

Vita

Steven R. Williams

Education

A.S. Degree 1977 Snow College, Ephraim, Utah
B. S. Degree 1980 Brigham Young University, Department of Mathematics
M.S. Degree 1983 Brigham Young University, Department of Mathematics
Ph.D. Degree 1989 University of Wisconsin - Madison, Department of Curriculum and Instruction

Specialty: Mathematics Education
Advisor: Tom Romberg
Dissertation: The Understanding of Limit in College Calculus Students

Experience

August 2004 – Present: Professor, Department of Mathematics Education, Brigham Young University. Chair, June 2008 - Present

August 2000 – August 2004: Associate Professor, Department of Mathematics Education, Brigham Young University (Associate Chair, August 2000- August 2004)

August 1996 - August 2000: Associate Professor, Department of Mathematics, Brigham Young University

August 1993 – August 1996 Assistant Professor, Department of Mathematics, Brigham Young University

August 1989 - August 1993: Assistant Professor with joint appointments in Teaching and Learning and Mathematics, Washington State University,

June 1986 - August 1989: Project Assistant, Wisconsin Center for Education Research, University of Wisconsin-Madison.

August 1983 - May 1986: Teaching Assistant, Department of Mathematics, University of Wisconsin-Madison.

August 1981 - August 1983 Instructor, Department of Mathematics, Brigham Young University

Publications

Research Reports

Webb, N. L., Pittelman, S. D., Romberg, T.A., Pitman, A. J. and Williams, S. R. (1988). *The Urban Mathematics Collaborative Project: Report to the Ford Foundation on the 1986-87 School Year* (Program Report 88-1). Madison, Wisconsin: Wisconsin Center for Education Research.

Romberg, T. A., Zarinnia, E. A. and Williams, S. R. (1988). *Teachers' perceptions of the influence of mandated testing on mathematics instruction*. Madison, Wisconsin: Wisconsin Center for Education Research.

Romberg, T. A., Zarinnia, E. A., and Williams, S. R. (1990). *Mandated school mathematics testing in the United States: A survey of state mathematics supervisors*. Madison, Wisconsin: Wisconsin Center for Education Research.

Book Reviews

Williams, S. R. (1991). [Review of the book *Understanding Computers and Cognition* by T. Winograd and F. Flores. Norwood, NJ: Ablex, 1987]. *Theoretical and Philosophical Psychology*, 11 (1), 56-60.

Williams, S. R. (1995) A critical look at practice in mathematics and mathematics education. [Review of *Math Worlds: Philosophical and Social Studies of Mathematics and Mathematics Education* by Sal Restivo, Jean Paul Van Bendegem, and Roland Fischer]. *Journal for Research in Mathematics Education*, 26(2), 184-188.

Conference Proceedings

Williams, S. R. (1990). The understanding of limit: Three perspectives. In G. Booker, P. Cobb, and T. N. de Mendicuti (Eds.) *Proceedings of the Fourteenth Conference of the International Group for the Psychology of Mathematics Education* (Vol I, pp. 101-108).

Williams, S. R., and Ivey, Kathy M. C. (1994). Exploring the Social in Social Constructivism. *Proceedings of the Sixteenth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education in Social Construction*. In D. Kirschner, (Ed.), (Volume 2, pp. 105-111). Baton Rouge, LA: Louisiana State University.

Walen, S. B., and Williams, S. R. (1995). Heidegger and hall duty: Using vignettes of teachers' daily practice to triangulate observational data. In D. T. Owens, M. K. Reed, & G. M. Millsaps (Eds.), *Proceedings of the Seventeenth Annual Meeting, North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol 2, pp. 6-12). Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education.

Williams, S. R., Khisty, L. L., and Pack, M. (1997). Teachers' beliefs about mathematics as assessed through repertory grid methodology. In J. A. Dossey, J. O. Swafford, M. Parmantie, & E. A. Dossey (Eds.), *Proceedings of the Nineteenth Annual Meeting, North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol 2, pp. 453-458). Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education.

Walen, S. B., Williams, S. R., and Ivey, K. M. C. (1999). A matter of time: Emotion and performance on mathematics tests. In F. Hitt & M. Santos, (Eds.), *Proceedings of the Twenty-First Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol 2, pp. 662-667). Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education.

Walen, S. B., Williams, S. R., and Ivey, K. M. C. (2000). Ontology and phenomenology in mathematics education. In M. L. Fernandez, (Ed.), *Proceedings of the Twenty-Second Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol 1, pp. 231-235). Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education.

Peterson, B. E. and Williams, S. R. (2001). Mentoring styles in mathematics: Two contrasting cases. In R. Speiser, C. A. Maher, & C. N. Walter (Eds.), *Proceedings of the Twenty-Third Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol 2, pp. 885 – 895). Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education.

Siebert, D., and Williams S. R. (2003) Students' understanding of Zn. In N. A. Pateman, B. J. Dougherty, & J. Zilliox (Eds.), *Proceedings of the 2003 Joint Meeting of PME and PMENA* (pp. 167-173)

Smith, Stephanie Z, Williams, S. R., and Smith, Marvin E. (2005). A process model for change in elementary mathematics teachers' beliefs and practices. In G. M. Lloyd, M. R. Wilson, J. L. Wilkins, & S. L. Behm, (Eds.). *Proceedings of the 27th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*. [CD-ROM]. Eugene, OR: All Academic

Watson, K., & Williams, S. The Common Core moral panic (2018). In T. E. Hodges, G. J. Roy, & A. M. Tyminski, (Eds.). *Proceedings of the 40th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 101-108). Greenville, SC: University of South Carolina & Clemson University.

Peterson, B. E., Williams, S. R., & Leatham, K. R. (2023). Research expectations for mathematics education faculty in US institutions of higher education. In T. Lamberg & D. Moss, (Eds.), *Proceedings of the forty-fifth annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol 1, pp. 1065-1074). University of Nevada, Reno.

Book Chapters and Sections

Williams, S.R. (1993). Some common themes and uncommon directions. In T. A. Romberg, E. Fennema, and T. P. Carpenter (Eds.), *Integrating research on the graphical are presentation of function* (pp. 313-337). Hillsdale, NJ: Lawrence Erlbaum.

Williams, S. R. (1997). Mathematics (Grades 7--12). In G. D. Phye (Ed.), *Handbook of academic learning: Construction of knowledge*, pp. 343-368. San Diego, CA: Academic Press.

Williams, S. R., Smith, S. Z., Mumme, J., and Seago, N. (1998). Ports of entry into curricular change. In L. Leutzinger (Ed.), *Mathematics in the middle* (pp. 75-82). Reston, VA: National Council of Teachers of Mathematics.

Williams, S. R. (2004). Mathematics, teaching of. In Carles Speilberger (Ed.) *Encyclopedia of applied psychology* (pp. 589-594). Oxford: Elsevier Ltd.

Hiebert, J., Lambdin, D., and Williams, S. (2008). Reflecting on the conference and looking toward the future. In R. E. Reys & J. A. Dossey (Eds.), *Issues in Mathematics Education, vol. 15: U.S. doctorates in mathematics education: Developing stewards of the discipline* (pp. 241-252). Providence, RI: American Mathematical Society.

Williams, S. R. (2012). Reflections on a portrait of our field. In K. R. Leatham (Ed.), *Vital directions in mathematics education*. Dordrecht, The Netherlands: Springer.

Spangler, D. R., & Williams, S. R, (2019). The role of theoretical frameworks in mathematics education research. In K. R. Leatham (Ed.), *Designing, conducting, and publishing quality research in mathematics education* (pp. 3 – 16), Cham, Switzerland: Springer Nature.

Journals

- Williams, S.R. (1991). Models of limits in college calculus students. *Journal for Research in Mathematics Education* , 22(3), 219-236.
- Williams, S. R. (1993). Mathematics and being in the world: Toward an interpretive framework. *For the Learning of Mathematics*, 13(2), 2-7.
- Williams, S. R., and Baxter, J. R. (1996). Dilemmas of Discourse-Oriented Teaching in One Middle-School Mathematics Classroom. *The Elementary School Journal*, 97(1), 21--38.
- Peterson, B. E., & Williams, S. R. (1998). Mentoring Beginning Teachers. *Mathematics Teacher*, 91(8), 730-734.
- Walen, S. B., Williams, S. R., and Barton, H. (1999). Dollars and Sense: A Case of Distributed Cognition. *Mathematics Education Research Journal* , 11(1), 54 - 69.
- Walen, S. B., and Williams, S. R. (2000). Validating Classroom Issues: Case Method in Support of Teacher Change. *Journal of Mathematics Teacher Education*, 3, 3-26.
- Williams, S. R. (2001). Predications of the limit concept: An application of repertory grids. *Journal for Research in Mathematics Education*, 32(4), 341-367.
- Williams, S. R. & Ivey, K. M. C. (2001) Affective assessment and mathematics classroom engagement: A case study. *Educational Studies in Mathematics*, 47, 75-100.
- Walen, S. B. & Williams, S. R. (2002). A matter of time: Emotional responses to timed tests. *Educational Studies in Mathematics*, 49(3), 361-378.
- Walen, S. B., Williams, S. R., & Garner, B. E. (2003). Preservice teachers learning mathematics using calculators: A failure to connect between current and future practice. *Teaching and Teacher Education*, 19(4), 445-462.
- Peterson, B. E., Williams, S. R., & Durrant, V. (2005). Factors that affect mathematical discussion among secondary student teachers and their cooperating teachers. *New England Mathematics Journal*, 37(2), 41-49.
- Smith, Z.S., Williams, S.R & Smith, M.E. (2005, July 20). Elaborating a Change Process Model for Elementary Mathematics Teachers' Beliefs and Practices. *Current Issues in Education* [On-line], 8(15). Available: <http://cie.asu.edu/volume8/number19/index.html>
- Peterson, B. E. & Williams, S. R. (2008). Learning Mathematics For Teaching in the Student Teaching Experience: Two Contrasting Cases. *Journal of Mathematics Teacher Education*. 11, 459-478

Baxter, J. & Williams, S. R. (2010) Social and analytic scaffolding in middle school mathematics: Managing the dilemma of telling. *Journal of Mathematics Teacher Education*, 13, 7-26.

Williams, S. R., & Leatham, K. R. (2017). Journal quality in mathematics education. *Journal for Research in Mathematics Education*, 48, 369-396.

Corey, D. L., Williams, S., Monroe, E.E., & Wagner, M. (2021). Teacher's knowledge of student mathematical thinking in written instructional products. *Journal of Mathematics Teacher Education*, 24, 613-689.

Presentations

Discussant in a symposium offered by the National Center for Research in Mathematical Sciences Education, Curriculum/Assessment Working Group, held at the Tenth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, November 2-5, 1988, at Northern Illinois University.

Participant and respondent to conference, Integrating Research on Graphical Representations of Function, held September 28 and 29, 1989, at the University of Wisconsin-Madison.

Respondent to presentations on Integrating Research on Graphical Representation of Function at the Research pre-Session of the 1990 Annual Meeting of the National Council of Teachers of Mathematics, April 16 - 18, 1990, Salt Lake City, Utah.

The understanding of limit: Three perspectives, presented at the Fourteenth Annual conference of the International Group for the Psychology of Mathematics Education, July 15 - 20, 1990, Oaxtepec, Mexico.

Mathematics and being in the world, presented at Oregon Educational Research Association Annual Meeting, October 1991, Portland Oregon.

Presentation on features of Cognitively Guided Instruction programs given at Partnerships in Education Conference, Lewiston, Idaho, October 1990, and October 1991.

Kerygma and being for the other: A continental view of classroom discourse, presented at International Congress on Mathematical Education, August 17-23, 1992, Quebec, Canada.

Education and the metaphysic of things: Disabling the transmission metaphor, presented at 100th Annual Meeting of the American Psychological Association, August 15, 1992, Washington D.C.

Conceptual splatter and metaphorical noise, (with S.B. Walen) presented at 16th Annual Conference of the International Group for the Psychology of Mathematics Education, August 1992, University of New Hampshire.

The everyday and the mathematical: The social construction of proof, presented at a research reporting session of the 71st Annual Meeting of the National Council of Teachers of Mathematics, March 31-April 3, 1993, Seattle, WA.

Classroom discourse and lesson crafting: Transitions in constructivist teaching, (with Juliet Baxter) paper presented as part of symposium "Mathematical Discourse: Four Approaches to Examining How Teachers and Student Renegotiate Classroom Talk," presented at the American Educational Research Association Annual Meeting, April 12-16, 1993, Atlanta, Georgia.

Investment of self as a component of mathematical engagement, (with Kathy M. C. Ivey) presented at the Fifteenth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, October 17-20, 1993 Asilomar, California.

Giving reform a shot in the arm: An injection model for adopting the Standards, presented at a research reporting session at the 1994 Annual Meeting of the National Council of Teachers of Mathematics, April 1994, Indianapolis, Indiana.

Teachers' explanations: When and how they are used in constructivist instruction, (with Juliet Baxter), presented at American Educational Research Association Annual Meeting, 4-8 April 1994, New Orleans, Louisiana.

Research Symposium: Multiple World Views Along the Journey to Reform, (Presider, Presenter, and Organizer), presented at the Research Pre-Session of the NCTM Annual Meeting, 12 April 1994, Indianapolis, Indiana.

Exploring the social in social construction, (with Kathy M. C. Ivey), presented at the Sixteenth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, 5--8 November 1994, Baton Rouge, Louisiana.

Classroom communication: Where past and future meet in understanding mathematics, presented at the 73rd Annual Meeting of the National Council of Teachers of Mathematics, 6--9 April 1994, Boston, Massachusetts.

Activity structures in constructivist classrooms, (with Jill Baxter), presented at the 1995 Annual Meeting of the American Education Research Association, 18--22 April 1995, San Francisco, California.

Heidegger and hall duty: Using vignettes of teacher's daily practice to triangulate observational data, (With Sharon Walen). Presented at the Seventeenth Annual Meeting

of the North American Chapter of the International group for the Psychology of Mathematics Education (PME-NA 17), 21--24 October 1995, Ohio State University.

Teacher's beliefs about mathematics as assessed through repertory grid methodology (with Lena Khisty & Miriam Pack), presented at the Nineteenth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA 19), 18--21 October 1997, Bloomington, Illinois.

A matter of time: Emotion and performance on mathematics tests (With Sharon Walen and Kathy M. C. Ivey), presented at 21st Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Cuernavaca, Mexico, October 23-26, 1999.

Mathematical discussions in cooperating-teacher - student teacher dyads (with Blake Peterson and Vari Durrant), presented at the Research Pre-session of the 79th Annual Meeting of the National Council of Teachers of Mathematics, 10-12 April 2000, Chicago, Illinois.

Ontology and phenomenology in mathematics education (With Sharon Walen and Kathy M. C. Ivey), presented at 22nd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Tucson, Arizona, October 7-10, 2000.

Invited discussant for a research reporting session at the Research Pre-session of the 80th Annual Meeting of the National Council of Teachers of Mathematics, 4 - 7 April 2001, Orlando, Florida.

Discussant for a research reporting session at the 82nd Annual Meeting of the American Educational Research Association, April 10 – 14 2001, Seattle, Washington.

Mentoring styles in mathematics: Two contrasting cases (With Blake E. Peterson), presented at the 23rd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Snowbird, Utah, October 18-21, 2001.

Students' understanding of Zn (With Daniel Siebert), presented at the 27th Annual Meeting of the International Group for the Psychology of Mathematics Education, Honolulu, Hawaii, July 13-18, 2003.

Theories of Advanced Mathematical Thinking: What They Look Like, What They Do For Us, and What They Do To Us. Plenary address given October 23, 2003, at the 7th Annual Meeting of the SIG – MAA on Research in Undergraduate Mathematics Education, Scottsdale, AZ, Oct 23 – 26, 2003.

Understanding-in-Discourse as a Tool for Coordinating the Individual and Social Aspects of Learning (with Daniel Siebert), presented at the 28th Annual Meeting of the

North American Chapter of the International Group for the Psychology of Mathematics Education, Toronto, Canada, October 21-24, 2004.

A Process Model for Change in Elementary Mathematics Teachers' Beliefs and Practices (with Stephanie Z. Smith and Marvin E. Smith). Presented at 27th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Roanoke, VA, October 20 – 23, 2005.

Discussant to Plenary Address given by Denise Mewborn at 27th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Roanoke, VA, October 20 – 23, 2005.

Discussant (with Jim Hiebert and Diana Lambin) at Conference on Doctoral Programs in Mathematics, Kansas City, MO, September 23 – 26, 2007.

Exploring the Mathematics in Mathematics Education. Plenary Address given at the opening session of the Research Pre-session of the NCTM Annual Meeting, Salt Lake City, Utah, April 7 – 9, 2008.

The Common Core Moral Panic (with Kevin Watson). At the 40th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Greenville, SC, November 15-18, 2018.

Research expectations for mathematics education faculty in US institutions of higher education (with Blake E. Peterson and Keith R. Leatham). At the 45th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Reno, NV, October 1 – 4, 2023.

Grants

(Principal Investigator) College Calculus Students' Understanding of Graph Continuity submitted to Washington State University Summer Stipend program for Summer 1990. Amount: \$3000.

(Principal Investigator) Classroom Discourse in Middle School Mathematics Classes submitted to Washington State University Research Grant-in-Aid program for the period 7/1/91 through 6/30/92. Amount: \$9991.

(Principal Investigator) A Study of Classroom Discourse as a Mediator of Beliefs and Understanding in Middle School Mathematics, funded by the National Science Foundation for the period 8/16/91 through 8/15/93 (extended through 8/94). Amount: \$273,061.

Professional Service

Member of Editorial Board, *Journal for Research in Mathematics Education*, April 1996-April 1999.

Editor Designate, *Journal for Research in Mathematics Education*, May 2003-May 2004.

Editor, *Journal for Research in Mathematics Education*, May 2004 – May 2008.

Research Commentary Editor, *Journal for Research in Mathematics Education*, January 2016 – August 2019.