Daniel Chazan

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PERSONAL INFORMATION

Educational Background

- 1989, Ed.D., Harvard Graduate School of Education, Cambridge, MA
- 1982, Ed.M, Harvard Graduate School of Education, Cambridge, MA
- 1981, A.B., Near Eastern and Judaic Studies, Brandeis University, Waltham, MA, (summa cum laude)

Academic Appointments at UMD

- 2012-present, Professor, Department of Teaching and Learning, Policy and Leadership. Jean, Jeffrey, and David Mullan Chair of Teacher Education since 2016.
- 2002-2012, Associate Professor, Department of Curriculum and Instruction, University of Maryland, College Park, MD

Administrative Appointments at UMD

- 2014-present, Co-Director, Terrapin Teachers
- 2007-present, Director, Center for Mathematics Education

Other Employment

- 1996-2002, Associate Professor, Michigan State University, Department of Teacher Education
- 1990-1996, Assistant Professor, Michigan State University, Department of Teacher Education
- 1989-1990, Senior Research Associate, Education Development Center, 1989-1990
- 1989, Mathematics Teacher, Lincoln-Sudbury High School
- 1986-1988, Project Leader, Educational Technology Center
- 1985-1989, Consultant, Education Development Center
- 1988, Lecturer, Harvard Graduate School of Education
- 1983-1986, Mathematics Coordinator, Cohen Hillel Academy
- 1982-1985, Teacher, Cohen Hillel Academy

Professional Certifications, Licenses, and Memberships

- Massachusetts Teaching Certification, High School Mathematics, #0281646

RESEARCH, SCHOLARLY AND CREATIVE ACTIVITIES

Books

Books Authored

1. **Chazan, D.**, Callis, S. (*T*), and (*T*) Lehman, M. (2007). *Embracing reason: Egalitarian ideals and high school mathematics teaching*. New York: Taylor Francis (Preview available at Google Books).
2. Chazan, D. (2000). *Beyond formulas in mathematics and teaching: Dynamics of the high school algebra classroom*. New York: Teachers College Press. (Preview available at Google Books).
3. Chazan, D. and (*T*) Houde, R. (1989). *How to use conjecturing and microcomputers to teach high school geometry*. Reston, VA: National Council of Teachers of Mathematics.

Books and Special Issues Edited

1. Chazan, D., Herbst, P., Fleming, E., & Grosser-Clarkson, D. (Eds.) (2018). *Journal of Technology and Teacher Education*. 26(1). (Special issue: Technological Supports for Practice-based Teacher Education).
2. Herbst, P., & Chazan, D. (Eds.). (2011). *ZDM—The International Journal of Mathematics Education*, *43*(1), (Special issue: Creating and Using Representations of Mathematics Teaching in Research and Teacher Development).
3. Herbst, P., & Chazan, D. (Eds.). (2009). *Recherches en Didactique des Mathématiques*, *29*(1), (Special issue: Methodologies for the Study of Instruction in Mathematics Classrooms).
4. Blaskopf, W. (*T*), & Chazan, D. (Eds.). (2001). *Mathematics Teacher*, *94*(8), (Special issue: Connections, Issue editor).
5. Lehrer R., & Chazan, D. (Eds.). (1998). *Designing learning environments to develop understanding of geometry and space*. Hillsdale: Erlbaum. (Preview available at Google Books).
6. Chazan, D., & Lacey, C. (Eds.). (1989). *Harvard Educational Review*, *59*(1).
7. Broderick, M., Chazan, D., Lawrence, S., Naso, P., and Starnes, B. (Eds.) (1988). *For teachers about teaching,* (Reprint Series No. 20). Cambridge: Harvard Educational Review.

Curricular Materials/Textbooks

1. Extraneous and Lost Roots (2015). http://commoncoretools.me/wp-content/uploads/2015/07/Extraneous-and-Lost-Roots-Chazan-Gomez-Farrand.pdf. Noyce-Dana Project.
2. Straight Lines (2015). http://commoncoretools.me/wp-content/uploads/2015/07/Straight-Lines-Chazan-McCallum.pdf. Noyce-Dana Project.
3. Yerushalmy, M. & Chazan, D. (1992) *Supposer solutions: Using the Geometric Supposer with one computer in the classroom*. Pleasantville, NY: Sunburst Communications.
4. Chazan, D, Ruopp, F. & Houde, R. (1991) *The Geometric Supposer workshop manual*. Pleasantville, NY: Sunburst Communications.
5. Chazan, D. (1990). *Supposer solutions: Similarity*. Pleasantville, NY: Sunburst Communications.

6. Chazan, D. (1989). *Problems and projects for the Geometry preSupposer*. Pleasantville, NY: Sunburst Communications.

Chapters

Books

1. Yerushalmy, M., Chazan, D. & Olsher, S. (in press) Automatic reports to support students with inquiry learning: Initial steps in the development of content specific learning analytics. *Invited addresses ICME-14.*
2. Herbst, P., Chazan. D., & Schleppegrell, M., (2023), A semiotic infrastructure for the transaction of instructional practice: Toward a theory of representation of practice. In Pepin, B., Gueudet G., & Choppin, J. (Eds.), *Handbook of Digital Resources in Mathematics Education*, Cham, Switzerland: Springer.
3. Olsher, S., Drivjers, P., Yerushalmy, M., Sangwin, C., & Chazan, D. (2023), Digital assessment and the "machine." In Pepin, B., Gueudet G., & Choppin, J. (Eds.), *Handbook of Digital Resources in Mathematics Education*, Cham, Switzerland: Springer.
4. Herbst, P. & Chazan, D. (2023). Keeping Theorizing in Touch with Practice: Practical Rationality as a Middle Range Theory of Mathematics Teaching. In Praetorius, A-K & Charalambos, C. (Eds.), *Theorizing Teaching: Bringing Together Expert Perspectives to Move the Field Forward (pp. 189-224)*. Cham, Switzerland: Springer.
5. Herbst, P., Chazan, D., & A. Milewski (2020). Technology Tools for Mathematics Teacher Learning: How Might They Support the Development of Capacity for Specific Teaching Assignments? In S. Llinares & O. Chapman (eds.), *International Handbook of Mathematics Teacher Education. 2nd Edition. Volume 2: Tools and Processes in Mathematics Teacher Education* (pp. 223-251). Leiden: Brill-Sense.
6. Chazan, D., Herbst, P., Grosser-Clarkson, D., Fleming, E., Walkoe, J., & E. Alibegović, (2018). Describing Curricular Materials for Mathematics Teacher Education in an Online, Rich Media Platform. In V. Hoyos, & J. Silverman, *Distance Learning, E-Learning and Blended Learning of Mathematics: Advances in the Research of Distance Mathematics Education Mediated by Technology* (pp. 201-220). New York: Springer.
7. Chazan, D. (2018). Considering What We Want to Represent. In S. Kuntze & O. Buchbinder (eds.), *Representations of Practice in Teacher Education and Empirical Research – Spotlights on Different Approaches* (pp. 163-167). New York: Springer.
8. Chazan, D., Gilead, S., & Cochran, K. (2018), Constructing Plausible, but Uncommon Stories: Gaining Subversive Insight into the School Mathematics Tradition. In R. Zazkis & P. Herbst (Eds.), *Scripting approaches in mathematics education: Mathematical dialogues in research and practice* (pp. 53-72), New York: Springer
9. Herbst. P. & Chazan, D., (2017), Theories of Mathematics Teaching, J. Cai (Ed.), *Compendium for Research in Mathematics Education* (pp. 102-127). Reston, VA: National Council of Teachers of Mathematics
10. Herbst, P., Chazan, D., Chieu, V. M., Milewski, A., Kosko, K. W., & Aaron, W. R. (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 (pp. 78–106). Hershey, PA: IGI Global.

11. Chazan, D. & Pimm, D., (2016). Dilemmas and the Teaching of Mathematics: A conversation of commitments, obligations and ambivalence, In M. Phakeng & S. Lerman (Ed.), *Mathematics Education in a Context of Inequity, Poverty and Language Diversity* (pp. 19-31). Springer: New York.
12. †+Chazan, D., Herbst, P. & Clark, L. (2016). Research on the Teaching of Mathematics: A Call to Theorize the Role of Society and Schooling in Mathematics Instruction. In D. Gitomer & C. Bell (Eds.), *Handbook of Research on Teaching* (Fifth Edition, pp. 1039-1097). Washington, DC: American Educational Research Association.
13. †Guedet, G., Pepin, B., Yerushalmy, M., Trouche, L., & Chazan, D. (2015). E-textbooks in/for Teaching and Learning Mathematics: A Potentially Transformative Educational Technology. In L. English & D. Kirshner (Eds.), *Third handbook of international research in mathematics education* (pp. 636–661). London: Taylor Francis.
14. †Chazan, D. and Yerushalmy, M. (2014). The Future of Textbooks: Ramifications of Technological Change for Curricular Research in Mathematics Education. In M. Stochetti (ed.), *Media and Education in the Digital Age: A Critical Introduction* (pp. 63-76). NY: Peter Lang.
15. †Chazan, D. (2013). Algebra (Substantive Structures of Mathematics, Processes on Objects, Instructional Situations, and Curricular Approaches: An Exploration on a School Algebra Theme). In P. Andrews & T. Rowland (Eds.), *MasterClass in Mathematics Education*, (pp. 125-135). London: Bloomsbury Academic.
16. † **Chazan, D.,** Herbst, P., &, Sela, H.* (2011). Instructional alternatives via a virtual setting: Rich media supports for teacher development. In O. Zaslavsky & P. Sullivan (Eds.), *Constructing knowledge for teaching secondary mathematics: Tasks to enhance prospective and practicing teacher learning* (pp. 23-37). New York: Springer.
17. † Marcus, R.*, & Chazan, D. (2010). What Experienced Teachers Have Learned from Helping Students Think About Solving Equations in the One-Variable-First Algebra Curriculum. In R. Leikin & R. Zaskis (Eds.), *Learning through Teaching: Developing mathematics teachers' knowledge and expertise in practice* (pp. 169-187). New York: Springer.
18. † **Clark, L.**, Johnson, W.*, & Chazan, D., (2009) Researching African American mathematics teachers of African American students: Conceptual and methodological considerations. In Martin, D. B. (Ed.), *Mathematics teaching, learning, and liberation in the lives of black children* (pp. 39-62). Routledge: New York.
19. † **Chazan, D**., & Lueke, H. M.* (2009). Exploring relationships between disciplinary knowledge and school mathematics: Implications for understanding the place of reasoning and proof in school algebra. In D. Stylianou, E. Knuth, & M. Blanton (Eds.), *Teaching and learning mathematics proof Across the grades* (pp. 21-39). Erlbaum: Hillsdale, NJ.
20. †+ Yerushalmy, M., & Chazan, D. (2008). Technology and curriculum design: The ordering of discontinuities in school algebra. In L. English (Ed.), *Second handbook of international research in mathematics education* (pp. 806-837). London: Taylor Francis.
21. + Chazan, D. & Lewis, J. (2008). The mathematical education of doctorates in mathematics education. In R. Reys, & J. Dossey (Eds.), *U. S. doctorates in mathematics education: Developing stewards of the discipline* (pp. 75-85). Providence, RI: American Mathematical

Society, Conference Board of the Mathematical Sciences: Issues in Mathematics Education, Vol. 15.

22. †+ Chazan, D. (2008). The shifting landscape of school algebra in the United States: *No Child Left Behind*, high school graduation requirements, *Principles and Standards,* and technology. In C. Greenes & R. Rubenstein (Eds.), *Algebra and algebraic thinking in school mathematics* (pp. 19-33). 70th Yearbook of the National Council of Teachers of Mathematics. NCTM: Reston, VA.
23. † **Chazan, D**., Sword, S.,* Badertscher, E.,* Conklin, M.,* Graybeal, C.,* Hutchison, P.,* Marshall, A. M.,* and Smith, T.* (2007). Learning to learn mathematics: Voices of doctoral students in mathematics education. In M. Strutchens & W. Gary Martin (Eds.), *The learning of mathematics*, 69th Yearbook of the National Council of Teachers of Mathematics. (pp. 367-379). NCTM: Reston, VA.
24. Callis, S. (*T*), **Chazan, D**., Hodges, K. (*T*), and (*T*) Schnepp, M. (2007). Starting a functions-based approach to algebra. In D. Chazan, S. Callis, & M. Lehman (Eds.), *Embracing reason: Egalitarian ideals and high school mathematics teaching (pp. 26-45)*. New York: Taylor Francis.
25. †+ **Chazan, D**., Leavy, A., Birky, G.,* Clark, K.,* Lueke, H. M.,* McCoy, W.,* & Nyamekye, F.* (2006). What NAEP can (and cannot) tell us about performance in algebra. In Kloosterman, P. & F. Lester (Eds.), *Results and interpretations of the 2003 Mathematics Assessment of the National Assessment of Educational Progress* (pp. 169-190). Reston, VA: National Council of Teachers of Mathematics.
26. + Chazan, D. (2006). "What if not?" and teachers' mathematics. In F. Rosamund & L. Copes (Eds.), *Educational transformations: Changing our lives through mathematics; A tribute to Stephen Ira Brown* (pp. 3-20). Bloomington, Indiana: AuthorHouse.
27. **Pimm, D.** with D. Chazan and L. Paine. (2003) Being and becoming a mathematics teacher: Ambiguities in teacher formation in France. In T. Britton, L. Paine, S. Raizen, & D. Pimm (Eds.), *Comprehensive teacher induction: Systems for early career learning* (pp. 194-260). Dordrecht: Kluwer.
28. †+ **Chazan, D.**, and Yerushalmy, M. (2003). On appreciating the cognitive complexity of school algebra: Research on algebra learning and directions of curricular change. In J. Kilpatrick, D. Schifter, & G. Martin (Eds.), *A research companion to the Principles and Standards for School Mathematics* (pp. 123-135). Reston: NCTM.
29. †+ **Chazan, D.** and (*T*) Schnepp, M. (2002). Methods, goals, beliefs, commitments, and manner in teaching: Dialogue against a calculus backdrop. In J. Brophy (Ed.), *Advances in research on teaching, Vol. 9: Social constructivist teaching* (pp. 171–195). JAI Press.
30. † + Yerushalmy, M. and Chazan, D. (2002). Flux in school algebra: Curricular change, graphing technology, and research on student learning and teacher knowledge. In L. English (Ed.) *Handbook of international research in mathematics education* (pp. 725-755). Hillsdale, NJ: Erlbaum.
31. **Bethell S**. **(*T*)**, with D. Chazan, M. Dennis*, B. Rosenthal*, P. Lanier, and S. Wilcox, (2000). Nurturing a disposition of inquiry. In S. K. Wilcox & P. E. Lanier (Eds.), *Using assessment to reshape teaching: A casebook for mathematics teachers and teacher educators, curriculum and staff development specialists* (pp. 25-58). Mahwah, NJ: Erlbaum.
32. Chazan, D., & Yerushalmy, M. (1998). Charting a course for secondary geometry. In R. Lehrer & D. Chazan (Eds.) *Designing learning environments to develop understanding of geometry and space,* (pp. 67-90). Hillsdale, NJ: Erlbaum.

33. + **Chazan, D.**, & (*T*)Bethell, S. (1998). Working with algebra. In Mathematical Sciences Education Board, *High school mathematics at work: Essays and examples from workplace contexts to strengthen the mathematical education of all students* (pp. 35-41). Washington: National Research Council.
34. + Chazan, D. (1996b), Teaching with terse tools. In D. Schifter (Ed.), *What's happening in math class, Volume 1: Reshaping practice through teacher narratives* (pp. 189-194). New York: Teachers College Press.
35. Chazan, D. (1993). Instructional implications of a research project on students' understandings of the differences between empirical verification and mathematical proof. In J. Schwartz, M. Yerushalmy, & B. Wilson (Eds.), *The Geometric Supposer: What is this a case of?* (pp. 107-116). Hillsdale, NJ: Erlbaum. [Reprint of Chazan, D. (1989). Instructional implications of a research project on students' understandings of the differences between empirical verification and mathematical proof. In D. Hergert (Ed.), *Proceedings of the First International Conference on the History and Philosophy of Science in Science Teaching* (pp. 52-60). Tallahassee, FL: Florida State University.]
36. **Chazan, D.** and Yerushalmy, M. (1992). Research and classroom assessment of students' verifying, conjecturing, and generalizing in geometry. In D. Lesh, & S. Lamon (Eds.), *Assessing higher order understandings of foundation-level mathematical ideas* (pp. 89-118). Princeton: American Association for the Advancement of Science.

Technical reports

1. Herbst, P., Miyakawa, T. and Chazan, D. (2010). *Revisiting the functions of proof in mathematics classrooms: A view from a theory of instructional exchanges*. Deep Blue at the University of Michigan. http://hdl.handle.net/2027.42/78168
2. Chazan, D. (1995) *Where do students' conjectures come from? Empirical exploration in mathematics classes*. National Center for Research on Teacher Learning, Craft Paper 95-8. E. Lansing, MI: Michigan State University.
3. Chazan, D. (1988). *Similarity: Exploring the understanding of a geometric concept* (Tech. Rep. 88-15). Cambridge: Harvard Graduate School of Education, Educational Technology Center.
4. Yerushalmy, M., Chazan, D., and Gordon, M. (1987). *Guided inquiry and technology: A yearlong study of children and teachers using the Geometric Supposer* (Tech. Rep. 88-6). Cambridge: Harvard Graduate School of Education, Educational Technology Center.

Refereed Journals

1. Herbst, P. Brown, A., Chazan, D., Boileau, N. & Stevens, I. (in press) Framing, responsiveness, serviceability, and normativity: Categories of perception teachers use to relate to students' mathematical work in problem-based lessons. *School Science and Mathematics*.
2. Chazan, D., & Herbst, P. (2023). Extending use of instructional exchanges to research on teacher education. *Frontiers in Education*, *8*, 1163396. https://doi.org/10.3389/feduc.2023.1163396
3. Chazan, D. Herbst, P., Crespo, S., Matthews, P. & Lichenstein, E. (2023). Research commentaries: Engaging in Stewardship of Our Field. JRME. 54(3), 176-182. https://doi.org/10.5951/jresematheduc-2023-0014

4. Herbst, P., Chazan, D., Matthews, P. G., Lichtenstein, E. K., & Crespo, S. (2023). How Manuscripts Can Contribute to Research on Mathematics Education: Possibilities for Applied Research. *Journal for Research in Mathematics Education*, *54*(1), 2–6. https://doi.org/10.5951/jresematheduc-2022-0157
5. Yerushalmy, M., Olsher, S., Harel, R., & Chazan, D. (2022). Supporting Inquiry Learning: An Intellectual Mirror that Describes what It "Sees." *Digital Experiences in Mathematics Education*. https://doi.org/10.1007/s40751-022-00120-3
6. Herbst, P., Chazan, D., Crespo, S., Matthews, P., & Lichtenstein, E., (2022). Editorial: What the Current Editorial Team Values in Reviews for JRME, 53(4), 248-254.
7. Herbst, P., Chazan, D., Crespo, S., Matthews, P., & Lichtenstein, E. (2022). Editorial: The practice of reviewing and its proactive role in building the field of mathematics education research. Journal for Research in Mathematics Education, 53(3), 174-180.
8. Crespo, S., Herbst, P., Lichtenstein, E., Matthews, P., & Chazan, D. (2022). Editorial: Challenges and opportunities to sustaining an equity focus in mathematics education research. *Journal for Research in Mathematics Education, 53*(2), 88-93
9. Herbst, P., Chazan, D., Crespo, S., Matthews, P., & Lichtenstein, E. (2022). Editorial: How manuscripts can contribute to research on mathematics education: An expansive look at basic research in our field. *Journal for Research in Mathematics Education, 53*(1), 2-9
10. Chazan, D., Herbst, P., Crespo, S., Matthews, P. G., & Lichtenstein, E. K. (2021). Editorial: Archival Infrastructures for Supporting Research That Treats Mathematics Education Research as a Situated Activity. *Journal for Research in Mathematics Education*, *52*(4), 362–369. https://doi.org/10.5951/jresematheduc-2021-0051
11. Herbst, P., Chazan, D., Crespo, S., Matthews, P. G., & Lichtenstein, E. K. (2021). Editorial: Considering the Importance of Human Infrastructure in the Apprenticing of Newcomers in Mathematics Education Research Practices. *Journal for Research in Mathematics Education*, *52*(3), 250–256. https://doi.org/10.5951/jresematheduc-2021-0019
12. Gruber, S., Rosca, R. I., Chazan, D., Fleming, E., Balady, S., Van Netta, C., & Okoudjou, K. A. (2020). Active Learning in an Undergraduate Precalculus Course: Insights from a Course Redesign. *PRIMUS*, 1–22.
13. Herbst, P. & Chazan, D. (2020). Mathematics Teaching has its own Imperatives: Mathematical Practice and the Work of Mathematics Instruction. *ZDM Mathematics Education*, 52(6), 1149–1162.
14. Buchbinder, O., Chazan, D., & Capozzoli, M. (2019). Solving Equations: Exploring Instructional Exchanges as Lenses to Understand Teaching and its Resistance to Reform. *Journal for Research in Mathematics Education*. *50*(1). 18-51.
15. Chazan, D., Herbst, P., Fleming, E., & Grosser-Clarkson, D. (2018). Technological Supports for Practice-based Teacher Education. *Journal of Technology and Teacher Education*. 26(1). 5-11.
16. Amidon, J., Chazan, D., Grosser-Clarkson, D., & Fleming, E. (2017). Meet Me in Azul's Room: Designing a Virtual Field Placement for Learning to Teach Mathematics. *Mathematics Teacher Educator*. *6*(1). 52-66.
17. Olsher, S., Yerushalmy, M., & Chazan, D. (2016). How might the use of technology in formative assessment support changes in mathematics teaching? *For the Learning of Mathematics*, *36*(3), 11–18.

18. Herbst. P. & Chazan, D. (2015). Studying Professional Knowledge Use in Practice Using Multimedia Scenarios Delivered Online. *International Journal of Research and Method in Education. 38*(3). 272-287.
19. Buchbinder, O., Chazan, D., & Fleming, E. (2015). Insights into the school mathematics tradition from solving linear equations. *For the Learning of Mathematics*, *35*(2), 2-9.Bieda, K., Sela, H. & Chazan, D. (2015) "You are learning well my dear": Shifts in novice teachers' talk about teaching during their internship. *Journal of Teacher Education. 66*(2), 150-169.
21. Herbst, P., Chazan, D., Kosko, K. W., Dimmel, J., & Erickson, A. (2015). Using multimedia questionnaires to study influences on the decisions mathematics teachers make in instructional situations. *ZDM*. *48*(1), 167-183. http://doi.org/10.1007/s11858-015-0727-y
22. **Chazan, D.** Brantlinger, A., Clark, L. & Edwards, A. (2013). What Mathematics Education Might Learn from the Work of Well-Respected African American Mathematics Teachers in Urban Schools. *Teachers College Record 115*(2). 1-40.
23. Johnson, *W., Nyamekye, *F., Chazan, D. and Rosenthal, W. (2013). Teaching with Speeches: Using the Mathematics Classroom to Prepare Students for Life. *Teachers College Record 115*(2). 1-34.
24. Birky, *G. D., Chazan, D. and Farlow Morris. *K., (2013). In Search of Coherence and Meaning: Madison Morgan's Experiences and Motivations as an African American Learner and Teacher. *Teachers College Record 115*(2). 1-42.
25. **Herbst, P.** and Chazan, D. (2012). On the instructional triangle and the sources of justification for the actions of the mathematics teacher. *ZDM—The International Journal of Mathematics Education*, *44*(5), 601–612.
26. **Chazan, D.,** Sela, *H. and Herbst, P. (2012). Is the Role of Equations in the Doing of Word Problems in School Algebra Changing? Initial Indications from Teacher Study Groups. *Cognition and Instruction. 30*(1), 1-38.
27. **Chazan, D.** and Herbst, P. (2012). Animations of classroom interaction: Expanding the boundaries of video records of practice. *Teachers College Record*, *114*(3). 1-34. http://bcove.me/iy7lsomi
28. **Herbst, P.,** and Chazan, D. (2011). Research on practical rationality: Studying the justification of action in mathematics teaching. *The Mathematics Enthusiast, 8*(3), 405-462.
29. **Herbst, P.,** Nachlieli, T., and Chazan, D. (2011). Studying the practical rationality of mathematics teaching: What goes into "installing" a theorem in geometry? *Cognition and Instruction*, *29*(2), 1-38.
30. **Chazan, D.** and Herbst, P. (2011). Challenges of particularity and generality in depicting and discussing teaching. *For the Learning of Mathematics*, *33*(1), 9-13.
31. + **Herbst, P**., and Chazan, D. (2011). On creating and using representations of mathematics teaching in research and teacher development: Introduction to this issue. *ZDM—The International Journal of Mathematics Education*, *43*(1), 1-6.
32. **Herbst, P.**, Chazan, D., Chen, C., Chieu, V.M., and Weiss, M. (2011). Using comics-based representations of teaching, and technology, to bring practice to university "methods" courses. *ZDM—The International Journal of Mathematics Education*, *43*(1), 91-104.
33. **Chazan, D.** and Sandow, D.* (2011). "Why did you do that?" Justification in algebra classrooms. *Mathematics Teacher, 104*(6). 460-464.

34. **Herbst, P.** and Chazan, D. (2009). Methodologies for the study of instruction in mathematics classrooms. *Recherches en Didactique des Mathématiques, 29*(1)*,* 11 -33.
35. **Chazan, D.,** Yerushalmy, M., & Leikin, R. (2008). An analytic conception of equation and teachers' views of school algebra. *The Journal of Mathematical Behavior*, *27*(2), 87-100.
36. Schnepp, M. (*T*) and Chazan, D. (2004). Incorporating experiences of motion into a calculus classroom. [videopaper, no page numbers]. *Educational Studies in Mathematics*. 57(3). https://terpconnect.umd.edu/~dchazan/SchneppVP/
37. Herbst, P. and Chazan, D. (2003). Exploring the practical rationality of mathematics teaching through conversations about videotaped episodes: The case of engaging students in proving. *For the Learning of Mathematics*, *23*(1), 2-14.
38. Chazan, D. and Ball, D. L. (1999). Beyond being told not to tell. *For the Learning of Mathematics*, *19*(2), 2-10.
39. Chazan, D. (1999). On teachers' mathematical knowledge and student exploration: A personal story about teaching a technologically supported approach to school algebra. *International Journal for Computers in Mathematics Learning*, *4*.(2-3), 121-149. [Reprinted in **Chazan, D.**, Callis, S., & Lehman, M. (2007). *Embracing reason: Egalitarian ideals and high school mathematics teaching*. New York: Taylor Francis.]
40. **Chazan, D.**, Ben-Chaim, D., Gormas, J.*, Schnepp, M. (*T*), Lehman, M. (*T*), Bethell, S. (*T*), and (*T*) Neurither, S. (1998). Shared teaching assignments in the service of mathematics reform: Situated professional development. *Teaching and Teacher Education*, *14*(7), 687-702. [Reprinted in **Chazan, D.**, Callis, S., & Lehman, M. (2007). *Embracing reason: Egalitarian ideals and high school mathematics teaching*. New York: Taylor Francis.]
41. Chazan, D. (1996). Algebra for all students? *Journal of Mathematical Behavior*, *15*(4). 455-477.
42. Chazan, D. (1993). F(x)=G(x)?: An approach to modeling with algebra. *For the Learning of Mathematics*, *13* (3), 22-26.
43. Chazan, D. (1993). High school geometry students' justifications for their views of empirical evidence and mathematical proof. *Educational Studies in Mathematics, 24* (4), 359-387.
44. Chazan, D. (1992). Knowing school mathematics: A personal reflection on the NCTM's Teaching Standards. *Mathematics Teacher*, *85*, 371-375.
45. **Yerushalmy, M**. and Chazan, D. (1992). Guided inquiry and geometry: Some aspects of teaching with technology. *Zentralblatt fur Didaktik der Mathematik--International Reviews on Mathematical Education*. *92*(5), 172-177.
46. Chazan, D. (1990). Implementing the standards: Microcomputer-aided student exploration in geometry. *Mathematics Teacher*, *83*, 628-635. [Reprinted in S. Brown & M. Walter (Eds.), (1993), *Problem posing: Reflections and applications*. Hillsdale: Lawrence Erlbaum.]
47. Chazan, D. (1990). Quasi-empirical views of mathematics and mathematics teaching. *Interchange*, *21*(1), 14-23.
48. Yerushalmy, M. and Chazan, D. (1990). Overcoming visual obstacles with the aid of the Supposer. *Educational Studies in Mathematics*, *21*(3), 199-219. [Reprinted in J. Schwartz, M. Yerushalmy, & B. Wilson (Eds.), *The Geometric Supposer: What is this a case of?* Hillsdale, NJ: Erlbaum.]
49. Yerushalmy, M., Chazan, D., and Gordon, M. (1990). Mathematical problem posing: Implications for facilitating students inquiry in classrooms. *Instructional Science*, *19*, 219-245.

[reprinted in J. Schwartz, M. Yerushalmy, & B. Wilson (Eds.), *The Geometric Supposer: What is this a case of?* Hillsdale, NJ: Erlbaum,]

Published Conference Proceedings

Refereed Conference Proceedings

1. Olsher, S., Abrahamson, D., Arcavi, A., Arzarello, F., Chazan, D., Clark-Wilson, A., Leikin, R., Sinclai, N., & Yerushalmy, M. (2023). Problem Solving with Technology: Multiple Perspectives on Mathematical Conjecturing. In M. Ayalon, B. Koichu, R. Leikin, L. Rubel, & M. Tabach (Eds.). *Proceedings of the 46th Conference of the International Group for the Psychology of Mathematics Education (Vol. 1, pp. 134-158)*. University of Haifa, Haifa, Israel.
2. Herbst, P. and Chazan, D. (2023). Toward a semiotic account of practice-based mathematics teacher education. *Paper presented at the 13th Conference on European Research in Mathematics Education*. Budapest, Hungary.
3. Herbst, P. and Chazan, D. (2022). Teachers' decision-making as a context for networking theories of mathematics teaching. *Paper presented at the 12th Conference on European Research in Mathematics Education*. Bolzano, Italy. Archived at https://hal.archives-ouvertes.fr/hal-03749215/
4. Milewski, A., Strickland, S., Buchbinder, O., Herbst, P., & Chazan, D. (2021). Moves teachers use to respond to students' non-canonical approaches for solving equations. In Olanoff, D., Johnson, K., & Spitzer, S. (2021). *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.
5. Herbst, P., Boileau, N., Clark, L., Milewski, A., Chieu, V. M., Gürsel, U., & Chazan, D. (2017). Directing focus and enabling inquiry with representations of practice: Written cases, storyboards, and teacher education. In E. Gallindo & J. Newton (Eds.), *Proceedings of the 39th Annual Meeting of the PME-NA* (pp.789-796). Indianapolis, Indiana.
6. Herbst, P., Chazan, D., Milewski, A., Gürsel, U.,* Amidon, J., Buchbinder, O., Walkoe, J., & Wieman, R. (2015, November). Representations of mathematics teaching and their use in transforming teacher education: Studying preservice teachers' learning from work with representations of practice. Working group held at PME-NA. East Lansing, MI.
7. Herbst, P., Aaron, W.,^ Balacheff, N., Bieda, K., Chazan, D., Chieu, V. M., Dimmel, J.,* Erickson, A.,* Mesa, V., and Moore-Russo, D. (2013, November). Representations of students' mathematical conceptions and their use in teacher education. Proceedings of the 2013 Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education
8. Buchbinder, O. & Chazan, D. (2013) Using non-standard student solutions to probe what it means to solve linear equations in school. Research Presession, Annual Meeting of the National Council of Teachers of Mathematics.
9. Herbst, P., Aaron, W., Bieda, K., González, G., and Chazan, D. (2011). Representations of mathematics teaching and their use in transforming teacher education: Contributions to a pedagogical framework. Discussion document for the working group 'representations of mathematics teaching'. *Proceedings of the 2011 Annual PME-NA Conference*. Reno, NV.
10. Chazan, D., Herbst, P., Sela, H.*, and (*T*) R. Hollenbeck, (2011). Rich Media Supports for Practicing Teaching: Introducing Alternatives Into A "Methods" Course. In *Proceedings of the*

35th Conference of the International Group for the Psychology of Mathematics Education. (Vol. I: pp. 119-123). Ankara, Turkey: PME.

11. Herbst, P., Bieda, K., Chazan, D., and González, G. (2010). Representations of mathematics teaching and their use in teacher education: What do we need in a pedagogy for the 21st century? *Proceedings of the 2010 Annual PME-NA conference*. Columbus, OH: Ohio State University.
12. Chazan, D. and Filloy, E. (2008) TSG 9: Research and development in the teaching and learning of algebra. In M. Niss & E. Emborg (Eds.), *The Proceedings of the Tenth International Congress for Mathematics Education* (pp. 327-330). Copenhagen, Denmark.
13. Herbst, P. and Chazan, D. (2006). Producing a Viable Story of Geometry Instruction: What Kind of Representation Calls Forth Teachers' Practical Rationality? In Alatorre, S., Cortina, J.L., Sáiz, M., and Méndez, A.(Eds) *Proceedings of The 28th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol 2, 213-220). Mérida, México: Universidad Pedagógica Nacional.

Non-Refereed Conference Proceedings

1. Chazan, D., & Herbst, P. (2016, July). Reconciling Two uses of Norm in Mathematics Education Research. *13th International Congress on Mathematics Education*, Hamburg, Germany.
2. **Herbst, P**., D. Chazan, and Gonzalez, G. (2007). ThEMaT: Thought Experiments in Mathematics Teaching. In *2007 DR-K12 PI Conference Proceedings.* Available online from http://cse.edc.org/DR-K12-2007/grantees/conference/proceedings.html#Proceedings

Conferences, Workshops and Talks

Keynotes

- 2024, Chazan, D., Invited address TBD, 15th International Congress on Mathematics Education, Sydney, Australia.
- 2023, Chazan, D., Infrastructures for mathematics teacher education, Lecture by AMTE Excellence in Scholarship Awardee, New Orleans, LA.
- 2022, Chazan, D., On the need for infrastructures for mathematics teaching and mathematics teacher education, Korean Society for Education Studies in Mathematics, Seoul, Korea.
- 2016, Chazan, D. & Herbst, P., Relationships Between Research and Practice in Mathematics Teaching, Invited Address, Topic Study Group 29, International Congress for Mathematics Education, Hamburg, Germany.
- 2014, Chazan, D., What Mathematics Teachers Do: Impacts of The Common Core and Increased Graduation Requirements, Noyce Conference, University of Southern Colorado, Pueblo, CO
- 2011, Chazan, D., Concluding thoughts, 3rd annual conference, Representations of Mathematics Teaching, Ann Arbor, MI, Invited address
- 2010, Chazan, D., Animations of Classroom Interaction: A New Genre of Videotape Representations of Practice, Representations of Mathematics Teaching Conference, 2nd annual ThEMaT-sponsored conference, University of Michigan, Ann Arbor, MI
- 2009, Chazan, D., Cartoon-based, animated representations of teaching: How they can support talking across differences in contexts, Representations of Mathematics Teaching, ThEMaT-sponsored conference, University of Michigan, Ann Arbor, MI

- 2006, Chazan, D. & Herbst, P., Active Representations of Mathematics and Its Teaching, Conversations Among Colleagues, University of Michigan, School of Education, Ann Arbor, MI

Invited Talks

- 2024, Distinguished Scholar Teacher, University of Maryland, Why is mathematics teaching the way it is?
- 2020 (with William Viviani), Seminar, Making conceptual teaching more feasible: Designing formative assessments for automatic sorting of student constructed examples. Virginia Commonwealth University, Mathematics Education Seminar Series.
- 2020, Seminar, Why Conceptualize Teaching as an Outcome Variable and an Equilibrium Point in a Complex System, Rather than an Intervention or Treatment? Washington State University, Mathematics Education Seminar Series.
- 2018, Seminar, Conceptualizing Teaching as a Complex System, School of Education, University of Michigan.
- 2017, Invitational Conference, Working with practitioners and researchers on online formative assessment, Department of Mathematics Education, Haifa University, Haifa, Israel.
- 2017, Departmental Seminar, Mathematics Education as a Societal Project: Implications for Research on Mathematics Teaching, College of Education, East China Normal University, Shanghai, China.
- 2016, Departmental Seminar, Discipline and School Subject: Implications of Mathematics Education as a Societal Project for Research on Mathematics Teaching. Department of Science Teaching. Weizmann Institute, Rehovot, Israel.
- 2016, Invited Lecture Series: 1. Unreal representations of teaching: Supplementing classroom videos; 2. Describing practice-based teacher education and its contents; 3. Race in US mathematics education; 4. Different notions of norms in mathematics education; 5. Practical rationality: An attempt to theorize how "context" influences interaction in the instructional triangle; 6. Questions and problems in mathematics instruction. Department of Science Teaching. Weizmann Institute, Rehovot, Israel.
- 2015, Chazan, D., Studying Instructional Norms Quantitatively (at Scale) as a Window into Teaching as a Societal Endeavor, Rutgers Graduate School of Education, New Brunswick, NJ
- 2014, Chazan, D., Using LessonSketch to Infuse a Practice-Based Orientation to Teacher Education, Education Development Center, Waltham, MA
- 2014, Chazan, D., Using Rich Media to Infuse a Practice-Based Orientation throughout University-Based Teacher Education, UTeach Institute Conference, University of Texas, Austin, TX
- 2014, Chazan, D., Using rich media to infuse a practice-based orientation throughout our university-based teacher education programs, Symposium for Annual meeting of Association of Mathematics Teacher Educators, Irvine, CA
- 2013, + Chazan, D., Growing a STEM Teacher Workforce: How do we create more strong STEM teachers?, Change the Equation STEM Salon, Washington, DC, Panelist
- 2013, + Chazan, D., Algebraic thinking when solving equations and doing word problems, Annual Meeting of the National Council of Teachers of Mathematics, Denver, CO

- 2013, + Chazan, D., Herbst, P. & L. Clark, Research on the Teaching of Mathematics: Wrestling with Context, session on AERA Handbook for Research on Teaching, American Educational Research Association Annual Meeting, San Francisco, CA
- 2013, + Chazan, D., symposium "Teacher Noticing of Student Thinking: New Domains, New Methodologies, and New Perspectives." American Educational Research Association Annual Meeting, San Francisco, CA, Discussant
- 2013, + Chazan, D., Word Problems as a Window into the Nature of Mathematics Teaching, Teachers College, Columbia University, New York, NY
- 2013, + Chazan, D., STEM Teacher Education in the United States: An Overview in Two Parts, Workshop for Invited Korean Teachers, University of Maryland, College Park
- 2012, + Chazan, D., New Technologies And The Challenges Of Particularity And Generality In Depicting And Discussing Teaching, Mathematics and Science Education Research Seminar Series, University of California, San Diego, San Diego, CA
- 2012, + Chazan, D., How is Algebra Teaching Changing? Using Animations, Comic Strips, and On-line Questionnaires to Talk about Teaching, Mathematics Education Colloquium, Hood College, Frederick, MD
- 2011, + Chazan, D., New Technologies and Challenges of Particularity and Generality in Depicting and Discussing Teaching, Mathematics Department, Mathematics Education Seminar Series, Boston College, Chesnut Hill, MA
- 2011, + Chazan, D, Questions About Shifts in the Curriculum Process, Israeli Center for Educational Technology, Tel Aviv, Israel
- 2011, + Chazan, D. & Sela. H., Animations of classroom interaction: Expanding the boundaries of video records of practice, Department of Curriculum and Instruction Roundtable Meeting, College Park, MD
- 2011, + Chazan, D., Practical Rationality and Mathematical Knowledge for Teaching, Institute for Mathematics and Education Workshop "Mathematical Knowledge for Secondary Mathematics Teaching", University of Arizona, Tucson, AZ
- 2010, + Chazan, D., Why is Algebra Hard?, DRK12 PI meeting. National Science Foundation, Washington, DC, Member of invited panel
- 2010, + Chazan, D., Nine questions on a theme, Michigan State University's Institute for Research on Mathematics and Science Education, Washington, DC, Invited discussant
- 2010, ++ Chazan, D., Struggles of the Past: Negative Numbers in Victorian England, Morning sessions, Maryland Math Institute Summer Session, College Park, MD
- 2010, + Chazan, D., Modeling and Probing the Practical Rationality of Teaching: The Role of Animations and Talk About Them, Simon Fraser University, Vancouver, British Columbia
- 2010, Chazan, D., "The likely impact of "Early Algebra" on students preparation for and success in algebra (first-year algebra in particular).", symposium on early algebra, American Educational Research Association SIG/RME Research Presession of the NCTM Annual Meeting, San Diego, CA, Discussant
- 2010, + Chazan, D., Modeling and Probing the Practical Rationality of Teaching: The Role of Animations and Talk About Them, Mathematics Department, . Arizona State University
- 2010, + Chazan, D., Mathematics Education as a Societal Project: Course Taking Trends, What Can Universities Do, and Questions about the How Mathematics is Portrayed, Arizona State University, Mathematics Department

- 2010, + Chazan, D., Introductions to invited conference, “A Meeting of Maryland Mathematics Teacher Educators”, University System of Maryland, College Park, MD
- 2009, + Chazan, D., What is algebra and why don’t all students succeed, County Public Schools Mathematics Working Group, Rockville, MD, Conversation with Montgomery
- 2009, + Chazan, D., Affordances of Animations for Secondary Mathematics Teacher Education, American Educational Research Association SIG/RME Research Presession of the NCTM Annual Meeting, Washington, DC, (Chair)
- 2009, + Chazan, D., Studying teachers’ rationality using representations of teaching, American Educational Research Association SIG/RME Research Presession of the NCTM Annual Meeting, Washington, DC, (Discussant)
- 2009, + Chazan, D., School District Partnerships, University System of Maryland STEM Symposium, College Park, MD
- 2009, + Chazan, D., Cochran, K. & Sela, H., Modeling and Probing the Practical Rationality of Teaching: The Role of Animations and Talk About Them, University of Pennsylvania, Philadelphia, PA
- 2009, + Chazan, D., Cochran, K. & Sela, H., Modeling and Probing the Practical Rationality of Teaching: The Role of Animations and Talk About Them, Mathematics Education Colloquium, University of Maryland, College Park, MD
- 2009, + Chazan, D., Thinking about the Future of High School Mathematics: A View from Maryland, American Mathematical Society Committee on Education, Joint Meetings of the American Mathematical Society and the Mathematics Association of America, Washington, DC, Invited address
- 2008, + Chazan, D. & Sela, H., Modeling and Probing the Practical Rationality of Teaching: The Role of Animations and Talk About Them, Haifa University teleconference lecture series, Technology and Education
- 2008, + Chazan, D. s, “Whither School/U Collaborations: Learning from an MSU High School Math PDS, Joint session of Mathematics Education Seminar and Center for the Scholarship of Teaching, Michigan State University, East Lansing, MI, colleagues from Holt High School
- 2008, + Chazan, D., Using Animated Classroom Scenarios in Teacher Education, National Science Foundation DRK12 PI meeting, Washington, DC
- 2008, + Chazan, D., Introduction to the Critical Issues Forums, The Future of High School Mathematics, Center for Mathematics Education, University of Maryland and Math is More, Washington, DC
- 2008, + Chazan, D., Preparing Teachers to Teach Algebra, Critical Issues in Education: Teaching and Learning Algebra, Mathematical Sciences Research Institute. Berkeley, CA
- 2008, + Chazan, D., Doing Word Problems in Algebra 1, Recognition Week Program, National Science Foundation, Washington, DC, Invited address, Presidential Awards for Excellence in Mathematics and Science Teaching
- 2008, + Chazan, D., Goals for a preservice module on the solving of equations, workshop “Making Connections: Using Cases to Develop Knowledge for Teaching Mathematics”, Institute for Mathematics and Education, University of Arizona, Tuscon, AZ
- 2008, + Chazan, D., Chazan, D. & L. Rosen (organizers), The Case of Maryland, In three-day national symposium “Informing High School Mathematics Policies”, University of Maryland, College Park, MD

- 2008, + Chazan, D., "Educational Research and the Practice of Teaching: A personal odyssey" and "Maryland recent graduation requirement trends", Presidential Awards for Excellence in Mathematics and Science Teaching State Coordinators Meeting, National Science Foundation, Washington, DC, Invited addresses
- 2008, + Chazan, D., The Center for Mathematics Education and STEM, University of Maryland System. College Park, MD
- 2007, + Chazan, D., Mathematics in the preparation of Mathematics Education Doctoral Students, National Conference on Doctoral Programs in Mathematics Education: A Decade of Progress, Kansas City, MO
- 2007, + Chazan, D., Herbst, P., & Gonazalez, G., Thought Experiments in Mathematics Teaching (ThEMaT): Current and Future Development., NSF Teachers Professional Continuum PI meeting meeting, Washington, DC
- 2007, + Chazan, D., "Missing links in the implementation of mathematics education reforms: "Attention Focusing" and "Noticing"", Annual Meeting of American Educational Research Association, Chicago, IL, Discussant
- 2006, + Chazan, D., Justification in the high school mathematics curriculum, Activity Day for the 2005 Presidential Nominees for the Presidential Awards for Excellence in Mathematics and Science Teaching, National Science Foundation, Arlington, VA, Invited address
- 2005, + Chazan, D., Understanding a 'natural' experiment in secondary math: Why a longitudinal study at this moment might be especially helpful, Education Statistics Services Institute Expert Group Meeting on a New NCES Longitudinal Study, Washington, DC
- 2005, + Chazan, D. with Benigno, G. Hollenbeck, R. & Marcus, R., What do we mean by urban anyway? Issues surrounding sample selection in a study of urban mathematics education, University of Pennsylvania Graduate School of Education Mathematics Education Seminar, Philadelphia, PA

Refereed Presentations

- 2023, Herbst, P. and Chazan, D. Toward a semiotic account of practice-based mathematics teacher education. Paper presented at the 13th Conference on European Research in Mathematics Education. Budapest, Hungary.
- 2023, Herbst P. and Chazan, D. Professional Obligations in Mathematics Courses for Teachers. Annual Conference of the Special Interest Group of the Mathematics Association of America for Research on Undergraduate Mathematics Education, Omaha, NE.
- 2022, Herbst, P. and Chazan, D. Teachers' decision-making as a context for networking theories of mathematics teaching. Paper presented at the 12th Conference on European Research in Mathematics Education. Bolzano, Italy.
- 2021, Chazan, D. and Herbst, P. Teacher educators use of technology to represent instruction. Paper accepted to TSG29, ICME 14, Shanghai, China, 2021.
- 2021, Herbst, P., Chazan, D., and Boileau, N. Framing, normativity, and serviceability in teachers' decision-making during lessons. Paper accepted for presentation at TSG 37, ICME 14, Shanghai, China, 2021, later withdrawn. Available at https://hdl.handle.net/2027.42/171072
- 2019, Milewski, A., Buchbinder, O., Chazan, D. & Herbst, P. Teachers dealing with non-standard student solutions to linear equations. National Council of Teachers of Mathematics Research conference, San Diego, CA.

- 2019, Chazan, D. Exploring Diversity and Synergy Across Research Programs Within Early Algebra (discussant on symposium). Annual meeting of American Educational Research Association, Toronto, Canada.
- 2018, Center for Mathematics Education, University of Maryland. Identity Matters: Working with Minoritized Teachers and Students, National Council of Teachers of Mathematics Research Conference, Washington, DC.
- 2016, Fleming, E., Chazan, D., Herbst, P., & Grosser-Clarkson, D., Describing Curricular Materials for Mathematics Teacher Education in an Online, Rich Media Platform. Topic Study Group 44, International Congress for Mathematics Education, Hamburg, Germany.
- 2016, Chazan, D. & Herbst, P. (2016, July). Reconciling two uses of norm in mathematics education research. Paper presented at the 13th International Congress on Mathematical Education, Hamburg, Germany.
- 2015, Chazan, D. & O. Buchbinder, Surveying an exchange at the heart of the doing of word problems in school, Annual meeting of American Educational Research Association, Chicago, IL
- 2015, Chazan, D., Alibegovic, E., Amidon, J., Zahner, W., & J. Walkoe, Using the LessonSketch platform (and rich media) to infuse a practice-based orientation throughout our university-based teacher education programs, Annual meeting of Association of Mathematics Teacher Educators, Orlando, FL
- 2014, Chazan, D., Redesigning Teacher Education as a Practice-based Venture: Lessons and Challenges, Annual meeting of American Educational Research Association, Philadelphia, PA, (discussant on symposium)
- 2014, Chazan, D., Creating Research Communities: Some MACMTL and CfME@UM Experiences, National Council of Teachers of Mathematics Research Presession, New Orleans, LA.
- 2014, Buchbinder, O. & Chazan, D., Lessons from the evolution of scenario-based instrument for exploring teacher views on methods for solving linear equations, symposium titled: Using Representations of Practice in Questionnaires that Bring Research with Mathematics Teachers to Scale. Symposium for National Council of Teachers of Mathematics Research Presession, New Orleans, LA
- 2013, Buchbinder, O. & Chazan, D., Using non-standard student solutions to probe what it means to solve linear equations in school, Annual meeting of American Educational Research Association, San Francisco, CA
- 2013, Buchbinder, O. & Chazan, D., Developing an index of recognition of a norm using multimedia questionnaires and a survey instrument for the case of solving word problems in algebra, symposium titled: "Methods for the study of decisions in mathematics teaching," Annual meeting of the National Council of Teachers of Mathematics Research Presession, Denver, CO
- 2013, Chazan, D. & P. Herbst, A design experiment in practice-based, hybrid mathematics teacher education, Teacher-led Inquiry and Learning Design: The Virtuous Circle at the Alpine RendezVous, Grenoble, France
- 2012, Gonzalez, G., Herbst, P., Crespo, S., Johnson, H.L., and Chazan, D., Designing and creating representations of mathematics teaching, Annual meeting of the National Council of Teachers of Mathematics Research Presession, Philadelphia, PA, Discussant
- 2010, Chazan, D. & A. Brantlinger, How do well-respected Algebra 1 teachers in an urban setting interact with a mandated curriculum guide to produce instruction? Six versions of a lesson on

multi-step equations, "Narratives and Practices of African American Mathematics Teachers in Contemporary Schooling Contexts", Annual meeting of American Educational Research Association, Denver Colorado

- 2010, Chazan, D. Ball D. & Herbst, P., Practical Rationality and Teacher Knowledge, Annual meeting of the National Council of Teachers of Mathematics Research Presession, San Diego, CA
- 2010, Massingila, J., Chazan, D. & Romangano L., Framings for Secondary Mathematics Teacher Education Programs, Symposium for Annual meeting of Association of Mathematics Teacher Educators, Irvine, CA
- 2009, Chazan, D., Doing Word Problems: Reflecting on Changes to Practice, Annual Meeting of the National Council of Teachers of Mathematics, Washington DC
- 2009, Rosen, L., Chazan, D. & Leinwand, S., Living with Accountability: Setting Directions, Avoiding Unintended Consequences, Annual Meeting of the National Council of Teachers of Mathematics, Washington DC
- 2009, Bieda, K., Sela, H., Chazan, D., Understanding norms of teaching solving equations through comparisons of interns' and mentors' talk about practice, Annual meeting of American Educational Research Association, San Diego, CA
- 2009, Johnson, W., & Chazan, D., Investigating Cadres in Mathematics Classrooms: Research with and for Black Students, Alumni of Color Conference, Harvard Graduate School of Education, Cambridge, MA
- 2009, Chazan, D., Teaching Students to be Life-long Learners of Mathematics: Algebra 1 and Mathematics for Mathematics Education Doctoral Students, Joint Meetings of the American Mathematical Society and the Mathematics Association of America, Washington, DC
- 2008, Chazan, D., Issues in case study research on teaching in urban Algebra classrooms., American Educational Research Association SIG/RME Research Presession of the NCTM Annual Meeting, Salt Lake City, Utah, Case Studies Research Group
- 2008, Birky, G. Chazan, D. & Farlow. K., Deliberately Departing from the Curriculum Guide in Search of Coherence and Meaning: Madison Morgan's Mathematics Instruction in an Urban High School, Annual Meeting of American Educational Research Association, New York, NY, "African American Teachers Assisting Their Students in Becoming Intentional Learners", Joi Spencer and Megan Franke (discussants).,
- 2008, Chazan, D. Sela, H. & Cochran, K, Chazan, D. & P. Herbst (organizers) Roy Pea, Rich Lehrer, Richard Noss (discussants), Changes in the doing of word problems, "Stories of Mathematics Instruction, Rich Media Technologies, and their Uses to Understand and Improve Teaching," Annual Meeting of American Educational Research Association, New York, NY
- 2008, Lehrer, R. & Chazan, D. Chairs/Organizers), The Role of Questions in Mathematics Education, Symposium at Annual Meeting of American Educational Research Association, New York, NY
- 2007, Herbst, P., Chazan, D. & T. Nachlieli, Toward an experimental paradigm for the study of mathematics teaching: The case of 'installing a theorem.', Annual meeting of the American Education Research Association, Chicago, IL, "Animations of classroom interaction: Imagining potential uses," Chazan, D. & P. Herbst (organizers) Cobb,P. Hall. R. Leinhardt, G., and J. Hiebert (discussants)

- 2007, Chazan, D., Johnson, W. & Badertscher, E., Critical Considerations in Studies of Well-Respected Urban Algebra Teachers, American Educational Research Association SIG/RME Research Presession of the NCTM Annual Meeting, Atlanta, GA
- 2006, Herbst, P. & Chazan, D. (organizers), Promoting and examining conversations about mathematics teaching, American Educational Research Association SIG/RME Research Presession of the NCTM Annual Meeting, San Antonio, TX
- 2006, Chazan, D. Sword, S., Badertscher, E. Marshall, A-M. Lueke, H.M. & Graybeal, C., Mathematics for Mathematics Educators: A Course for PhD Students, American Educational Research Association SIG/RME Research Presession of the NCTM Annual Meeting, San Antonio, TX
- 2005, Marcus, R. & Chazan. D., Introducing Solving Equations: Teachers and the One-Variable-First Curriculum, Annual meeting of the American Education Research Association, Chicago, IL
- 2005, Sword, S. & Chazan, D., An Experimental Course for Prospective Mathematics Educators, Joint Meetings of the American Mathematical Society and the Mathematics Association of America, Atlanta, GA

Workshops

- 2017, 2019, Summer Writing Retreat for Lesson*Sketch* Research + Development Fellows. Catonsville, MD.
- 2014-2017, 2019 Five annual, one-day sessions for Lesson*Sketch* Research + Development Fellows and their Inquiry groups prior to Annual Meeting of Association of Mathematics Teacher Educators. Locations varied.
- 2014, Should Algebra be Changing? Algebraic Thinking when Solving Equations, Is Algebra Changing? Algebraic thinking when doing word problems, (1 day), February: Teachers' Development Group, Portland, OR. , October: University of Southern Colorado
- 2009-2011, Three annual, three-day Representations of Mathematics Teaching conferences. National conferences for teacher educators and researchers sponsored by ThEMaT project, University of Michigan, Ann Arbor, MI.
- 2009 & 2011, Two four-day workshops for advanced doctoral students, University of Maryland, College Park, MD, sponsored by the MACMTL Case Studies Research team.
- 2003-2010, Annual, three-day MACMTL doctoral student research conference, The Pennsylvania State University, University of Delaware, and University of Maryland, involving doctoral students, Location varied.

Book Reviews, Notes and Other Contributions

Book Reviews

1. 2022, Chazan, D. Book Review: Luc Trouche, Ghislaine Gueudet, & Birgit Pepin (Eds.) (2019) The 'resource' approach to mathematics education. *Educational Studies in Mathematics*. https://doi.org/10.1007/s10649-022-10146-4
2. 2010, + Chazan D., & Edwards, A. R., "Mathematics Educators Respond to Kaput's "Algebra Problem:" A Review of Algebra in the Early Grades"*, Journal for Research in Mathematics Education*, 41(2), 203-208

3. 2002, + Chazan, D., "Lampert, Magdalene (2001), Teaching problems and the problems of teaching: A teacher representing teaching", *Journal of Mathematics Teacher Education*, 5(2), 187-199

Completed Creative Works and Scholarship

Software and Applications

- Herbst, P., Chazan, D., & Lavu, S. (2020, November). ***LessonDepict***. Web-based collaborative software tool for the creation of storyboards and storyboard maps. Disclosed to the Office of Technology Transfer, University of Michigan and University of Maryland. www.lessondepict.org
- Herbst, P., Chazan, D., & Lavu, S. (2019, March). ***Anotemos***. Web-based collaborative software tool for the annotation of video. Disclosed to the Office of Technology Transfer, University of Michigan and University of Maryland. www.anotemos.com

Websites

- Center for Mathematics Education, https://education.umd.edu/MathEd/
- Terrapin Teachers, http://www.tt.umd.edu/
- LessonSketch platform, www.LessonSketch.org
- LessonSketch Research + Development (LR+D) Fellows, https://education.umd.edu/research/centers/mathed/research/lessonsketch-research-development-fellows-project-lrd-fellows

Film, Video, and Multimedia

- 2006, Suite of 5 Algebra Animations: The Balancing Act; Catch Me If You Can; The Great Divide; Have We Met Before?; The Difference is NoTable. Available at LessonSketch.org.
- 2000, Yerushalmy, M., Elikan, S. & Chazan, D., *Discussions in the Mathematics Classroom*, Multimedia package in Hebrew and English (2 CDs of video and documents and a booklet), University of Haifa and Center for Educational Technology, Haifa, Israel.

Completed Creative Works and Scholarship

Other

- Chazan, D., Viviani, W., & White, K. (2020, July 15). Pedagogical implications of Mathematics as the art of giving the same name to different things. *On Teaching and Learning Mathematics*. https://blogs.ams.org/matheducation/2020/07/15/pedagogical-implications-of-mathematics-as-the-art-of-giving-the-same-name-to-different-things/
- Rosenthal, B., Johnson, W., & Chazan, Daniel. (2020, October 5). Reflecting on mathematics as the art of giving the same name to different things (Part 2): Averages finite and continuous. *On Teaching and Learning Mathematics*. https://blogs.ams.org/matheducation/2020/10/05/reflecting-on-mathematics-as-the-art-of-giving-the-same-name-to-different-things-part-2-averages-finite-and-continuous/

Sponsored Research and Programs

- 2019-2024, with A. Campbell, Engaging Community Colleges in Recruitment of Secondary STEM Teachers Through Early Field Experiences. National Science Foundation $296,041, DUE1849029, co-PI.
- 2018-2020, with K. Okoudjou, Maryland Node in SEMINAL: Student Engagement in Mathematics through an Institutional Network for Active Learning, subcontract of NSF funding from Association of Public Land-grant Universities. $93,300, PI.
- 2014-2018, with A. Popper, Proposal to Replicate UTeach at the University of Maryland, National Science and Mathematics Initiative. $1,450,000, PI.
- 2013-2020, with P. Herbst, Developing Rich Media-Based Materials for Practice-Based Teacher Education, National Science Foundation, $2,650,526, DRL1316241, PI
- 2012-2013, with B. Quintos, Equity in Mathematics Education (EME): PGCPS Facing the Common Core and Equity, Maryland Higher Education Commission, $75,250, PI
- 2011-2014, with B. Quintos and D. Levin, UMCP elementary school STEM add-on endorsement and specialization, Maryland State Department of Education Race To the Top grant, $77,160, PI
- 2009-2014, P. Herbst, Supports for learning to manage classroom discussions: Exploring the role of practical rationality and mathematical knowledge for teaching, National Science Foundation, $1,083,952 subcontract from the University of Michigan (co-principal investigator for $3,467,721 award, principal investigator at the University of Maryland), co-PI
- 2008, with L. Rosen and J. Fey, The future of high school mathematics, National Science Foundation Grant, $174,325, PI
- 2008-2009, Improving teacher quality: Supporting the PGCPS/UM math partnership, Maryland Higher Education Commission, $190,728, PI
- 2006-2008, Improving teacher quality: Supporting the MCPS/UM math partnership, Maryland Higher Education Commission, $99,999, PI
- 2004-2009, with P. Herbst, J. Lemke, and R. Verhey, Thought experiments in mathematics teaching, National Science Foundation, $924,087 subcontract from the University of Michigan (co-principal investigator for $4,376,477 award, principal investigator at the University of Maryland), co-PI
- 2001-2004, J. Ferrini-Mundy, S. Senk, and S. Keller, Knowledge of algebra for teaching, National Science Foundation Grant, $76,573 subcontract from Michigan State University (2001-2004 co-principal investigator for $601,894 award; 2002-2004 principal investigator at the University of Maryland), co-PI
- 2000-2013, J. T. Fey, P. F. Campbell, J. Hiebert, and M. K. Heid, Mid-Atlantic Center for Mathematics Teaching and Learning, National Science Foundation, 2000-05, $9,575,724; 2006-2013, $10,769,586 (2002-2007 senior researcher; 2007-2012 co-principal investigator at the University of Maryland), co-PI.
- 2000-2001, Y. Zhao: PI, Preparing Tomorrow's Technology Teachers, Michigan State University, US Department of Education.
- 1999-2001, An in-depth case study of a PDS project, Spencer Foundation, $34,641, PI
- 1999-2002, S. Raizen PI; E. Britton and L. Paine co-PI's, Middle grades mathematics and science teacher induction in selected countries, National Science Foundation Grant, 1998-2003, $1,092,632, senior researcher

- 1998-2003, R. Nemirovsky and D. Carraher, Bridging research and teaching, National Science Foundation Grant, 228,348, subcontract from Technical Education Research Center (1998-2001 senior researcher for $1,574,937 award; principal investigator at Michigan State University)
- 1993, John Smith, Situations, technology and students: learning and teaching introductory algebra, subcontract from the National Center for Mathematical Sciences Education, $10,298, (conference organizer at Michigan State University)
- 1991-1995, D. Cohen, P. Peterson PIs; D. Ball; S. Wilson (co-PIs), Educational Policy and Practice Study, Michigan State University, Funding from the National Science Foundation and Pew Charitable Trust, Senior Researcher
- 1990-1995, R. Floden & W. McDiarmid, co-PIs, National Center for Research on Teacher Learning, Michigan State University, US Department of Education, Senior Researcher.
- 1990-1991, Conference on teaching and schooling for a new vision of secondary mathematics, National Science Foundation, $29,092, PI

Fellowships, Gifts and Other Funded Research

Fellowships

- Rosi and Max Varon Visiting Professorship, Weizmann Institute, Rehovot, Israel, Spring 2016.
- History of Mathematics Fellow, American Mathematical Association, 1995-1996
- National Academy of Education Post-Doctoral Fellow, Spencer Foundation, 1993-1995
- Dow-Corning Clinical Assistant Professor, Michigan State University, 1990-1995
- Schumann Scholarship, Harvard Graduate School of Education, 1988-1989
- Schepp Foundation Fellow, Harvard Graduate School of Education, 1986-1987
- Schumann Scholarship, Harvard Graduate School of Education, 1985-1986
- Doris Brewer Cohen Thesis Award, Brandeis University, 1981.

Centers for Research, Scholarship and Creative Activities

Centers Directed

- 2006-present: Center for Mathematics Education (4 semesters leave: Fall 2009, Spring 2010, Spring 2020, Fall 2020).

TEACHING, MENTORING AND ADVISING

Courses Taught

- EDCI 899, Doctoral dissertation research, Every semester since Spring 2005.
- EDCI 799, Masters' thesis research, Fall 2009
- EDCI 798, Special problems in teacher education, Fall 2009, Summer 2010
- EDCI 788C/Y, Mathematics Research for Mathematics Educators, Spring 2004, Spring 2005, Spring 2012, Fall 2015, Fall 2017, Fall 2019, Spring 2022, Spring 2024.

- EDCI 758/TLPL 728, Research Seminar in Mathematics Education, Fall 2010, Spring 2011, Fall 2011, Spring 2012, Fall, 2012, Spring 2013, Fall 2015, Fall 2016, Spring 2017, Fall 2017, Fall 2018. Fall 2021, Spring 2022, Fall 2022, Spring 2023.
- EDCI 753/TLPL 712, Foundations of Mathematics Education III: Curriculum, Fall 2010, Fall 2012, Spring 2015, Spring 2017, Spring 2019, Spring 2021, Spring 2023.
- Math 274, Fall 2017.

Teaching Innovations

Major Programs Established

Related to his leadership of the Center for Mathematics Education, Dr. Chazan has been involved the development of three programs.

- Masters' in Education in Middle Grades Mathematics Teaching 2004-present. (10th cohort now being recruited)
  School districts choose 10 courses from this slate of options for their upper elementary and middle grades practicing teachers. Courses developed for this program come in three categories and include:

  A. Mathematics Education Pedagogy Courses -

  These are curriculum-referenced courses in mathematics education that focus on the content taught as part of that curriculum and the design, pedagogy, and student learning issues associated with the effective implementation of the courses.

  TLPL 611 Teaching and Learning Number in the Middle Grades Curriculum
  TLPL 612 Teaching and Learning Algebra in the Middle School Curriculum
  TLPL 616 Teaching and Learning Statistics and Data Analysis in the Middle School
  TLPL 615 Teaching and Learning Geometry in the Middle School
  TLPL 683 Teaching and Learning Number for Multilingual Learners
  EDCI688C: Teaching and Learning Middle School Mathematics for Multilingual Learners

  B. Mathematics Courses (related to Pedagogy courses)

  These are content courses that are intended to deepen the middle school teacher's understanding of the subject matter beyond that specific to a particular middle school level course of study.

  MATH 487 Number for Middle School Teachers
  MATH 480 Algebra for Middle School Teachers
  MATH 481 Statistics and Data Analysis for Middle School Teachers
  MATH 482 Geometry for Middle School Teachers

  C. Mathematics Education Curriculum and Pedagogy

  These are courses on assessment, curriculum, and students' mathematical

understanding that are part of the M.Ed. Program in Mathematics Education and in which the candidates will study positions articulated in the literature and review theory and research that helps them see themselves in relation to the broader field of mathematics education.

TLPL 610 Trends in Mathematics Education
TLPL 613 Problem solving and innovative thinking in the mathematics classroom
TLPL 614 Assessing Mathematical Understanding
TLPL 617 Understanding and Engaging Students' Conceptions of Mathematics

- Five-course STEM specialization inside M.Ed. in Teacher Leadership. These courses were created by reworking existing courses, with grant support from the Maryland State Department of Education (Chazan, PI, $77,160) for faculty fellows to rework courses. 2013-present. (4th cohort now taking courses).
- Terrapin Teachers Initiative, reworking of Secondary Mathematics and Science Undergraduate Certification pathways, supported by external funding from National Mathematics and Science Initiative (PI with A. Popper, $1,450,000). Five new courses, reworking of five others (first graduating class in 2018).

Course Development

- EDCI 788Y/TLPL788Y, Mathematics Research for Mathematics Educators, Designed collaboratively with mathematician and MACMTL post-doctoral fellow, Dr. Sarah Sword. Chazan taught Spring 2004, Spring 2005, Spring 2012, Fall 2015, Spring 2018, Fall 2019, Spring 2022. Subsequently the focus of a national replication by the Center for the Scholarship of School Mathematics, Education Development Center. For the spring of 2018 reworked as an undergraduate course, Math 274. Some activities integrated beginning in 2019 into a teacher preparation course, TLPL415 Perspectives in Science.
- EDCI 758/TLPL 728, Seminar on Mathematics Education, Designed collaboratively with other Maryland MACMTL faculty, a one-credit seminar where doctoral students present their developing research focus and interest. Chazan has taught regularly since Fall 2007.

- EDCI 753/TLPL 712. Foundations of Mathematics Education III: Curriculum, Offered across three campuses in MACMTL from 2002-2012 with a regular visit to the Artemas Martin Collection at American University and 1-2 telecommunications sessions. Developed related Google Drive and Box sites. Chazan has taught once every two years since 2002.

Advising: Research or Clinical

Masters

1. 2009, Andrew Callard, M.A. Thesis: Subtle Cues and Hidden Assumptions: An Action Research Study of Teacher Questioning Patterns in 7th and 8th Grade Mathematics Classrooms.
2. 2008, Kyle Cochran, M.A. Thesis: Math and Math-in-School: Changes in the Treatment of the Function Concept in Twentieth Century Secondary Algebra Textbooks, 2006-2008.
3. 2004, Michael Conklin, M.A. Thesis: Found in Translation: A Comparison of American, German, and Japanese Mathematics Texts and Exercises.

Doctoral

1. 2025 (anticipated), Michael Krell
2. 2025 (anticipated), Ayala Kimel Nuriely
3. 2024 (anticipated), Sherwin Collette
4. 2022, Kellyn Morris, Certificate of Advanced Study
5. 2020, Kweli Powell, Formative-Home Cultural Influences of Scientific Sense-Making: A Case Study on the Affordances of Pedagogical “Bio Mechanistic Thoroughness”
6. 2018, Hollie Young, Dismantling Whiteness in the Math Classroom: How (White) Teachers Can Do Right by Black Students, [Virginia Tech University, postdoctoral fellow]
7. 2017, Elizabeth Fleming, Positioning in an Upper-Level Undergraduate Mathematics Course, Ph.D, [National Security Administration]
8. 2016, Dana Grosser-Clarkson, Examining Secondary Mathematics Candidates' Learning and Enactment of Mathematics Teaching Practices: A Multiple Case Study, Ph.D., [Lecturer and Associate Clinical Professor, Terrapin Teachers, University of Maryland College Park]
9. 2014, Carolina Napp-Avelli, Exploring Funds of Knowledge and Capital: Case Studies of Latino Immigrant Families Supporting their Children's Education, with a Focus on Mathematics, Ph.D., [Clinical Assistant Professor, University of Maryland College Park]
10. 2010, Farhaana Nyamekye, Embracing mathematics identity in an African-centered school: Construction and interaction of racial and mathematical student identities, Ph.D., [Clinical Assistant Professor, University of Maryland, Terrapin Teachers]
11. 2009, H. Michael Lueke, Preservice Teachers' Mathematical Knowledge for Teaching: A Comparison of Two University Mathematics Courses, Ph.D., [Professor, St. Louis Community College, Mathematics Department.]
12. 2009, Richard Mark Hollenbeck, Understanding the Challenges of Implementing a Multiple Solution Norm, Ph.D., [Teacher, Howard County Public Schools; Adjunct faculty member, University of Maryland.]
13. 2009, Anne Marie Marshall, Understanding Opportunities To Practice What We Preach: Mathematical Experiences of Mathematics Education Doctoral Students, Ph.D., [Associate Professor, Lehman College]
14. 2008, Toni Michelle Smith, An Investigation Into Student Understanding of Statistical Hypothesis Testing, Ph.D., [Senior Researcher, American Institutes for Research, Washington DC]
15. 2007, Eden Meredith Badertscher, Teachers’ Relationships with Mathematics: A Case Study of the Connections Between These Relationships and Teachers’ Content Experiences, Ph.D., [Senior Researcher, EDC, Waltham, MA.]
16. 2006, Yuichi Handa, Relationships to Mathematics, Ph.D. (co-advisor of degree from University of Delaware), [Associate Professor, Mathematics Department, California State University, Chico]
17. 2005, Johnson, Whitney Johnson, Aristotle As Secondary Mathematics Teacher Educator: Metaphors and Strengths, Ph.D. (Michigan State University), [Associate Professor, Morgan State University]
18. 2001, Faaiz Gierdien, A Comparative Study of the Rhetoric of Policy-makers and Mathematics Teachers in the Western Cape, South Africa, Ph.D. (Michigan State University), [Associate Professor, University of Stellenbosch, South Africa]

19. 1998, Janice Gormas, The Centrality of a Teacher's Professional Transformation in the Development of Mathematical Power: A Case Study of One High School Mathematics Teacher, Ph.D., (Michigan State University), [Emeritus faculty member, Calvin College]
20. 1994, Virginia Keen, Mathematics Department Instructors' Conceptualizations of the Roles Mathematics Content Courses Play in Elementary Teacher Education Programs, Ph.D., (Michigan State University), [Emeritus faculty member, Wright State University]

Post-doctoral

1. Fall 2017-Spring 2018, Elizabeth Fleming, Ph.D. [National Security Administration]
2. Fall 2016-Spring 2018, Dana Grosser-Clarkson, Ph.D. [Lecturer and Assistant Clinical Professor, Terrapin Teachers, University of Maryland]
3. Fall 2015-Spring 2017, Shai Olsher, Ph.D., [Assistant Professor, University of Haifa]
4. Fall 2011-Spring 2014, Orly Buchbinder, Ph.D., [Associate Professor, University of New Hampshire]
5. Fall 2007-Spring 2011, Hagit Sela, Ph.D., [Professor in Residence, School of Teaching and Learning and the Lastinger Center for Learning, University of Florida]
6. Fall 2005-Spring 2007, Whitney Johnson, Ph.D., [Associate Professor, Morgan State University]
7. Fall 2004-Spring 2005, Shoshana Gilead, Ph.D., [Senior developer, Center for Educational Technology, Tel Aviv, Israel]
8. Fall 2003-Spring 2005, Sarah Sword, Ph.D. [Senior Research Associate, Director, Center for Scholarship of School Mathematics, EDC, Waltham, MA]

Mentorship

- Fall 2014-present, Dr. Carolina Napp
- Fall 2012-present, Dr. Janet Walkoe (tenure and promotion, 2020)
- Fall 2012-Spring 2017, Dr. Rodrigo Gutierrez
- Fall 2010-Spring 2011, Drs. Whitney Johnson (Associate Professor, Morgan State University) and Richard Hollenbeck (Teacher, Howard County Public Schools)
- Fall 2008-present, Dr. Andrew Brantlinger (tenure and promotion, 2014),
- Fall 2008-present, Dr. Beatriz Quintos (promotion to Clinical Associate, 2022)
- Fall 2007-present, Dr. Lawrence Clark, (tenure and promotion, 2014)

Advising: Other than Research Direction

Master's

- 2015, Nazia Asjid, Suzette Brown, Ryan Celestino, Rachel Hast (Polesnak), Lisa Kim
- 2013, Jaunice Elaine Harris, Brandy Lynn Menzel, Suneta Upadhyay
- 2012, Theresa Marie Coufal, Jamie Liptock, Chidi Enwerem
- 2011, Jeanni Myung Sook Kim
- 2010, Sharon Rene Davis, Annyce Semone Dey, Maureen Carney Knesel

- 2009, Chrisoula Dimitrios Anagnostopoulos, Aimee Cardon, Joanne Michele Dennie, Rebecca Elise Gibbs, Pichu Herz, , Matthew Luke Holmes, Sarah Josephine Hunt, Faith Soojin Kim, Ellen Levin, Samuel Pinkava, Alicia Maren Utterback, Thomas Wheeler
- 2008, Dana Remic, Lindsay Yve Shultz
- 2006, Elizabeth Ann Massey
- 2005, Evan MacAlpin Fistere, Karl Joseph Holovach, Joseph Aubrey Sutton

Professional and Extension Education

Professional Programs Established

- 2020-2023, Elementary STEM Outreach Cohort 4 (MCPS),
- 2017-2020, Elementary STEM Outreach Cohort 3 (MCPS),
- 2015-2018, Elementary STEM Outreach Cohort 2 (MCPS),
- 2013-2016, Elementary STEM Outreach Cohort 1 (MCPS), MSDE support
- 20019-2022, Elementary and Middle Grades Math Outreach Cohort 10 (MCPS)
- 2018-2021, Elementary and Middle Grades Math Outreach Cohort 9 (MCPS)
- 2017-2020, Elementary and Middle Grades Math Outreach Cohort 8 (MCPS)
- 2015-2018, Elementary and Middle Grades Math Outreach Cohort 7 (MCPS),
- 2012-2015, Elementary and Middle Grades Math Outreach Cohort 6 (MCPS),
- 2010-2012, Elementary and Middle Grades Math Outreach Cohorts 4 (MCPS) and 5 (PGCPS), MHEC support
- 2006-2009, Elementary and Middle Grades Math Outreach Cohorts 2 (MCPS) and 3 (PGCPS), MHEC support
- 2005-2008, Elementary and Middle Grades Math Outreach Cohort 1 (MCPS), MHEC support

SERVICE AND OUTREACH

Editorships, Editorial Boards and Reviewing Activities

Editorial Boards

- 2019-2024, Research Commentary Editor, Journal for Research in Mathematics Education.
- 2000-present, Editorial Board, For the Learning of Mathematics
- 2007-2013, International Advisory Board, Research in Mathematics Education: The International Journal of the British Society for Research into Learning Mathematics
- 1999-2002, International Journal for Computers in Mathematics Education
- 1998-2001, Editorial Panel, Mathematics Teacher
- 1987-1989, Harvard Educational Review. Cambridge, MA, Board Member. Initiated a symposium on the use of computers in schools which was subsequently reprinted under the title "Visions for the Use of Computers in Classroom Instruction: Symposium and Responses." As 1988-89 Book Review Editor, oversaw and coordinated the review section for a quarterly journal.

Reviewing Activities for Journals and Presses

- Occasional Reviewer: Cognition and Instruction, Journal of the Learning Sciences, Contemporary Educational Psychology, Journal of Curriculum Studies, Journal of Mathematical Behavior, Mathematics Teaching and Learning, ZDM Mathematics education, Research in Collegiate Mathematics Education, International Journal of Computers in Mathematics Learning, American Educational Research Journal, Educational Researcher. Journal Teacher Education, International Journal of Science and Mathematics Education
- Regular reviewer: Journal for Research in Mathematics Education, Journal of Mathematics Teacher Education, American Educational Research Association Annual Conference, Annual Conference of the International Group for the Psychology of Mathematics Education, Research in Mathematics Education, For the learning of mathematics
- Occasional book proposal reviewer: Lawrence Erlbaum, Teachers College Press, National Council of Teachers of Mathematics

Reviewing Activities for Agencies and Foundations

- 2002-present, Regular reviewer, National Science Foundation, Directorate of Education and Human Resources
- Spring 2012-present, Occasional Reviewer, Social Sciences and Humanities Research Council of Canada
- Fall 2019, Academic Quality Assessment and Development Review, University of Massachusetts Dartmouth Department of STEM and Teacher Development.
- Spring 2019, Review for Israeli Science Foundation.
- Spring 2019, National Chair Review, South African National Research Foundation
- Fall 2012, Geography and Spatial Sciences Program, National Science Foundation
- Spring 2012, Reviewer, Departmental External Review Committee: Montclair State University Mathematics Department
- Spring 2009, Knowles Science Teaching Foundation Research Fellowships
- 2002-2003, Spencer Foundation Small Grants Program
- Tenure and promotion review cases, occasional reviewer: Rutgers University, Michigan State University, University of Colorado, Simon Fraser University, Indiana University, University of Wisconsin-Madison, American University, Boston University, Syracuse University, University of Virginia, Morgan State University, Brooklyn College, University of Washington, Stanford University, Vanderbilt University, University of Washington-Tacoma, University of Toronto, University of Virginia, Seminar of the Kibbutzim (Haifa, Israel), Weizmann Institute (Rehovot, Israel) University of Illinois-Chicago, University of Pennsylvania, George Mason University.
- External reviewer dissertations: University of Delaware, Queens University, Simon Fraser University.

Committees, Professional & Campus Service

Campus Service - Department

- 2023, co-chair, TLPL and Center for Mathematics Education, PTK faculty search committee
- 2022-2023, Chair, Ad hoc committee to review TLPL Faculty Specialist promotion criteria
- 2022-2023, Member, AEP promotion subcommittee for Principal faculty specialist.

- 2021-2023, Member, ad hoc committee to review TLPL TTK promotion criteria.
- Spring 2021, Member, TLPL, Anti-Racism Taskforce.
- Spring 2021, Member, Merit Pay Committee.
- Fall 2019, co-Chair, Search Committee for position in Teacher Education.
- Fall 2019, Member Department Appointment, Evaluation, and Promotion Committee.
- 2018-2019, Chair Department Appointment, Evaluation, and Promotion Committee.
- 2016-2017, Co-Chair, Search Committee for Faculty Member in Teacher Education
- 2016-2017, Member, Search Committee for Faculty Member in Teacher Education
- 2016-2017, Chair, Department Appointment, Promotion, and Tenure Committee
- 2015-2016, Member, Internal Review Committee
- 2014-2015, Member, Appointment, Promotion, and Tenure Committee
- 2013-2014, Chair, Appointment, Promotion, and Tenure Committee
- 2011, Department of Teaching, Learning, Policy, and Leadership, 2011-present
- 2011-2013, Division of Science, Technology, and Mathematics Education in TLPL, Division Coordinator
- 2011-2013, Member, Departmental Leadership Team
- 2010-2013, Member, Outreach Advisory Committee
- 2007-2008, Chair, Departmental Advisory Board
- 2007-2008, Departmental Assemblies, Convener
- 2007-2008, Chair, Mathematics Education Tenure Stream Faculty Search Committee, (Dr. Andrew Brantlinger hired)
- 2007-2008, Chair, Mathematics Education Clinical Faculty Search Committee, (Dr. Whitney Johnson, Richard Hollenbeck hired)
- 2006-2006, Member, Graduate Research Educational Leadership Team
- 2006-2007, Chair, Mathematics Education Tenure Stream Faculty Search Committee, (Open rank and Junior position, Dr. Lawrence Clark hired)
- 2005-2007, Member, Faculty Advisory Board
- 2002-2011, Department of Curriculum and Instruction
- 2012, Member, Ad hoc Promotion Advisory Subcommittee for Research Scientists, Spring 2012
- 2012, Member, Departmental Taskforce on Initial Teacher Certification, Spring 2012

Campus Service - College

- Spring 2024, Member, AEP review committee
- Spring 2023, Member, AEP review committee
- Spring 2023, Member, Maryland Blueprint Taskforce
- Spring 2021, Member, CORE-J Committee.
- 2017-2018, Member, Strategic Planning Task Force 2
- 2016-2017, Member, College Appointment, Promotion, and Tenure Committee
- 2016-2017, Member, College of Education, Dean Search Committee
- 2010-2018, STEM advisor to the Dean
- 2010-2015, Member, Undergraduate Teacher Ed Council
- 2008-2009, Member, College of Education, Dean's Reorganization Team
- 2006-2007, Member, College of Education, Dean Search Committee

- 2012, Member, Search Committee for Director of Outreach Office

Campus Service - University

- 2021-2023, Member, University APT review committee.
- 2013-present, Co-director, Terrapin Teachers
- 2017-Fall 2019, Member, Academic Planning Advisory Committee (APAC)
- 2018-2019, Member, Search Committee for Executive Director of the Teaching and Learning Transformation Center
- 2016-Fall 2019, Member, Advisory Board, Teaching and Learning Transformation Center
- 2012, Member, University APT Appeals Committee

Positions/Committee Members in Professional Organizations

- 2016-2021, Member, International Program Committee for ICME-14 (International Congress of Mathematics Education), East China Normal University, Shanghai, China.
- 2004, Co-Chair, Topic Study Group 9: The teaching and learning of algebra, ICME10, Copenhagen, Denmark.
- 2002-2004, Co-Chair, American Educational Research Association Special Interest Group for Research in Mathematics Education.

External Service and Consulting

Community Engagements, Local, State, National, International

- 2014-June 2016, Member, Mathematics Standing committee. National Assessment of Educational Progress, ETS, Princeton, NJ.
- 2011- 2014, Member, Digital Library of Practice Advisory Group to Board, National Council of Teachers of Mathematics, Reston, VA.
- 2010- 2012, Member Writing Group, Mathematics Education of Teachers II; Member Working Group on the Preparation of Secondary Teachers, Conference Board for the Mathematical Sciences. Publication created: Conference Board of the Mathematical Sciences (2012). The Mathematical Education of Teachers II. Providence RI and Washington DC: American Mathematical Society and Mathematical Association of America
- 2010- 2011, Chair, Video Library Task Force; Chair, Cluster Review, Evaluation, and Development Task Force, National Council of Teachers of Mathematics, Reston, VA.
- 2008, Member, Adult Numeracy Technical Work Group, Department of Education, Washington, DC.

International Activities

- 2022-2023, Sponsor, Shai Olsher, Senior Lecturer, University of Haifa, Israel.
- 2018-2019, Sponsor, Gao Xiang, Doctoral student East China Normal University, Shaghai, China, funded by Chinese Scholarship Council.

- 2013-2018, Advisor, Learning In a NetworKed Society (LINKS), an Israeli Center of Research Excellence, University of Haifa, Haifa, Israel.
- 2017, Spring, Sponsor, Dr. Binyan Xu, East China Norman University, Shanghai, China, funded by Chinese Scholarship Council.
- 2013-2014, Sponsor, Mr. Cezar Santos Alvarez, CAPES, Brasilia, Brazil, funded by Brazilian government grant.
- 2013, Fall. Mentor, Ms. Revathy Parameswaran, Fullbright Master Teacher.
- 2013, Fall, Sponsor, Dr. Iman Osta, Lebanese American University, Beirut Lebanon, funded by Fullbright Scholarship.

Corporate and Other Board Memberships

- 2018-2021, Member, Advisory Board, Inquiry and Equity: Who gets to ask questions in mathematics? EDC, Waltham, MA.
- 2017-2020, Member, Advisory Board, Examining the Trajectories of Black Mathematics Teachers, George Mason University.
- 2017-2020, Member, Advisory Board, Collaborative Research on Early Field Experiences for Prospective STEM Teachers: Scaling the UTE Model. Michigan State University.
- 2017-2020, Member, Advisory Board, Mathematical Immersion for Secondary Teachers at Scale. EDC.
- 2017-2019, Member, Advisory Board, Understanding the Role of Simulations in K-12 Science and Mathematics Teacher Education. Educational Testing Service.
- 2014-2019, Member, Advisory Board, Investigating Differentiated Instruction and Relationships between Rational Number Knowledge and Algebraic Reasoning in Middle School, Indiana University.
- 2011-2014, Member, Advisory Board, Changing Curriculum, Changing Practice, Education Development Center.
- 2011-2014, Member, Using Routines as an Instructional Tool for Developing Elementary Students' Conceptions of Proof, TERC.
- 2010-2012, Member, Advisory Board, Algebra Teaching Study, University of California Berkeley and Michigan State University.
- 2007-2010, Member, Advisory Board, Center for Scholarship of School Mathematics, Education Development Center.
- 2005-2008, Member, Advisory Board, Knowledge of Algebra for Teaching, Michigan State University.
- 2004-2007, Member, Advisory Board, Lenses on Learning, Education Development Center.
- 2001-2006, Member, Understanding and Cultivating the Development of Students' Competencies in Justifying and Proving, Advisory Board, University of Wisconsin.
- 2002-2005, Member, Coordinating Students' and Teachers' Algebraic Reasoning (CoSTAR), Advisory Board, University of Georgia.
- 2004, Member, Visiting Committee. Harvard Graduate School of Education, Teacher Education Program.

Entrepreneurial Activities

- 2014, Two-day Workshop for Teacher Leaders, Teacher Development Group. Portland, OR.

Consultancies (to local, state and federal agencies; companies; organizations)

- 2018-2022, Consultant, University of Michigan, Teachers as Learners Grant.
- 2014-2018, Member, Maryland Mathematics Advisory Group, Maryland State Department of Education, Ongoing activity; 4 half-day meetings per year. Unpaid.

AWARDS, HONORS AND RECOGNITION

- 2023-2024, Distinguished Scholar Teacher, University of Maryland.
- 2023, Association of Mathematics Teacher Educators Award for Excellence in Scholarship.
- 2012, Inaugural Excellence in Mentoring of Tenure-Stream Faculty, College of Education, University of Maryland