

January 2007

VITA
Charles N. Walter

Birthdate:

11 May 1941

Education:

B. S.	University of New Mexico	1963	Mathematics
M. A.	University of New Mexico	1965	Mathematics
Ph.D.	University of New Mexico	1970	Mathematics

Advisor: Prof. Donald Dubois

Career:

1969-1980	Assistant Professor	Brigham Young University
1980-present	Associate Professor	Brigham Young University
2000-2001	Visiting Professor	Graduate School of Education, Rutgers University

Publications:

1. Speiser, B., & Walter, C. (1994). Catwalk: First-semester calculus, *Journal of Mathematical Behavior*, 13 ,135-152.
2. Speiser, B & Walter, C. (1994). Constructing the Derivative in First-Semester Calculus, Proceedings, International Group for the Psychology of Mathematics Education, North American Chapter (PME-NA XVI), (Vol. 1, pp. 116-122). Baton Rouge, LA.
3. Speiser, B., & Walter, C. (1996). Second catwalk: Narration, context, and embodiment. *Journal of Mathematical Behavior*, 15 , 351-371.
4. Speiser, B., & Walter, C. (1997). Performing algebra: Emergent discourse in a fifth-grade classroom. *Journal of Mathematical Behavior*, 16, 39-49.
5. Speiser, B., & Walter, C. (1997). Investigating a sampling problem. In C. A. Maher (Ed.), *Can teachers help children make convincing arguments? A glimpse into the process*, (pp.21-29). Rio de Janeiro: Universide Santa Ursula.
6. Speiser, B., & Walter, C. (1998). Two dice, two sample spaces. *Proc. Fifth Int. Conference on Teaching of Statistics*, Singapore (ICOTS-5), (Vol. 1, pp. 61-66). Singapore: International Statistical Institute.

7. Speiser, B., & Walter, C. (2000), *Five women build a number system*. Stamford CT: Ablex Publishing.
8. Speiser, B., Walter, C., & Maher, C. A. (July 2001). Representing change. *Proceedings of the 25th Annual Meeting of the International Group for the Psychology of Mathematics Education* (Vol. 4, pp. 209-216). Utrecht, Holland.
9. Speiser, B., Maher C. A., & Walter, C. (Eds.) (Snowbird UT October 2001). Proceedings of the 23rd annual meeting of the International Group for the Psychology of Mathematics Education, North American Chapter (PME-NA XXIII), Vols. 1-2). Columbus OH: ERIC.
10. Speiser, B., Walter, C., Christensen, T., Melnick, H., & Rivera, A. (2002). Five African eighth-graders in West Harlem tackle a division problem. *Proceedings of the 24th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. 2, pp. 1051-1054). Athens, GA.
11. Speiser, B., Walter, C., & Gwilliam (Shull), R. (2002). Preservice Teachers Undertake Division in Base Five: How Inscriptions Support Thinking and Communication. *Proceedings of the 24th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. 3, pp. 1152-1062). Athens, GA.
12. Speiser, B., Walter, C., & Maher, C. A. (2003). Representing motion: An experiment in learning. *Journal of Mathematical Behavior*, 22, 1-35.
13. Speiser, B., & Walter, C. (2003). Getting at the mathematics: Sara's journal. In N. A. Pateman, B. J. Dougherty, & J. Zilliox (Eds.), *Proceedings of the 2003 Joint Meeting of PME and PMENA, Hawai'i* (Vol. 4, pp. 245-249). Honolulu: CRDG, College of Education, University of Hawai'i.
14. Speiser, B., & Walter, C., (2004). *Placenticerus*: The evolution of a task. *Journal of Mathematical Behavior*, 23, 259-269.
15. Speiser, B., Walter, C., & Lewis, T. L. (2004). Talking through a method. *For the Learning of Mathematics*, 24(3), 40-45.
16. Speiser, B., & Walter, C. (2004). Remembering Stanley Erlwanger. *For the Learning of Mathematics*, 24(3), 33-39.
17. Speiser, B., Walter, C., & Glaze, T. C. (2005). Getting at the mathematics: Sara's journal. *Educational Studies in Mathematics*, 58(2), 189-207.
18. Speiser, B., & Walter, C. (in press). Rethinking change and rate of change. In B.E. Reynolds (Series Ed.) & M. Carlson & C. Rasmussen (Vol. Eds.) *MAA Notes. Making the Connection: Research and Practice in Undergraduate Mathematics Education*. Washington DC: Mathematical Association of America.

19. Speiser, B., Walter, C., & Sullivan, C. (2007). *From test cases to special cases: Four undergraduates unpack a formula for combinations*. Manuscript in preparation.

Other:

1. Math Lab Director, Department of Mathematics, Brigham Young University, 1974–1980

2. Undergraduate Coordinator, Department of Mathematics, Brigham Young University, 1981–1996.

3. Graduate Coordinator, Department of Mathematics Education, Brigham Young University, 2003–present.

3. Contributing editor, *The Journal of Mathematical Behavior*, 1997 – 1998.

4. Assistant editor, *The Journal of Mathematical Behavior*, 1998 – 2001.

5. Associate editor, *The Journal of Mathematical Behavior*, 2001 – present.

6. (with Bob Speiser, Carolyn A. Maher and Robert B. Davis) Organizer of the first Snowbird Conference on the Mathematical Thinking of Children, June, 1997. This six day, invitational conference, jointly funded by Rutgers University and Brigham Young University, brought together 20 top international scholars in mathematics education and cognitive psychology to discuss possible research agendas centered on understanding children's mathematical thinking.

7. (with Bob Speiser and Carolyn A. Maher) Organizer of the second and third Snowbird Conference on the Mathematical Thinking of Children, May, 1999 and June, 2000. Four day, invitational conferences, jointly funded by Rutgers University and Brigham Young University, which bring together 20 top international scholars in mathematics education and cognitive psychology to discuss research topics centered on understanding children's mathematical thinking.

8. (with Bob Speiser) Invited paper, *Two dice, two sample spaces*, presented at the Fifth International Conference On Teaching Statistics in Singapore, June 1998. Research based on our pre-service mathematics class for elementary education majors at BYU.

9. Invited to lead a pre-conference session on pre-service mathematics education at the 11th Conference of Project Leaders of the Exxon Education Foundation/NCTM Mathematics Specialist Teacher-Leader Projects at Exxon Headquarters, Irving, TX, October 1999. This conference brings together project leaders of the 100 projects funded by the Exxon Education Foundation. This session was one of two offered for conference participants.

10. Invited (with Bob Speiser) to conduct four break-out sessions at the 11th Conference of Project Teacher-Leaders of the Exxon Education Foundation/NCTM Mathematics Specialist Projects at Exxon Headquarters, Irving, TX, October 1999. Led two sessions on second and

third graders mathematical thinking, and two sessions on kindergartners perceptions of shape and number as seen in photographs of their world they took themselves.

11. Consultant on the most recent NSF funded continuation the 12 year-long longitudinal study of the development of children's concept and use of mathematical proof conducted by Carolyn Maher and colleagues at the Graduate School of Education at Rutgers University. Along with twice-a-year visits to Rutgers and the New Jersey school site involved in the study, during the summer of 1999, I was a leader in a three-week long special workshop in New Jersey with students who are part of the study.

12. An invited presentation (with Bob Speiser) at the May 2000 ROLE Conference at Rutgers University.

13. Invited, with Janet Walter, to lead a workshop for mathematics educators at North Carolina State University on the use of the research software *vPrism*.

14. Consultant and participant for a series of six Professional Development Workshop tapes produced as part of the Private Universe Project in Mathematics of the Science Media Group at the Harvard-Smithsonian Astrophysical Observatory. This series (2000) has been shown nationally on public television channels associated with the Annenberg/CPB network..

15. Appear in segments (filmed at BYU) of the one hour videotape, *Surprises in Mind*, produced by River Run Media in collaboration with the Science Media Group at the Harvard-Smithsonian Astrophysical Observatory.

16. Organized and facilitated, with Bob Speiser, chair, and Carolyn Maher, the 23rd Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA XXIII), October 18-21, 2001 at Snowbird UT— a 3-day conference of 275 mathematics educators in which 130 refereed papers were delivered.

Work in Schools:

Collaboration with the Longview Elementary School in Murray, Utah 1994-1997. Weekly visits to observe classrooms and to engage in discussions with teachers and students. Work here included various short focused workshops during the school years and, with Bob Speiser, Bob Davis, Carolyn Maher, and Alice Alston a week-long mathematics workshop for elementary school teachers in the Murray School District, summer 1995.

Collaboration with the Liberty Elementary School in Murray, Utah 1997-2001. Working with K-4 teachers to build a more solid mathematics curriculum and pedagogy and, since 1998, to build a Math Specialist program in their school with out-reach into their district. This work is the centerpiece of a project funded by the Exxon Education Foundation which aims to interweave the mathematical development of teachers in elementary school classrooms with progressive pre-service mathematics education. In particular, this entails at least weekly visits to the school to observe classrooms and visit with participating teachers, in service workshops on mathematics and children's learning and leading district-wide summer workshops.

Informal collaborations with mathematics teachers at Timpview High School in Provo, Utah, 1991-2000. In May 1999, this work included a four-day videotaping of student work in a classroom on a special task designed for pre-calculus students.

Honors:

1. Outstanding Teaching Award – Mathematics, Brigham Young University 1987, 1988, 1992, 1993. An award voted each year by the graduating seniors in the Department of Mathematics.
2. Alcuin Fellow in General Education, 1992-1996. A three-year-long fellowship awarded by a University-wide faculty committee to recognize scholarship and teaching.

Grants:

Principal investigator and project director for the BYU subcontract of the University of Arizona NSF grant: Regional Dissemination and Implementation of Reform Calculus. Organize and conduct 4-day workshops on implementing reform calculus courses based on the Calculus Consortium based at Harvard (CCH) material for both secondary and post-secondary teachers, 1993-1995.

Co-director (with Bob Speiser) of an Exxon Education Foundation/NCTM Mathematics Specialist Project, funded by The Exxon Education Foundation, centered at Brigham Young University and the Liberty Elementary School in Murray, Utah. This work aims to interweave the mathematical development of teachers in elementary school classrooms with progressive pre-service mathematics education in productive, innovative ways. 1998-2001.

Recent Collaborators:

Alice Alston, Gerald Armstrong, Robert B. Davis, Lynn Garner, David Lomen, Carolyn Maher, Eula E. Monroe, Robert Speiser, Janet Walter, Steven Williams.

Recent Graduate students at BYU:

Tara Lewis, Nancy Woller, Tim Dolbin, Carole Sullivan, Rebecca Shull, Brenda Acor, Tiffany Hessing, Danielle Gigger, Kellyn Farlow.