

AMANDA BROWN

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EDUCATION

- Ph.D. Michigan State University, Mathematics Education, 2012;
Exploring teachers' practices of responding
Dr. Raven McCrory;
Dr. Suzanne Wilson, Dr. Sandra Crespo, Dr. Kristen Bieda, Dr. Ed Roeber
- M.A. Wayne State University, Mathematics, 2005
Using permutation groups to understand and solve the Rubik's cube
Dr. Daniel Frohardt
- B.S. Evangel University, Mathematics, 2000
Certificate for secondary mathematics grades 6-12

PROFESSIONAL

Assistant Research Scientist, University of Michigan, Educational Studies, 2018 - present
Research Investigator, University of Michigan, Educational Studies, 2015 - present
Research Associate, University of Michigan, GRIP Lab, 2013 - 2015
Mathematics Consultant, Macomb Intermediate School District, 2008 - 2013
Mathematics Consultant, Michigan State University, PROMS/E Project, 2006 - 2009
Field Instruction, Michigan State University, Teacher Education, 2012 - 2013
Teaching Assistant, Michigan State University, Teacher Education, 2007 - 2008
Research Assistant, Michigan State University, LARC Project, 2006 - 2007
Field Instruction, Michigan State University, Teacher Education, 2005 - 2006
Research Assistant, Wayne State University, Mathematics Department, 2005
Regional T³ Instructor, Texas Instruments, 2003 - 2013
Mathematics Teacher, Clintondale High School, 2000 - 2008

AWARDS

2017 Nominee for the NTLI Fellowship Award, AMTE Conference
2006 Teacher of the Year, Clintondale Community Schools
2005 Featured in Detroit News & MiCTM Address
2005 Classroom Grant Awardee, Macul & DACTM
October 2003 Teacher of the Month, Clintondale High School

PROFESSIONAL WRITING

ARTICLES IN PEER-REVIEWED JOURNALS

Herbst, P.G., Shultz, M., Bardelli, E., Boileau, N., & Milewski, A.M., (in press). What can we learn about the differences between experts and novices from their responses to a mathematics teaching simulation? *Educational Studies in Mathematics*.

Milewski, A., Erickson, A., & Herbst, P. (2021). “It Depends ...”: Using Ambiguities to Better Understand Mathematics Teachers’ Decision-making. *Can. J. Sci. Math. Techn. Educ.* **21**, 123–144 (2021). <https://doi-org/10.1007/s42330-021-00141-x>.

Milewski, A., & Strickland, S. (2020). Building on the work of teachers: Augmenting a functional lens to a teacher-generated framework for describing the instructional practices of responding. *Linguistics and Education*. *57*, (June 2020). <https://doi.org/10.1016/j.linged.2020.100816>

Milewski, A.M., & Frohardt, D. (2020). Seeing Algebraic Structure & Solving the Rubik’s Cube. *Mathematics Teacher: Learning and Teaching Pre-K–12*, *113*(5), 397-403. <https://doi.org/10.5951/MTLT.2019.0075>

Herbst, P., Ko, I., & Milewski, A. (2020). A heuristic approach to assess change in mathematical knowledge for teaching geometry after a practice-based professional learning intervention. *Research in Mathematics Education*. *22*(2), 188-208, <https://doi.org/10.1080/14794802.2019.1704851>

Dimmel, J.K., & Milewski, A.M. (2019). Scale, Perspective, and Natural Mathematical Questions: Rethinking representations of the world in real-life problems. *For the Learning of Mathematics*, *39*(3), 34 - 40.

Sweeney, J., Milewski, A., & Amidon, J. (2018). On-Ramps to Professional Practice: Selecting and Implementing Digital Technologies for Virtual Field Experiences. *Contemporary Issues in Technology and Teacher Education*, *18*(4), 670-691. Retrieved from <https://www.learntechlib.org/primary/p/182990/>.

Milewski, A.M., Herbst, P., Bardelli, E., & Hetrick, C. (2018). The role of virtual spaces for professional growth: Teachers’ engagement in virtual professional experimentation. *Journal of Technology and Teacher Education*. *26*(1), 103-126. Retrieved from <https://www.learntechlib.org/p/181094/>.

Milewski, A.M., & Strickland, S.K. (2016). (Toward) Developing a common language for describing instructional practices of responding: A teacher-generated framework. *Mathematics Teacher Educator*. *4*(2), 126 - 144. <https://doi.org/10.5951/mathteaceduc.4.2.0126>

Hawkins, A., & Sinclair, N. (2008). Explorations with *Sketchpad* in Topogeometry. *International Journal of Computers for Mathematical Learning* *13*, 71–82. <https://doi.org/10.1007/s10758-008-9126-6>

ARTICLES IN PEER-REVIEWED CONFERENCE PROCEEDINGS

Milewski, A., Strickland, S., Buchbinder, O., Chazan, D., & Herbst, P. (2021, Fall). Managing students’ non-canonical approaches to solving equations: Linguistic resources teachers use to respond to students’ mathematical work. In Olanoff, D., Johnson, K. & Spitzer, S.M. (Eds). *Proceedings of the forty-third annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 1411 – 1419). Philadelphia, PA. <http://www.pmena.org/pmenaproceedings/PMENA%2043%202021%20Proceedings.pdf>

Milewski, A., Dimmel, J.K., Hetrick, C., Silver, E.A., & Brown, C. (2021, Fall). Persistence of playing school: Examining an immersive 90-day semester-program for shaping students’ mathematical perceptions and practices In Olanoff, D., Johnson, K. & Spitzer, S.M. (Eds). *Proceedings of the forty-third annual meeting of the North*

American Chapter of the International Group for the Psychology of Mathematics Education. (pp. 556 – 560). Philadelphia, PA.
<http://www.pmena.org/pmenaproceedings/PMENA%2043%202021%20Proceedings.pdf>

Margolis, C., Ion, M., Herbst, P.G., Shultz, M., & Milewski, A.M. (2020). Understanding Instructional Capacity for High School Geometry as a Systemic Problem Through Stakeholder Interviews. In Sacristán, A.I., Cortés-Zavala, J.C. & Ruiz-Arias, P.M. (Eds.). *Proceedings of the 42nd annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 620 – 627). Mazatlan, Sin. Mexico. <https://doi.org/10.51272/pmena.42.2020>

Herbst, P.G., & Milewski, A.M. (2020). Using StoryCircles to inquire into the social and representational infrastructure of lesson-centered teacher collaboration. In Borko, H. & Potari, D. (Eds) *Proceedings of the 25th meeting of the International Congress Mathematics Instruction*. (pp. 629 – 636). <http://icmistry25.ie.ulisboa.pt>.

Milewski, A., Bardelli, E., & Herbst, P. (2019). The role of emotions in simulations of practice. In Otten, S., Candela, A. G., de Araujo, Z., Haines, C., & Munter, C. (Eds.). *Proceedings of 41st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 470-479). St Louis, MO: University of Missouri.

Ion, M., Herbst, P., Margolis, C, Milewski, A., & Ko, I. (2019). Developing practical measures to support the improvement of geometry for teachers' course. In Otten, S., Candela, A. G., de Araujo, Z., Haines, C., & Munter, C. (Eds.). *Proceedings of the 41st annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. (pp. 352 - 359). St Louis, MO: University of Missouri.

Herbst, P., Milewski, A., Ion, M., & Bleecker (2018). What Influences Do Instructors of the Geometry for Teachers Course Need to Contend With? In T.E. Hodges, G. J. Roy, & A. M. Tyminski, (Eds.), *Proceedings of the 40th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 239-246). Greenville, SC: University of South Carolina & Clemson University.

Milewski, A.M., Gürsel, U., & Herbst, P. (2017). Working collectively to design online teacher education curriculum: How do teacher educators manage to do it? 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. 112 – 119). Indianapolis, Indiana.

Herbst, P., Boileau, N., Clark, L., Milewski, A.M., Chieu, V., Gürsel, U., & Chazan, D. (2017, October). Directing focus and enabling inquiry with representations of practice: Written cases, storyboards, and teacher education. 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. 789 – 796). Indianapolis, Indiana.

Herbst, P., Chazan, D., Milewski, A.M., Gürsel, U., Amidon, J. Buchbinder, O., Walkoe, J., & Wieman, R. (2015, November). Representations of mathematics teaching and their use in transforming teacher education: Studying pre-service teachers' learning from work with representations of practice working group. 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. 1404 – 1410). East Lansing, Michigan: Michigan State University.

Milewski, A.M., Erickson, A., Herbst, P., & Dimmel, J. (2015, November). When mathematics teachers consider acting on behalf of the discipline, what assumption do they make? 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. 1130 – 1133). East Lansing, Michigan: Michigan State University.

ARTICLES OR CHAPTERS IN PRESS, IN REVIEW, IN REVISION, OR IN PREPARATION

An, T., Berzina-Pitcher, I., Bigelow, V., Buchbinder, O., Herbst, P., Milewski, A.M., Miller, N., Prasa, P.V., Pyzdrowski, L.J., St Goar, J., Sears, R., Szydlik, S., & Vestal, S. (in press). A Cross-Institutional Faculty Online Learning Community: Community-Guided Faculty Development in Teaching College Geometry for Teachers. In S. Linder, C. Lee, & K. High (Eds.) *The Handbook of STEM Faculty Development* due out in Spring 2022 from Information Age Publishing.

An, T., Boyce, S., Cohen, S., Escudero, H., Herbst, P., Krupa, E., Milewski, A.M., Miller, N., Pyzdrowski, L.J., Sears, R., Szydlik, S., & Vestal, S. (invited chapter under review). Student Learning Objectives for Teaching Geometry Content for Prospective Secondary Teachers. In B. Benken (Ed.) *AMTE Professional Book Series, Volume 5: Reflection on Past, Present and Future: Paving the Way for the Future of Mathematics Teacher Education* due out in May/June 2022 from Information Age Publishing.

Milewski, A.M., & Herbst, P. (in revision). Working collectively to design online teacher education curriculum: How do teacher educators manage to do it? Invited to complete major revisions at Digital Experiences in Mathematics Education

Milewski, A.M., Bardelli, E., Herbst, P., & Dimmel, J. (in preparation). The role of emotions in simulations of teaching practice. To be submitted.

Milewski, A.M., Herbst, P., & Hanby, K. (in preparation). Assessing the potential of innovative pedagogies of teaching: An analytic model for gauging the kinds of instructional practices made available for novice to practice through various forms of approximation. To be submitted.

Milewski, A.M., Dimmel, J.K., Silver, E.A., & Hetrick, C., (in preparation). Tale of two place-based mathematical interventions: Examining the potential for in-school and out-of-school interventions for supporting students to challenge the norms of playing school in the context of story problems. To be submitted.

Plaxco, D., & Milewski, A.M., (in preparation). Commutators and the Rubik's Cube: A Cubing Primer for Algebraists and An Algebra Primer for Cubers. To be submitted.

Herbst, P., Milewski, A.M., Ion, M., Margolis, C., & Bridges, S. (in preparation). Exploring the tensions undergraduate mathematics instructors experience when working toward improving the capacity for secondary geometry instruction. To be submitted.

PEER REVIEWED BOOK CHAPTERS

Brown A., Stevens, I., Herbst, P., & Huhn, C. (2021). Confronting teachers with contingencies to support their learning about situation-specific pedagogical decisions in an online context. In Hollebrands, K., Anderson, R., & Oliver, K. (Eds.) *Online Learning in Mathematics Education*. (pp. 291-316). Springer Cham.

Milewski, A.M., Herbst, P.G., & Stevens, I. (2020). Managing to collaborate with secondary mathematics teachers at a distance: Using storyboards as a virtual place for practice and consideration of realistic classroom contingencies. In Ferdig, R.E., Baumgartner, E., Hartshorne, R., Kaplan-Rakowski, R. & Mouza, C. (Eds.) *Teaching, technology, and teacher education during the COVID-19 pandemic: Stories from the field.* (pp. 623 - 630). Association for the Advancement of Computing in Education (AACE). <https://www.learntechlib.org/p/216903/>.

Herbst, P., Boileau, N., Shultz, M., Milewski, A., & Chieu, V. M. (2020). What Simulation-Based Mentoring May Afford: Opportunities to Connect Theory and Practice. In E. Bradley (Ed). *Games and Simulations in Teacher Education* (pp. 91-114). Springer, Cham.

Herbst, P., Chazan, D., & Milewski, A. (2020). Technology Tools for Mathematics Teacher Learning: How Might They Support the Development of Capacity for Specific Teaching Assignments?. In D. Potari & O. Chapman (Eds), *International Handbook of Mathematics Teacher Education: Volume 2* (pp. 223-251). Brill Sense. https://doi-org.proxy.lib.umich.edu/10.1163/9789004418967_009

Herbst, P., & Milewski, A. M. (2018). What StoryCircles can do for mathematics Teaching and teacher education? In R. Zazkis & P. Herbst (Eds), *Mathematical Dialogue: Scripting approaches in mathematics education research and practice.* (pp. 321 - 364). Advances in Mathematics Education. Cham, Switzerland: Springer.

Herbst, P., Chazan, D., Chieu, V., Milewski, A.M., Kosko, K., & Aaron, W. (2016). Technology mediated mathematics teacher development: Research on digital pedagogies of practice. In M. Niess, S. Driskell, & K. Hollebrands (Eds), *Handbook of Research on Transforming Mathematics Teacher Education in the Digital Age.* IGI Global.

Star, J., Strickland, S., & Hawkins, A.M. (2008). What is mathematical literacy? Exploring the relationship between literacy and content learning in middle and high school mathematics. In Conley, M. (Eds.) *Meeting the Challenges of Adolescent Literacy: Research We Have, Research We Need.* New York: Guilford Publications.

NON-PEER REVIEWED ARTICLES, BOOK CHAPTERS, BOOK REVIEWS, PROCEEDINGS, AND WHITE PAPERS

Milewski, A.M. (2021, January). 2021: Looking Back, Looking Forward. *GeT: The News!*, 2(3) <https://www.gripumich.org/v2-i2-w2021/>

Milewski, A.M. (2021, November). Developing and Stewarding the Get: A Pencil Community *GeT: The News!*, 3(1) <https://www.gripumich.org/v3-i1-f2021/>

SELECTED PRESENTATIONS

Herbst, P.G., Milewski, A.M., Ion, M., & Ko, I. (2021, April). Preparing Teachers for Secondary Geometry: Helping Shape the Geometry Course for Teachers. Annual Meeting of the National Council of Teachers of Mathematics, Virtual.

Milewski, A.M., & Herbst, P.G. (2021, January). *Panel on the Undergraduate Geometry Course for Secondary Teachers.* Madden, J., Lai, Y., Alvarez, J., & Whitfield, J. (Organizers). AMS Special Session on Mathematics Courses Designed to Develop Mathematical Knowledge for Teaching High School, II. Joint Math Meetings, Virtual.

Stevens, I., Herbst, P.G, Bardelli, E., & Milewski, A.M. (2020, March). Supporting Discussions About Teachers' Practical Knowledge via StoryCircles. University of Michigan, School of Education, MI-AMTE Conversations amongst Colleagues.

Herbst, P.G., Stevens, I., Milewski, A.M., Ion, M., & Ko, I. (2020, January). State of Undergraduate Geometry Courses for Secondary Teachers: Curriculum, Instructional Practices, and Student Achievement. Joint Mathematics Meetings. Denver, CO.

Milewski, A.M. (2019, April). *There's no place like home: Re-discovering ourselves by making mindful connections to our community with natural mathematical questions.* University of Michigan, School of Education, Dean's Advisory Council.

Milewski, A.M., Herbst, P.G., Margolis, C., Ion, M., Ko, I., & Abugka, E. (2019, January). What do we know about courses in Geometry for Secondary Teachers? Joint Mathematics Meetings. Baltimore, MD.

Milewski, A.M., Gürsel, U., & Herbst, P.G. (2016, March) Engaging teachers with the SMPs through online practice-based modules. Western Michigan University, Mathematics Department, Conversations amongst Colleagues.

Milewski, A.M., Chieu, V.M., & Herbst, P.G. (2015, November). *How can StoryCircles support the study of teaching practices?* University of Michigan, School of Education, Educational Studies Colloquium.

Milewski, A. (2014, April). Transforming Teachers' Professional Vision: Using LessonSketch to Broaden Teachers' Imaginations, Paper presented at the annual meeting of the National Council of Supervisors of Mathematics (NCSM). New Orleans, LA.

Milewski, A.M., Dunn, T., Anderlite, A., Schneider, K., & McAllister, L. (2013, April). *Exploring Teachers' Practices of Responding.* Paper presented at the annual meeting of the National Council of Supervisors of Mathematics (NCSM). Denver, CO.

Milewski, A.M. (2013, April). *Hot Topics: Exploring Teachers' Practices of Responding to Students' Ideas.* Featured Speaker at National Council of Supervisors of Mathematics, Denver, Colorado.

Milewski, A.M. (2012, October). *University of Michigan Rackham Centennial Lecture Series Panel*, Invited Panelist, Ann Arbor, Michigan.

Milewski, A.M., & Dykema, K. (2012, August). MiCTM Book Talk: The 5 Practices for Orchestrating Productive Mathematical Discussions, Online, Michigan.

Milewski, A.M. (2012, August). *Introduction to the CCSSI Mathematics Materials*, MAISA Collaboration Project Seminar Mathematics Roll Out, Gratiot Isabella RESD, Michigan.

Milewski, A.M. (2012, August). *Exploring Teachers' Practices of Responding*, 2012 RTI-MTSS Summer Institute, Macomb Intermediate School District, Michigan.

Hawkins, A.M., Strickland, S., & Star, J. (2006, November) *What is mathematical literacy? Exploring the relationship between literacy and content learning in middle and high school mathematics.* Literacy Achievement Research Center annual conference at Michigan State University.

CONFERENCE PAPERS

An, T., Buchbinder, O., Berzina-Pitcher, I., Brown, A.M., Herbst, P., Ion, M., Miller, N., Prasad, P., Pyzdrowski, L.J., Sears, R., St. Goar, J., Szydlik, S., & Vestal, S. (accepted). Learning and Participating in Scholarship of Teaching and Learning through a Faculty Online Learning Community. *Paper to be presented at the Annual Meeting of Annual Meeting of the American Educational Research Association- Division J. San Diego, CA. (AERA, April 2022)*

Brown, A.M., Herbst, P.G., & Stevens, I. (accepted). The evolution of StoryCircles: An online professional learning approach to attend to practice in context. *Paper to be presented at the Annual Meeting of Annual Meeting of the American Educational Research Association- Division K. San Diego, CA. (AERA, April 2022)*

Stevens, I., Boileau, N., Bridge, S., Brown, A.M., & Herbst, P.G. (accepted). Timing as a Complexity in Teaching. *Paper to be presented at the Annual Meeting of Annual Meeting of the American Educational Research Association- Division C. San Diego, CA. (AERA, April 2022)*

An, T., Boyce, S., Brown, A.M., Cohen, S., Escudro, H., Herbst, P., Krupa, E., Miller, N., Pyzdrowski, L.J., Sears, R., Szydlik, S., & Vestal, S. (accepted). Knowledge for teaching high school geometry: Examining student learning objectives of the undergraduate geometry course. *Paper to be presented at the Annual Meeting of the Association of Mathematics Teacher Education (AMTE, January 2022).*

Milewski, A.M., Herbst, P.G., & Stevens, I. (2021, January). Collaborating with teachers through COVID-19: Using storyboards to enable virtual approximations of realistic classroom contingencies. *Paper presented at the Annual Meeting of the Association of Mathematics Teacher Education (AMTE). Virtual.*

Boileau, N., Herbst, P., & Milewski, A. (2020, April). Framing Novel Tasks as Familiar: Some Reasons Why and a Resulting Tension. *Paper to be presented at a roundtable session at the Annual Meeting of the American Educational Research Association. San Francisco, CA. (Conference cancelled).*

Milewski, A., Ion, M., Herbst, P., Shultz, M., Ko, I., & Bleecker, H. (2019, April). Tensions in teaching mathematics to future teachers: Understanding the practice of undergraduate mathematics instructors. *Paper presented at the Annual Meeting of the American Educational Research Association, Division K-Teaching and Teacher Education. Toronto, CANADA.*

Shultz, M., Bardelli, E., Milewski, A., Boileau, N., & Herbst, P. (2019, April). What can we learn about the differences between experts and novices from a teaching simulation? *Paper presented at the Annual Meeting of the American Educational Research Association, Division K-Teaching and Teacher Education. Toronto, CANADA.*

Milewski, A., Bardelli, E., & Herbst, P. (2019, April). Framing a task as both construction and proof: How do teachers manage? *Paper presented at the Annual Meeting of the National Council of Teachers of Mathematics (NCTM). San Diego, CA.*

Buchbinder, O., Milewski, A., Chazan, D., & Herbst, P. (2019, April). Teachers dealing with non-standard student solutions to linear equations. *Paper presented at the Annual Meeting of the National Council of Teachers of Mathematics (NCTM). San Diego, CA.*

Milewski, A., Herbst, P., Bleecker, H., & Ion, M. (2019, February). Preparing Teachers for Secondary Geometry: Understanding the Tensions in Teaching. *Paper presented at*

the Annual Meeting of the Association of Mathematics Teacher Education (AMTE). Orlando, FL.

Milewski, A., Amidon, J., Bardelli, E., & Boileau, N. (2018, January). Using Virtual Spaces to Enable Teacher Professional Growth: Acting to Believing. *Paper presented at the Annual Meeting of the Association of Mathematics Teacher Education (AMTE). Houston, TX.*

Ko, I., Milewski, A., & Herbst, P. (2017, April). (How) Are Pre-service Teachers' Educational Experiences Related to their Mathematical Knowledge for Teaching Geometry? *Paper presented at the Annual Meeting of the American Educational Research Association, SIG-Research in Mathematics Education. San Antonio, TX.*

Milewski, A.M., Herbst, P.G., & Gürsel, U. (2017, April). Teachers' opportunities to learn through collaborative storytelling and visualization. *Paper presented at the Annual Meeting of the American Educational Research Association, Div. K. - Teaching and Teacher Education. San Antonio, TX.*

Chieu, V.M., Boileau, N.M., Huisinga, M., Milewski, A.M., Herbst, P.G. (2017, April). Can a teaching simulation predict novice and expert teachers' decision making? *Paper presented at the Annual Meeting of the American Educational Research Association, Div. C— Learning and Instructions. San Antonio, TX. DOI 10.302/1181752*

Erickson, A., Milewski, A.M., & Herbst, P.G. (2017, April). "It depends ...": (When) Does a student's mistake become a teacher's dilemma? *Poster presented at the Annual Meeting of the American Educational Research Association, Div. K. - Teaching and Teacher Education, San Antonio, TX.*

Milewski, A., Herbst, P., Gürsel, U., Silver, E., Horn, I., Thanheiser, E., & Crespo, S. (2017, January). *StoryCircles: The collective creation of stories of practice by a professional learning community.* Paper presented at the annual meeting of the Association of Mathematics Teacher Education (AMTE), Orlando, FL.

Herbst, P., Milewski, A., Davis, T., Earnest, D., Amador, J., Boileau, N., & Gürsel, U. (2017, January). *Technology-mediated practice-based teacher education: Designing, using, and researching digital tools for teacher learning.* Paper presented at the annual meeting of the Association of Mathematics Teacher Education (AMTE), Orlando, FL.

Dimmel, J.K., Herbst, P.G., Gürsel, U., Milewski, A.M., & Erickson, A. (2016, July). The LessonSketch environment: A platform for online teacher education and research on teaching. *Proceedings of the 2016 International Congress on Mathematics Education.* Hamburg, Germany: Universität Hamburg.

Erickson, A.W., Milewski, A.M., Dimmel, J.K., & Herbst, P.G. (2016, July). "It depends ...": (When) Does a student's mistake become a teacher's dilemma? *Proceedings of the 2016 International Congress on Mathematics Education.* Hamburg, Germany: Universität Hamburg.

Milewski, A.M., Herbst, P.G., Gürsel, U. (2016, July). Teachers' opportunities to learn through collaborative storytelling and visualization. *Proceedings of the 2016 International Congress on Mathematics Education.* Hamburg, Germany: Universität Hamburg.

Strickland, S.K. & Milewski, A.M. (2016, July). (Toward) A functional framework for describing teachers' practices of reacting. *Proceedings of the 2016 International Congress on Mathematics Education.* Hamburg, Germany: Universität Hamburg.

Milewski, A.M., Herbst, P.G., & Hanby, K. (2016, April). If at first you don't succeed ...: Using StoryCircles to provide pre-service teachers opportunities to practice. *Paper presented at the Annual Meeting of the American Educational Research Association, Div. K. - Teaching and Teacher Education, Washington DC.*

Milewski, A.M. & Strickland, A.M. with Humphrey, C. (2016, April). Maintaining coherence across intersecting worlds of research and practice: A common framework for describing teachers' instructional practices of reacting. *Paper presented at the Annual Meeting of the American Educational Research Association, Div. K. - Teaching and Teacher Education. Washington DC.*

Milewski, A., & Herbst, P. (2016, January). *StoryCircles in Mathematics Teacher Education: Their Role in Supporting Beginning Teachers Learning to Practice.* Paper presented at the annual meeting of the Association of Mathematics Teacher Education (AMTE). Irvine, CA.

Milewski, A., & Erickson, A. (2015, April). *Studying the assumptions teachers make within scenario-based assessments.* Paper presented at the annual meeting of the National Council of Teachers of Mathematics Research Session (NCTM Research). Boston, MA.

Dimmel, J., Milewski, A., & Herbst, P. (2015, April). Representing Professional Scenarios: Can nondescript cartoon graphics portray a range of human emotions? *Paper presented at the Annual Meeting of the American Educational Research Association, Div. I. – Education of the Professions. Chicago, IA.*

Herbst, P., Chazan, D., & Milewski, A. (2015, April). Multimedia online experiences as research tools to study mathematics teaching knowledge at scale: What is a multimedia experience? *Paper presented at the Annual Meeting of the American Educational Research Association, SIG-RME. Chicago, IA.*

SELECTED PROFESSIONAL DEVELOPMENT

Herbst, P., Milewski, A., Boileau, N., & Ion, M. (2018). *Integrating Geogebra into HS Geometry.* 3 Day Workshop in Ann Arbor Public Schools.

Milewski, A.M. (2015 - 2016). *LessonSketch Online Modules for Implementing the Common Core Standard for Mathematical Practice.* Michigan Department of Education & East Detroit, Dearborn, Charlotte, Woodhaven and Orchard View public school districts.

Milewski, A.M. (2010- 2013). *Transforming Secondary Teachers' Instructional Practices through Action Research 8-Day Workshop.* Macomb ISD & South Lake High School, Clinton Township, Michigan.

Milewski, A.M. (2009- 2013). *Transforming Secondary Teachers' Instructional Practices through Video Clubs 5-Day Workshop.* Macomb ISD, Clinton Township, Michigan.

Milewski, A.M. (2012- 2013). *Transforming Elementary Teachers' Instructional Practices Video Clubs 5-Day Workshop.* Macomb ISD, Clinton Township, Michigan.

Milewski, A.M., & McAllister, L. (2011 - 2012). *Developing Mathematical Ideas: Building a System of Numbers 5-Day workshop.* Macomb ISD, Clinton Township, Michigan.

Hawkins, A.M., & Jones, L. (2009). *Developing Mathematical Ideas: Measuring Space in 1, 2, and 3 dimensions 4-Day workshop*. PROMSE: Michigan State University, Michigan & Cincinnati, Cleveland, Ohio.

Strickland, S.K., & Hawkins, A.M. (2006 - 2009). Proportionality Across the Middle Grades. PROMSE: Michigan State University, Michigan & Cincinnati, Cleveland, Ohio.

Hawkins, A.M., & Srock, M. (2009–2010). *Secondary Lenses on Learning 7-Day Workshop*. Macomb ISD, Clinton Township Michigan.

Hawkins, A.M., & Srock, M. (2009). *EMATHS Implementing the Algebra I Units 8-Day Workshop*, Clinton Township, Michigan.

Milewski, A.M. (2008 - 2012). *Getting Started with the TI-Nspire*. Traverse City Schools, Oakland Schools, St. Clair ISD, Roscommon ISD, Ionia ISD, Macomb ISD, Michigan State University, Montcalm Community College, Oakland University, Wayne RESA, and Romeo Public Schools, Michigan.

Hawkins, A.M. (2008). *Exploring the TI-Navigator*. Haslett Middle School, L'Anse Creuse High School, St. Clair Community College, Michigan.

GRANTS, SPECIAL PROJECTS, AND FELLOWSHIPS

SUBMITTED AND PENDING

2022 - 2027 NSF: DRK-12: PI, *Windows and mirrors: Using online, international exchange centered on representations of lessons to disrupt cultural scripts in U.S. mathematics teaching*. (\$3,000,000).
PI: Amanda Brown
Co-PI: Pat Herbst

SUBMITTED AND FUNDED

2018 -2023 James S. McDonnell Foundation, Co-PI, *Managing students' contributions to mathematical work in whole class discussions in high school: How do teachers decide what to do?* (\$2,009,493)
PI: Pat Herbst
Co-PIs: Dan Chazan, Amanda Milewski, Ed Silver, and Jon Star with C. Huhn, K. Kildea, M. Macke, and M. Schnepf

2017 - 2022 NSF: EHR: IUSE, Co-PI, *GeT Support: An online professional learning Community to support the geometry course for teachers*. (\$2,999,597)
PIs: Patricio Herbst
Co-PI: Amanda Milewski

2015 - 2017 Michigan Department of Education: MSP, Senior Research Faculty, *Implementing EMATHS through LessonSketch StoryCircles*. (UM contract, \$373, 210).
PI: Debbie Ferry
with Patricio Herbst & Amanda Milewski

2015 - 2016 Michigan Department of Education: Section 99B, Senior Research Faculty, *LessonSketch Online Modules for Implementing the Common Cores Standards for Mathematical Practice*. MDE. (\$23,840).
PI: Patricio Herbst
with Amanda Milewski

- 2015 - 2018 NSF: CORE, Senior Research Faculty, "*SIMTEACH: What Can Practical Knowledge Modeled in a Teaching Simulator Contribute to Support Mathematics Teacher Learning?*" (\$515,755)
PIs: Patricio Herbst & Vu Minh Chieu
- 2013 - 2018 NSF: DRK-12, Senior Research Faculty, *Developing Rich Media-Based Materials for Practice-Based Teacher Education*. (\$2,634,873)
PIs: Daniel Chazan & Patricio Herbst
- 2009 - 2018 NSF: DRK-12, Senior Research Faculty, *Supports for learning to manage classroom discussions: Exploring the role of practical rationality and mathematical knowledge for teaching*. (\$3,467,721)
PIs: Patricio Herbst & Daniel Chazan
- 2008 - 2012 Michigan Department of Education: MSP, *Assistant Project Director, Embracing Mathematics, Assessment, and Technology in High School*. (\$1,800,000)
PI: Debbie Ferry

SUBMITTED AND NOT FUNDED

- 2021 NSF: AISL: Co-PI, *Building Upon the Broad Implementation of the Wayne State University Math Corps* (UM contract, \$586,390).
PIs: Steven Kahn, Wayne State University Professor of Mathematics and Founder of the Math Corps
Co-PIs: [Amanda Milewski](#) & Viveka Brown
- 2021 NSF: EHR CORE: PI, *Beyond telling teachers to "Do the right thing": Eliciting the knowledge and practical rationality needed to support equitable teaching in secondary mathematics classrooms*. (\$2,499,402)
PI: [Amanda Milewski](#)
Co-PIs: Patricio Herbst & Inah Ko
- 2020 Spencer Foundation, PI, *Detroit Youth as a Mathematical Resource: How Math Corps Supports the Development of Productive Perceptions about and Engagement in Mathematics* (\$499,388)
PIs: Amanda Milewski & Pat Herbst
- 2020 Christian Scholars Foundation-ESM, PI, *Love and Mathematics as Resources for Supporting Detroit Youth in Realizing their Own Greatness: Developing a Framework for Understanding Love in Mathematics Education* (\$19,962)
PIs: [Amanda Milewski](#)
- 2019 Community Foundation for Southeast Michigan, PI, *Detroit Youth as a Mathematical Resource: How a Long-standing Out-of-School Summer Program Supports the Development of Productive Mathematical Identities*. (\$49,981)
PIs: [Amanda Milewski](#) & Patricio Herbst
- 2019 NSF: AISL, PI, *Detroit Youth as a Mathematical Resource: How a Longstanding Out-of-School Summer Program Supports the Development of Productive Perceptions about and Engagement in Mathematics*. (\$1,953,017)
PIs: [Amanda Milewski](#) & Patricio Herbst

- 2017 DOE:EIR, PI, *Building and Sustaining a Knowledge Base for Ambitious Mathematics Teaching: Using LessonSketch StoryCircles to Expand the Work of Park City Mathematics*. (UM Contract: \$2,995,195)
PI: Debbie Ferry
UM Contract PI: Amanda Milewski with Patricio Herbst & Gail Burrill
- 2017 NSF: DRK-12, Senior Research Faculty, *ANNOTATE: Amplifying Novices' Noticing and Observation in Teaching and Teacher Education*. (\$449,971)
PIs: Vu Minh Chieu & Patricio Herbst with Amanda Milewski
- 2017 NSF: Cyberlearning, Senior Research Faculty, *EXP: DEPICT: Develop Expertise for Practice with Information and Communication Technology*. (\$549,988)
PIs: Vu Minh Chieu & Patricio Herbst with Amanda Milewski
- 2017 W.T. Grant Foundation, PI, *Detroit Youth as a Mathematical Resource: How Math Corps Supports the Development of Productive Mathematical Identities*. (\$604,139)
PIs: Amanda Milewski & Patricio Herbst
- 2016 NSF: DRK-12, Senior Research Faculty, *StoryCircles: Improving Mathematics Instruction through Collective Online Creation of Lesson Storyboards*.
PI: Patricio Herbst with Amanda Milewski & Vu Minh Chieu
- 2016 NSF: EHR:ECR, Senior Research Faculty, *Decision making in high school mathematics teaching: Explorations in practical rationality and mathematical knowledge for teaching*.
PIs: Patricio Herbst & Daniel Chazan with Vu Minh Chieu, Amanda Milewski, Nicolas Boileau, & Inah Ko
- 2016 Michigan Department of Education: MSP, Senior Research Faculty, *Implementing EMATHS through LessonSketch StoryCircles Year 3*
PI: Debbie Ferry with Patricio Herbst and Amanda Milewski
- 2014 NSF DRK-12, Senior Research Faculty, *What Can Online, Practice-Based Professional Development Contribute to the Enactment of the Standards for Mathematical Practice?*
PIs: Patricio Herbst, Vu Minh Chieu, and Amanda Milewski with Daniel Chazan, Edward Silver & Karl Kosko

OTHER

- 2018 - 2019 Macke Family Foundation, Project Director, *UM_BHHS Research to Practice Partnership Phase 2* (\$100,000)
- 2017 - 2018 Macke Family Foundation, Project Director, *UM_BHHS Research to Practice Partnership Phase 1* (\$100,000)
- 2011 - 2012 Michigan State University, Dissertation Fellowship Awardee (\$8000)

PROFESSIONAL SERVICE

NSF Reviewer, Division of Research on Learning
2018 Jones-Payne-Coxford Award Committee, University of Michigan, Educational Studies
2017 Jones-Payne-Coxford Award Committee, University of Michigan, Educational Studies
Member, North American Chapter of the International Group for the PME
Member, Association of Mathematics Teacher Educators
Member, American Education Research Association
Member, Detroit Area Council of Teachers of Mathematics

Member, Michigan Council of Teachers of Mathematics
Member, National Council of Teachers of Mathematics
Member, National Council of Supervisors of Mathematics
Reviewer, American Educational Research Journal
Reviewer, Journal of Mathematics Teacher Education
Reviewer, Teaching and Teacher Education
Reviewer, Journal of Teacher Education
Reviewer, Journal of Mathematical Behavior
Reviewer, Mathematics Teacher Education
Reviewer, AERA Division K, Section 5
Reviewer, PME-NA
Mathematics Leadership Team, MAISA CCSS Initiative, Oakland Schools
Advisory Committee, Michigan Assessment Consortium, MDE, Michigan
County Curriculum Team Writer, Macomb County Curriculum Committee
NCA School-wide Accreditation Chair, Clintondale High School
Michigan MEAP Advisory Board, Glencoe Publisher

TEACHING

UNDERGRADUATE

EDUC 120: Children's Mathematical Thinking and Learning, University of Michigan
TE 801/802: Professional Roles & Teaching Practices, Michigan State University
TE 407: Teaching Subject Matter to Diverse Learners, Michigan State University
TE 408: Crafting Teaching Practice, Michigan State University

MASTERS

EST 651N: Special Issues in Mathematics Education, Oakland University
EDU 508GA: Transforming Teaching Practices in Mathematics through Action
Research, Central Michigan University

INVITED LECTURES

EDUC 737: Introduction to Discourse Analysis, University of Michigan
EDUC 781: The Study of Mathematics Instruction, University of Michigan
EDUC 898: Professional Development Seminar, University of Michigan
EDUC 571: Professional Development Seminar in Teacher Education, University of
Michigan
EDUC 511: Records of Practice, University of Michigan