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
2. Chazan, D. (2000). *Beyond formulas in mathematics and teaching: Dynamics of the high school algebra classroom*. New York: Teachers College Press.
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.
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. Yerushalmy, M. & Chazan, D. (1992) *Supposer solutions: Using the Geometric Supposer with one computer in the classroom*. Pleasantville, NY: Sunburst Communications.
2. Chazan, D, Ruopp, F. & Houde, R. (1991) *The Geometric Supposer workshop manual*. Pleasantville, NY: Sunburst Communications.
3. Chazan, D. (1990). *Supposer solutions: Similarity*. Pleasantville, NY: Sunburst Communications.
4. Chazan, D. (1989). *Problems and projects for the Geometry preSupposer*. Pleasantville, NY: Sunburst Communications.

Chapters

Books

1. Herbst, P., Chazan, D., & A. Milewski (2019). 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.* Leiden: Brill-Sense.
2. 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.
3. 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.
4. 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
5. Herbst. P. & Chazan, D., (2017), Theories of Mathematics Teaching, J. Cai (Ed.), *Third International Handbook of Mathematics Education* (pp. 102-127). Reston, VA: National Council of Teachers of Mathematics
6. 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.
7. 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.
8. †+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.
9. †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.
10. †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.
11. †Chazan, D. (2013). 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.

12. † **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.
13. † 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.
14. † **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.
15. † **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 mathematics. In D. Stylianou, E. Knuth, & M. Blanton (Eds.), *Teaching and learning mathematics proof Across the grades* (pp. 21-39). Erlbaum: Hillsdale, NJ.
16. †+ 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.
17. + 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.
18. †+ 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.
19. † **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.
20. 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.
21. †+ **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.* Reston, VA: National Council of Teachers of Mathematics.
22. + 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.

23. **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.
24. †+ **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.
25. †+ **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.
26. † + 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.
27. **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.
28. 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.
29. + **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.
30. + 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.
31. 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.]
32. **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. 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.
2. Chazan, D. (1988). *Similarity: Exploring the understanding of a geometric concept* (Tech. Rep. 88-15). Cambridge: Harvard Graduate School of Education, Educational Technology Center.
3. Yerushalmy, M., Chazan, D., and Gordon, M. (1987). *Guided inquiry and technology: A year long 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. 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
2. 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.
3. 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.
4. Olsher, Shai, Yerushalmy, Michal, & 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.
5. Herbst. P. & Chazan, D. (2016). Studying Professional Knowledge Use in Practice Using Multimedia Scenarios Delivered Online. *International Journal of Research and Method in Education. 38*(3). 272-287.

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.

8. 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.
9. 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
10. **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.
11. 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.
12. 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.

13. **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.
14. **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.
15. **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
16. **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.
17. **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.
18. **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.
19. + **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.
20. **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.
21. **Chazan, D.** and Sandow, D.* (2011). "Why did you do that?" Justification in algebra classrooms. *Mathematics Teacher, 104*(6). 460-464.
22. **Herbst, P.** and Chazan, D. (2009). Methodologies for the study of instruction in mathematics classrooms. *Recherches en Didactique des Mathématiques, 29*(1)*,* 11 -33.
23. **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.
24. 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).
25. 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.
26. Chazan, D. and Ball, D. L. (1999). Beyond being told not to tell. *For the Learning of Mathematics*, *19*(2), 2-10.
27. 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.]
28. **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.]
29. Chazan, D. (1996). Algebra for all students? *Journal of Mathematical Behavior*, *15*(4). 455-477.

30. Chazan, D. (1993). F(x)=G(x)?: An approach to modeling with algebra. *For the Learning of Mathematics*, *13* (3), 22-26.
31. 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.
32. Chazan, D. (1992). Knowing school mathematics: A personal reflection on the NCTM's Teaching Standards. *Mathematics Teacher*, *85*, 371-375.
33. **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.
34. 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.]
35. Chazan, D. (1990). Quasi-empirical views of mathematics and mathematics teaching. *Interchange*, *21*(1), 14-23.
36. 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.]
37. 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,]

Selected Published Conference Proceedings

1. **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.
2. + **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.

Selected Conferences, Workshops and Talks

Keynotes

- 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

- 2018, Seminar, Conceptualizing Teaching as a Complex System, School of Education, University of Michigan.
- 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

Refereed Presentations

- 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.
- 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, sympsium titeled: "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

Book Reviews, Notes and Other Contributions

Book Reviews

1. 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
2. 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

Digital Media (e.g., CDs, DVDs)

- 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., Multimedia package in Hebrew and English (2 CDs of video and documents and a booklet), University of Haifa and Center for Educational Technology, Discussions in the Mathematics Classroom

Websites

- Center for Mathematics Education, education.umd.edu/MathEd/
- Terrapin Teachers, http://www.tt.umd.edu/
- LessonSketch platform, www.LessonSketch.org

Sponsored Research and Programs

- 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.
- 2013-2017, 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, 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

- 2006-2009, 2010-present: Center for Mathematics Education

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 2012, Fall 2015
- EDCI 758, 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.

- EDCI 753/TLPL 712, Foundations of Mathematics Education III: Curriculum, Fall 2010, Fall 2012, Spring 2015, Spring 2017, Spring 2019.
- Math 274, Fall 2017.

Teaching Innovations

Major Programs Established

- Masters in Education in Middle Grades Mathematics Teaching (8th cohort now being recruited)

Courses developed for this program:

  - EDCI 655, Teaching and Learning Algebra in the Middle School Curriculum
  - MATH 480, Algebra for Middle School Teachers
  - EDCI 656, Teaching and Learning Statistics and Data Analysis in the Middle School
  - MATH 481, Statistics and Data Analysis for Middle School Teachers
  - EDCI 645, Teaching and Learning Geometry in the Middle School
  - MATH 482, Geometry for Middle School Teachers
  - EDCI 688U, Content and Pedagogy: Number in the Middle School I
  - MATH 498, Number in the Middle School II

- 5 course STEM specialization inside M.Ed. in Teacher Leadership created by reworking existing courses, with grant support from MSDE for faculty fellows to rework courses (3rd cohort now being recruited)
- Terrapin Teachers Initiative, reworking of Secondary Mathematics and Science Undergraduate Certification pathways, supported by external funding from National Mathematics and Science Initiative (first graduating class in 2018). Five new courses, reworking of five others.

Advising: Research or Clinical

Masters

- 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.
- 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.
- 2004, Michael Conklin, M.A. Thesis: Found in Translation: A Comparison of American, German, and Japanese Mathematics Texts and Exercises.

Doctoral

- Ongoing, Sherwin Collette
- Ongoing, Kellyn Morris
- Ongoing, Kweli Powell
- 2018, Hollie Young, Dismantling Whiteness in the Math Classroom: How (White) Teachers Can Do Right by Black Students, [Virginia Tech, postdoctoral fellow]
- 2017, Elizabeth Fleming, Positioning in an Upper-Level Undergraduate Mathematics Course, Ph.D, [Postdoctoral Fellow, University of Maryland College Park]

- 2016, Dana Grosser-Clarkson, Examining Secondary Mathematics Candidates' Learning and Enactment of Mathematics Teaching Practices: A Multiple Case Study, Ph.D., [Postdoctoral Fellow, University of Maryland College Park]
- 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]
- 2010, Farhaana Nyamekye, Embracing mathematics identity in an African-centered school: Construction and interaction of racial and mathematical student identities, Ph.D., [Assistant Professor, Mathematics Department, College of Southern Maryland]
- 2009, H. Michael Lueke, Preservice Teachers' Mathematical Knowledge for Teaching: A Comparison of Two University Mathematics Courses, Ph.D., [Assistant Professor, St. Louis Community College, Mathematics Department.]
- 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.]
- 2009, Anne Marie Marshall, Understanding Opportunities To Practice What We Preach: Mathematical Experiences Of Mathematics Education Doctoral Students, Ph.D., [Assistant Professor, Lehman College]
- 2008, Toni Michelle Smith, An Investigation Into Student Understanding of Statistical Hypothesis Testing, Ph.D., [American Institutes for Research, Washington DC]
- 2007, Eden Meredith Badertscher, Teachers' Relationships With Mathematics: A Case Study of the Connections Between These Relationships and Teachers' Content Experiences, Ph.D., [Senior Project Director, Education Development Center, Waltham, MA.]
- 2006, Yuichi Handa, Relationships to Mathematics, Ph.D. (co-advisor of degree from University of Delaware), [Associate Professor, Mathematics Department, California State University, Chico]
- 2005, Johnson, Whitney Johnson, Aristotle As Secondary Mathematics Teacher Educator: Metaphors and Strengths, Ph.D. (Michigan State University), [Associate Professor, Morgan State University]
- 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]
- 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), [Tenured faculty member, Calvin College]
- 1994, Virginia Keen, Mathematics Department Instructors' Conceptualizations of the Roles Mathematics Content Courses Play in Elementary Teacher Education Programs, Ph.D., (Michigan State University), [Faculty member, Wright State University]

Post-doctoral

- Fall 2017- Spring 2018, Elizabeth Fleming, Ph.D.
- Fall 2016-Spring 2018, Dana Grosser-Clarkson, Ph.D.
- Fall 2015-Spring 2017, Shai Olsher, Ph.D., [Assistant Professor, University of Haifa]
- Fall 2011-Spring 2014, Orly Buchbinder, Ph.D., [Assistant Professor, University of New Hampshire]

- 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]
- Fall 2005-Spring 2007, Whitney Johnson, Ph.D., [Associate Professor, Morgan State University]
- Fall 2004-Spring 2005, Shoshana Gilead, Ph.D., [Senior developer, Center for Educational Technology, Tel Aviv, Israel]
- Fall 2003-Spring 2005, Sarah Sword, Ph.D. [Senior Research Associate, Director, Center for Scholarship of School Mathematics, Education Development Center, Newton, MA]

SERVICE AND OUTREACH

Editorships, Editorial Boards and Reviewing Activities

Editorial Boards

- 2000-present, Advisory 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

Selected 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.

International Activities

- 2016-2020, Member, International Program Committee for ICME-14 (International Congress of Mathematics Education), East China Normal University, Shanghai, China.

- 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, Sponsor, Dr. Iman Osta, Lebanese American University, Beirut Lebanon, funded by Fullbright Scholarship.

Corporate and Other Board Memberships

- 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.
- 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.

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

- 2014-present, Member, Maryland Mathematics Advisory Group, Maryland State Department of Education, Ongoing activity; 4 half-day meetings per year. Unpaid.
- 2011, Advisor, Knowledge Synthesis on the Implementation and Effects of Revising High School Graduation Credit Requirements in Mathematics and Science, WestEd. Unpaid.
- 2010, Preparation of White Paper on Algebra Learning, Council of Chief State School Officers.
- 2008-2009, Preparation of mathematical essays for encyclopedia on school mathematics, Noyce Foundation.

AWARDS, HONORS AND RECOGNITION

Service Awards and Honors

- 2012, Inaugural Excellence in Mentoring of Tenure-Stream Faculty, College of Education, University of Maryland