazoo, MI. August–September 2002.

Horner, D. *Connected Mathematics Project 7<sup>th</sup> Grade Workshop*. Designed and presented a weeklong introduction and training for 7<sup>th</sup> grade teachers using the *CMP 7<sup>th</sup> grade* materials. Kalamazoo, MI. June 1998.

## **SERVICE TO THE PROFESSION**

### **Leadership Positions**

**Vice President of Membership, AMTE.** February 2026 to February 2029.

**Co-Chair, Publicity Committee, OCTM.** This is a 19-month appointment from April 2019-October 2020. It is my responsibility to publicize and market the 2020 OCTM conference. This includes multiple strategies and campaigns across a variety of media.

**Chair, Ad-hoc Program Committee, AMTE.** This was a six-month appointment from February-July 2019. This committee was convened to examine policies and related to the AMTE annual conferences and consider restructuring the conference to meet the needs of an expanded membership. As chair I was in charge of setting the agenda, scheduling meetings, and reporting to the Board of Directors.

**Associate Vice President of Conference Program, AMTE.** This is a three-year appointment from 2018-2020. This leadership position helps to guide the program committee as we solicit, accept, review and schedule conference proposals for the Annual meeting. My duties in this role are to assist in the chairing of this committee for the 2018 and 2020 Annual Meetings, but to take the head role for the 2019 Annual Meeting.

**Editorial Panel: Mathematics Teacher (NCTM).** This was a three-year appointment from 2017-2019. As a member of the editorial panel, I worked to ensure a cohesive and consistent vision for the NCTM flagship journal, *Mathematics Teacher*. I reviewed manuscripts and peer reviews and made decisions on a range of manuscripts intended for publication. I communicated, through the editor-in-chief, with authors. I worked directly with authors to improve their manuscripts over time, and I served as a liaison to the co-editors of the *Connecting Research to Teaching* department. I was given the honor of

leading the editorial panel on the final issue in the final volume of this journal, the May 2019 Focus Issue: *Motivating Mathematics*.

**Co-planner of the 2018 Miami University Fall Mathematics Conference.** This was a one-year appointment in 2018. In this position I co-planned the conference *Making Mathematics Visible*. We solicited, reviewed, and scheduled proposed sessions, brought in keynote speakers, publicized the conference, and helped coordinate logistics during the event.

**Strand Leader, 37<sup>th</sup>, 47<sup>th</sup> Annual Meeting, PME-NA.** As an appointed Strand Leader, I managed the reviewing process for the Mathematical Processes and Practice (47) and Geometry and Measurement (37, 47) strands and made recommendations to the Local Organizing Committee for the 2015 conference in East Lansing, MI and 2025 conference in State College, PA.

**Co-Editor (December 2014-April 2017).**

“Connecting Research To Practice” department, *Mathematics Teacher*, National Council of Teachers of Mathematics Publication. Co-editor with Laurie Cavey, Associate Professor of Mathematics Education at Boise State University and Michael Weiss, Assistant Professor of Mathematics Education at Michigan State University.

**Conference Registration Chair (2015)**

65<sup>th</sup> Annual Meeting of the Ohio Council of Teachers of Mathematics. October 15-16, 2015.

### **Additional Committee Participation and Service to the Profession**

**Program Committee Member, AMTE.** This was a three-year appointment from 2014-2017. As an appointed member of the program committee I helped to identify potential keynote speakers, review proposals and ensure the success of the 2015, 2016 and 2017 Annual Meetings.

**STaR Institute Program Committee.** This was a 1-year appointment from February 2010 to January 2011.

**CSMC 2010 Doctoral Fellows Symposium Planning Committee.** This was a 1-year appointment from August 2009 to April 2010.

**Co-leader of the CSMC 2008 Graduate Student Retreat Planning Committee.** This was a 1-year appointment from July 2007 to July 2008.

**Selection Committee for the Southwest District OCTM Classroom Teacher Award.** This was a 2-year appointment from January 2009-2011.

**CSMC 2008 Research Conference Planning Committee** This was a half-year appointment from September 2007 to February 2008.

**Reviewer of Manuscripts—Grants**

National Science Foundation (NSF) Division of Research on Learning in Formal and Informal Settings (DRL), [Discovery Research K-12](#) (DRK-12) program.

**Reviewer of Manuscripts—Journals**

*Mathematics Teacher Educator*, AMTE, NCTM  
*Contemporary Issues in Technology and Teacher Education*, Association for the Advancement of Computing in Education  
*Journal for Research in Mathematics Education*, NCTM  
*Mathematical Thinking and Learning*, Taylor & Francis  
*Mathematics Teacher: Learning and Teaching PK-12*, NCTM  
*Mathematics Education Research Journal*, Taylor & Francis  
*North American Geogebra Journal*, Technology Educator Alliance  
*Eurasia Journal of Mathematics, Science and Technology Education*  
*Ohio Journal of School Mathematics*

**Reviewer of Manuscripts—Conference Proposals**

The North American Chapter of the Psychology of Mathematics Education  
Association of Mathematics Teacher Educators  
International Congress for Mathematics Education  
American Educational Research Association

**SERVICE TO THE UNIVERSITY****Departmental Committee Participation**

Strategic Initiatives Committee, 2024 - Present  
Mathematics Department Newsletter Co-editor, 2014-2017;  
NCATE/CAEP Steering Committee, 2014-2016  
NCATE/CAEP Administrator for the MAT program in Mathematics Education, 2014-2016  
NCATE/CAEP Committee Member for the Integrated Mathematics Program, 2016  
Mathematics Department Colloquium Committee, 2010-2014;  
Mathematics Department Workload Committee, 2009-2010;  
Mathematics Department Undergraduate Committee, 2009-2012;  
Mathematics Education Committee, 2008-present; and  
Mathematics Education Seminar, 2008-present.

**Other University and Departmental Service**

2021–2023	Secretary of the University Senate, Miami University
2021–2022	Leadership Team, Miami University COVID-19 Testing Program

2020–2021	Co-Chair, Safe Return to Campus Committee, Miami University
2020–2021	Past Chair, Executive Committee of the University Senate, Miami University
2019–2020	Chair, Executive Committee of the University Senate, Miami University
2018–2019	Chair-elect, Executive Committee of the University Senate, Miami University
2018–2021	Academic Policy Committee, Miami University
2017–2021	University Senate, Mathematics and Statistics Departmental Representative
2015 – present	Selection Committee, MU Alumni Association 18 of Last 9 Award Program.
2010	Research Consultant, 2010 Cohort of Choose Ohio First Scholarship recipients.
2010, 2012, 2018	Presenter, Miami University Mathematics Department Honors Banquet.
2009, 2014, 2017, 2018, 2021	Marshall, Miami University Commencement.
2016	University Marshall for the Presidential Inauguration of Dr. Gregory Crawford,
2009	Facilitator, Miami University Summer Reading Program.

## **PROFESSIONAL AFFILIATIONS**

Center for the Study of Mathematics Curriculum (CSMC)  
 North American Association for the Psychology of Mathematics Education (PME-NA)  
 National Council for Teachers of Mathematics (NCTM)  
 Ohio Council of Teachers of Mathematics (OCTM)  
 Association of Mathematics Teacher Educators (AMTE)  
 National Council of Supervisors of Mathematics (NCSM)