

Ander Erickson

University: University of Washington Tacoma
School of Interdisciplinary Arts & Sciences
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EDUCATION

- 2015 PhD University of Michigan, Ann Arbor
Educational Studies (Mathematics Education)
Dissertation Title: *Counting on the Knowledge of Others: Rational Dependence in the Mathematics Classroom*
Committee: Patricio Herbst (Chair), Deborah Loewenberg Ball, Elizabeth Moje, Pamela Moss, Soo Rieh
- 2007 MS Portland State University
Mathematical Sciences
Thesis: *Representing Permutations with Tableaux*
Advisor: John Caughman
- 2005 BS Portland State University
Mathematical Sciences

PROFESSIONAL APPOINTMENTS

- 2017 University of Washington Tacoma
School of Interdisciplinary Arts & Sciences
Assistant Professor
- 2016 Western Oregon University
Department of Mathematics
Assistant Professor
- 2015 University of Michigan, Ann Arbor
School of Education
Postdoctoral Researcher
Project Title: Thought Experiments in Mathematics Teaching II
- 2015 University of Michigan, Ann Arbor
School of Education
Instructor
Using Literacy to Teach Mathematics in Secondary Schools

PUBLICATIONS

Journal Articles

- 2017 Erickson, A. (2017). Rethinking the Numerate Citizen: Quantitative Literacy and Public Issues -- Reply. *Numeracy*.
- 2016 Erickson, A., & Herbst, P. (2016) What influences a teacher's willingness to create opportunities for discussion in a geometry classroom? *The International Journal of Science and Mathematics Education*.
- 2016 Erickson, A. W. (2016). Rethinking the Numerate Citizen: Quantitative Literacy and Public Issues. *Numeracy*, 9(2), 4.
- 2015 Herbst, P., Chazan, D., Kosko, K. W., Dimmel, J., & Erickson, A. (2016). Using multimedia questionnaires to study influences on the decisions mathematics teachers make in instructional situations. *ZDM*, 1-17.

Peer-Reviewed Conference Proceedings

- 2017 Erickson, A. (2017). Introducing Mathematics to Information Problem-Solving Tasks: Surface or Substance? *Proceedings of the 2017 Annual Meeting of the Psychology of Mathematics Education – North America*.
- 2015 Erickson, A., & Herbst, P. (2015). What influences a teacher's willingness to create opportunities for discussion in a geometry classroom? *Proceedings of the 2015 Annual Meeting of the Psychology of Mathematics Education – North America*.
- 2015 Milewski, A.M., Erickson, A., & Herbst, P. (2015). When mathematics teachers consider acting on behalf of the discipline, what assumptions do they make? *Proceedings of the 2015 Annual Meeting of the Psychology of Mathematics Education-North America*.
- 2015 Erickson, A. (2015). The role of rational dependence in the mathematics classroom. In S. Mukhopadhyay, & B. Greer (Eds.), *Proceedings of the Eighth International Mathematics and Society Conference*, pp. 468-479. Portland, OR: Portland State University
- 2014 Erickson, A.W. (2014) Engaging undergraduate mathematics students in information problem solving: A cross-case analysis. In P. Liljedahl, C. Nicol, S. Oesterle, & D. Allen (Eds.), *Proceedings of the 2014 annual meeting of the International Group for the Psychology of Mathematics Education (Vol 6, pp.305-306*. Vancouver, Canada: Simon Fraser University.
- 2014 Herbst, P., Dimmel, J., Erickson, A., Kosko, K., & Ko, I. (2014) Mathematics teachers' recognition of an obligation to the discipline and its role in the justification

of instructional actions. In P. Liljedahl, C. Nicol, S. Oesterle, & D. Allen (Eds.), *Proceedings of the 2014 annual meeting of the International Group for the Psychology of Mathematics Education (Vol 3, pp. 273-280*. Vancouver, Canada: Simon Fraser University.

Manuscripts under Review

- 2017 Erickson, A. (Submitted) Introducing Mathematics to Information Problem-Solving Tasks: Surface or Substance?. Submitted to *Learning and Instruction*
- 2017 Erickson, A. (Submitted) Collective information seeking: Conversations on a social Q&A site. Submitted to *Information Research*.

Manuscripts in Preparation

- 2017 Erickson, A. (In preparation) The Authority of Numbers: Fostering Opportunities for Rational Dependence in a Mathematics Classroom. To be submitted to *Journal for Research in Mathematics Education*
- 2017 Erickson, A., & Herbst, P. (In preparation) Preservice teachers' learning of mathematical content and pedagogy through videos and animations. To be submitted to *The Mathematics Educator*.

CONFERENCE PRESENTATIONS

- 2018 Erickson, A.W. (2018) *The Authority of Numbers: Fostering Opportunities for Rational Dependence in a Mathematics Classroom*. Paper Presentation at the 21st Annual Conference on Research in Undergraduate Mathematics Education, San Diego, CA.
- 2017 Erickson, A.W., Boileau, N., Huisinga, M., & Herbst, P.G. (2017) *Measuring Secondary Geometry Teachers' Relationships with an Instructional Norm*. Roundtable Session at the Annual Meeting of the American Educational Research Association, San Antonio, TX.
- 2017 Erickson, A.W., Milewski, A., & Herbst, P.G. (2017) *It Depends...': (When) Does a Student's Mistake Become a Teacher's Dilemma?* Poster Presentation at the Annual Meeting of the American Educational Research Association, San Antonio, TX.
- 2016 Erickson, A.W., & Herbst, P.G. (2016, April) *Supporting Preservice Teachers' Ability to Anticipate in Secondary Mathematics: A Comparison of Animations and Video*. Paper Presentation at the Annual Meeting of the American Educational Research Association in Washington, DC.

- 2016 Erickson A.W, Dimmel, J.K, Herbst, P.G, & Ko, I. (2015). *When What Routinely Happens Conflicts With What Ought To Be Done: A Scenario-Based Assessment*. Paper Presentation at the Annual Meeting of the American Educational Research Association in Washington, DC.
- 2015 Erickson, A.W. (2015, April) *Information-Based Problems in Quantitative Literacy Courses: A Cross-Case Analysis*. Round-Table Session at the Annual Meeting of the American Educational Research Association, Chicago, IL.
- 2015 Erickson, A.W., Dimmel, J.M., Hanby, K., & Ko, I. (2015, April) *Using Scenarios to Assess Teachers' Justifications of Actions in Mathematics Teaching*. Paper presentation at the Annual Meeting of the American Educational Research Association, Chicago, IL.
- 2015 Milewski, A. M., & Erickson, A.W. (2015, April) *Studying the Assumptions Teachers Make within Scenario-Based Assessments*. Paper presentation at the National Council of Teachers of Mathematics Research Conference, Boston, MA.
- 2014 Erickson, A.W. (2014, August) *Examining depictions of SMP8: Look for and express regularity in repeated reasoning*. Presentation at the Michigan Council of Teachers of Mathematics Annual Conference, Holland, MI.
- 2014 Chazan, D., Buchbinder, O., Dimmel, J.K., Erickson, A., Hanby, K., Herbst, P.G., Philipp, R., & Lamb, L.L. (2014, April). *Using representations of practice in survey research with mathematics teachers*. Research Symposium presented at the research pre-session of the annual meeting of the National Council of Teachers of Mathematics, New Orleans, LA.
- 2013 Aaron, W.A., Erickson, A.W., Dimmel, J.K., & Herbst, P.G. (2013, April) *Analyzing teachers' responses to an online multimedia questionnaire using a linguistically-grounded coding scheme*. Poster presented at the research pre-session of the annual meeting of the National Council of Teachers of Mathematics, Denver, CO.
- 2013 Herbst, P.G., Chazan, D.I., Kosko, K.W., Aaron, W.A., Dimmel, J.K., Buchbinder, O., & Erickson, A.W. (2013, April) *Methods to study decisions in mathematics teaching*. Research Symposium presented at the research pre-session of the annual meeting of the National Council of Teachers of Mathematics, Denver, CO.
- 2013 Herbst, P.G., Aaron, W.A., & Erickson, A.W. (2013, April). *How preservice teachers respond to representations of practice: A comparison of animations and video*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

- 2013 Herbst, P.G., Aaron, W.A., Dimmel, J.K., & Erickson, A.W. (2013, April). *Expanding students' involvement in proof problems: Are geometry teachers willing to depart from the norm?* Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.
- 2013 Erickson, A., Herbst, P., & Dimmel, J. (2013, January). *Preservice Teachers Respond to Representations of Practice: Animating the Teaching of Mathematical Practice.* Presentation at the Conversations among Colleagues Conference, Mt. Pleasant, MI.
- 2013 Herbst, P., Chieu, V., & Erickson, A. (2013, January). *Using Decompositions and Approximations of Practice in Mathematics Teacher Education: What LessonSketch has to Offer.* Presentation at the Conversations among Colleagues Conference, Mt. Pleasant, MI.
- 2012 Erickson, A. (2012, September). *From Classroom to Classroom: The Information Needs of Preservice Teachers.* Presentation at the Georgia International Conference on Information Literacy, Savannah, GA.
- 2012 Erickson, A. (2012, March). *Information literacy for future teachers: Surveying collaborative work between librarians and teacher educators.* Poster presented at University of Michigan School of Education Graduate Student Research Conference, Ann Arbor, MI.
- 2011 Erickson, A. (2011, April). *Quantitative literacy and educating for democracy.* Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.

INVITED TALKS

- 2017 Erickson, A. (2017, June 26). "Information Literacy in Mathematics Courses". Maine Center for Research in STEM Education 2017 Summer Conference.
- 2017 Erickson, A. (2017, March 10). "The Mathematics of Information Problem-Solving Tasks: Surface or Substance?" Talk presented for the Maseeh Mathematics & Statistics Colloquium Series.

RESEARCH EXPERIENCE

2009 - 2015 University of Michigan, Ann Arbor
Research Assistant
Thought Experiments in Mathematics Teaching I and II
Principal Investigators: Patricio Herbst and Danien Chazan (UMD)

Description: Investigating the decision-making of secondary mathematics teachers through the use of multi-media scenario-based instruments.

Duties: Interviewed in-service and pre-service teachers, analyzed data both quantitatively and qualitatively, developed testing instruments, helped coordinate a large-scale online data collection effort, trained and supervised research assistants.

TEACHING EXPERIENCE

University of Washington Tacoma

Calculus I (2018)
Matrix Algebra (2017)

Western Oregon University

Math in Society (2017)
Discrete Mathematics for Elementary and Middle School Teachers (2017)
Foundations of Mathematics for Elementary School Teachers (2016; 2017)
Probability & Statistics for Elementary and Middle School Teachers (2016)

University of Michigan, Ann Arbor

Using Literacy to Teach Mathematics in Secondary Schools (2013; 2014; 2015)
Teaching Practicum for Secondary Mathematics (2012)
Woodrow Wilson Fellows Break-out Session (2011)

Portland State University

Group Theory (2009)
Linear Algebra (2007; 2009)
Differential Equations (2008)
Calculus III (2007; 2008)
Calculus II (2007; 2008)
Multivariable Calculus (2007)
Calculus I (2006)
Precalculus (2005; 2006)

University of Portland

Precalculus II (2008)

Precalculus I (2007)

ITT Technical Institute, Portland

Problem-Solving (2008)

College Mathematics II (2008)

College Mathematics I (2008)

AWARDS

2018	STaR Fellow 2018-2019 Association of Mathematics Teachers Educators
2014	Rackham One Term Dissertation Fellowship University of Michigan
2013	CADRE Fellow 2013-2014 EDC
2009	Regents Fellowship University of Michigan
2005	Summa Cum Laude Portland State University

SERVICE TO THE PROFESSION

2017	Reviewer for <i>Educational Studies in Mathematics</i> and <i>The International Journal of Science and Math Education</i>
2016	Proposal Reviewer for the 2017 NCTM Research Conference
2015	Reviewer for <i>Educational Studies in Mathematics</i>
2015	Reviewer for <i>International Journal of STEM Education</i>
2015	Proposal Reviewer for the 13 th International Congress on Math Education
2015	Proposal Reviewer for PME-NA 2015 Annual Conference
2014	Chair of Paper Session for PME 2014 Annual Conference

- 2013 Proposal Reviewer for PME-NA 2013 Annual Conference
- 2012 Proposal Reviewer for AERA 2012 Annual Conference
- 2006 Creation of testing instrument for Math Olympiad at Portland State University

MENTORING

- 2018 Advisor for Senior Capstone Project at University of Washington Tacoma
- 2017 Advisor for Senior Capstone Project at Western Oregon University
- 2014/2015 Mentor for 3 University of Michigan undergraduate research assistants

ACTIVE PROFESSIONAL MEMBERSHIPS

- American Educational Research Association (AERA)
- National Council of Teachers of Mathematics (NCTM)