

David C. Webb

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Education

Ph.D. 2001	University of Wisconsin-Madison Thomas A. Romberg, Advisor	Curriculum & Instruction (Math Ed.) Minor: Educational Administration
M.A. 1994	University of California, Santa Barbara	Education (Confluent/Math Education)
B.Sc. 1988	University of California, Los Angeles	Applied Mathematics

Professional Positions

University Positions

2005–present, Assistant Professor, University of Colorado at Boulder
2003–present, Executive Director, Freudenthal Institute-USA
2003–2005, Associate Researcher, University of Wisconsin-Madison
2003–2004, Lecturer, Curriculum and Instruction, University of Wisconsin-Madison
2001–2003, Assistant Researcher, University of Wisconsin-Madison
1995–2001, Project Assistant, University of Wisconsin-Madison
1996–1997, University Supervisor, Secondary Mathematics, University of Wisconsin-Madison

Secondary and Middle Grades Mathematics Teaching

1992–1995, La Colina Middle School, Santa Barbara, California
1989–1992, Narbonne High School, Los Angeles, California

Courses Taught (**Bold** = developed original syllabus; + = co-taught; ^ = conference program)

EDUC 5706	Assessment in Math & Science Education	(Spr '07 – '11)
EDUC 5317	Nature of Mathematics/Math Education	(Fall '05 – '10)
EDUC 8740+	Advances in the Assessment of Student Learning	(Fall '06, '08, '10)
MATH 3120+	Functions and Modeling	(Fall '09)
GRTE 5020^	Progressive Formalization	(Fall '09)
EDUC 6804+	BPME: Mathematical Understanding	(Sum '08)
EDUC 6804+	BPME: Algebraic Reasoning	(Sum '07)
EDUC 6804+	BPME: Proportional Reasoning	(Sum '06)
EDUC 5375	Methods & Materials in Secondary Mathematics	(Spr '06)

Publications: Articles, Book Chapters, and Conference Proceedings (* = peer reviewed)

* Webb, D. C., van der Kooij, H., & Geist, M. (in press). Design Research in the Netherlands: Introducing Logarithms using Realistic Mathematics Education. *Journal for Mathematics Education at Teachers College*. [Spring 2011 issue]

- Webb, D. C., & Abels, M. (2011). Restrictions in algebra. In P. Drijvers (Ed.) *Secondary algebra education: Revisiting topics and themes and exploring the unknown* (pp. 101-118). Boston, MA: Sense Publishers.
- * Webb, D. C. (2010). Troubleshooting Assessment: An Authentic Problem Solving Activity for IT Education. *Procedia – Social and Behavioral Sciences*, 9, 903-907.
- * Webb, D. C. (2010). Collaborative Design of Instructional Sequences: Teacher Developed Support for Formative Assessment. *Procedia – Social and Behavioral Sciences*, 9, 153-157.
- * Repenning, A., Ioannidou, A., Webb, D. C., Luhn, L., Keyser, D., & Daetwyler, C. (2010). Mr. Vetro: a Collective Simulation Framework for Teaching Health Science. *International Journal of Computer Supported Collaborative Learning*, 5(2), 141-166.
- * Dekker, T., & Webb, D. C. (2009). Beter toetsen, beter leren? [Better tests, better learning?] *Wiskrant*, 23(8), 43-48.
- * Webb, D. C. (2009). Designing professional development for assessment. *Educational Designer*, 1(2), 1-26. [Retrieved from: <http://www.educationaldesigner.org/ed/volume1/issue2/article6>]
- * Ioannidou, A., Repenning, A., & Webb, D. C. (2009). AgentCubes: Incremental 3D End-User Development. *Journal of Visual Languages and Computing*, 20(4), 236-251.
- Webb, D. C. (2008). Design Principles for Professional Development: What Should Teachers Know about Mathematics in Context? In M.R. Meyer, C. Langrall, F. Arbaugh, D.C. Webb & M. Hoover (Eds.), *Lessons Learned in Implementing Mathematics Curricula: Ten Years of the ShowMe Project* (pp. 161-171) . Charlotte, NC: Information Age Publishing, Inc.
- Meyer, M.R., Langrall, C., Arbaugh, F., Webb, D.C., & Hoover, M. (Eds.) (2008). *Lessons Learned in Implementing Mathematics Curricula: Ten Years of the ShowMe Project*. Charlotte, NC: Information Age Publishing, Inc.
- * Webb, D. C., Boswinkel, N., & Dekker, T. (2008). Beneath the Tip of the Iceberg: Using Representations to Support Student Understanding. *Mathematics Teaching in the Middle School*, 14(2), 110-113.
- Webb, D.C., & Meyer, M.R. (2007). The Case of Mathematics in Context. In Christian Hirsch (Ed.), *Perspectives on Design and Development of School Mathematics Curricula* (pp. 81 – 94). Reston, VA: NCTM.
- * Webb, D. C., Romberg, T. A., Burrill, J., & Ford, M. J. (2005). Teacher Collaboration: Focusing on Problems of Practice. In T. A. Romberg & T. P. Carpenter (Eds.), *Understanding Math and Science Matters* (pp. 231-251). Mahwah, NJ: Lawrence Erlbaum Associates.
- Webb, D. C. (2004). Enriching Assessment Opportunities Through Classroom Discourse. In T. A. Romberg (Ed.), *Standards-Based Mathematics Assessment in Middle School: Rethinking Classroom Practice* (pp. 169-187). New York: Teachers College Press.
- Webb, D. C., Romberg, T. A., Dekker, T., de Lange, J., & Abels, M. (2004). Classroom Assessment as a Basis for Teacher Change. In T. A. Romberg (Ed.), *Standards-Based Mathematics Assessment in Middle School: Rethinking Classroom Practice* (pp. 223-235). New York: Teachers College Press.
- Her, T., & Webb, D. C. (2004). Retracing a Path to Assessing for Understanding. In T. A. Romberg (Ed.), *Standards-Based Mathematics Assessment in Middle School: Rethinking Classroom Practice* (pp. 200-220). New York: Teachers College Press.
- * Dekker, T., & Webb, D. C. (2004). Toetsen op niveau [Higher level tests]. *Tijdschrift voor Didactiek der B-wetenschappen* [Journal for Instructional Science], 21(1).

- Webb, D. C., & Meyer, M. R. (2002). *Summary report of achievement data for Mathematics in Context: A Connected Curriculum for Grades 5–8*. Madison, WI: Wisconsin Center for Education Research.
- * Webb, D. C., & Dekker, T. (2002). Classroom Assessment as a Basis for Teacher Change (CATCH). In D. S. Mewborn, Sztajn, P., White, D. Y., Wiegel, H. G., Bryant, R. L., & K. Nooney (Eds.), *Proceedings of the twenty-fourth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. II, pp. 599-609). Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education.
- Burrill, J., Feijs, E., Meyer, M., van Reeuwijk, M., Webb, D., & Wijers, M. (2001). *The role of assessment in Standards-Based Middle School Mathematics Curriculum Materials*. St. Louis, MO: Show-Me Center.
- Dekker, T., Querelle, N., Meyer, M. R., Webb, D. C., Shafer, M. C., Burrill, J., & Pligge, M. A. (2000). *Balanced Unit Assessments* (Grades 5–8). Chicago: Encyclopaedia Britannica, Inc.
- * Webb, D. C., & Romberg, T. A. (1998). Preliminary results of an assessment using NAEP and TIMSS mathematics items for program evaluation. In S. B. Berenson, Dawkins, K.R., Blanton, M., Coulombe, W.N., Kolb, J., Norwood, K., & L. Stiff (Eds.), *Proceedings of the twentieth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. I, pp. 220). Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Education.
- * Brenner, M.E., Mayer, R. E., Moseley, B., Duran, R., Brar, T., Smith, B. R., & Webb, D. (1997). The Role of Multiple Representations in Learning Algebra. *American Educational Research Journal*, 34(4), 663-689.
- * Webb, D.C., & Wortham, D.W. (1996). A Comparative Study of Two Remediation Strategies for Proportion Problems. In E. Jakubowski, D. Watkins, and H. Biske (Eds.), *Proceedings of the eighteenth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 330-335) Columbus, OH: ERIC Clearinghouse for Science, Mathematics, and Environmental Science.

Publications: Books

- Webb, D. C. (2010). *Discourse Based Assessment in the Mathematics Classroom: A study of teachers' instructionally embedded assessment practices*. Saarbrücken, Germany: Lambert Academic Publishing.

Publications: Curriculum Development, Teacher Guides

- Webb, D.C., Hedges, T., Dekker, T., & Wijers, M. (2006). Expressions and Formulas using Algebra Applets [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Cole, B.R., Wijers, M., de Haan, D., & Pahla, S. (2006). Dealing with Data using Tinkerplots [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.

- Webb, D. C., Hedges, T., Abels, M., & Dekker, T. (2006). Per Sense [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D. C., Hedges, T., Abels, M., & Dekker, T. (2006). Some of the Parts [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D. C., Hedges, T., Wijers, M., & Dekker, T. (2006). Dimes and Decimals [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D. C., Hedges, T., Wijers, M., & Dekker, T. (2006). Patterns and Symbols [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Ailts, S., Vettrus, J., Feijs, E., & De Lange, J. (2006). Looking at an Angle [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Ailts, S., Vettrus, J., Wijers, M., & Dekker, T. (2006). Second Chance [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Cole, B.R., Abels, M., & de Haan, D. (2006). More or Less [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Cole, B.R., Wijers, M., de Haan, D., & Pahla, S. (2006). Dealing with Data [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Cole, B.R., Wijers, M., Dekker, T., & Pahla, S. (2006). Great Predictions [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Cole, B.R., Wijers, M., Feijs, E., & Dekker, T. (2006). Ratios and Rates [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Hazlett, E., Park, A., Abels, M., Feijs, E., & Dekker, T. (2006). Packages and Polygons [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Hedges, T., & Abels, M. (2006). Comparing Quantities [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Hedges, T., & Dekker, T. (2006). Made to Measure [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Hedges, T., Abels, M., & Dekker, T. (2006). Fraction Times [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.

- Webb, D.C., Hedges, T., Abels, M., & Pahla, S. (2006). Models You Can Count On [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Hedges, T., Dekker, T., & Wijers, M. (2006). Expressions and Formulas [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Hedges, T., Dekker, T., & Wijers, M. (2006). Take a Chance [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Hedges, T., Dekker, T., Palha, S., & McGrath, E. (2006). Building Formulas [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Hedges, T., Hoiberg, K., Dekker, T., and Wijers, M. (2006). Picturing Numbers [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Hoiberg, K., Feijs, E., & De Lange, J. (2006). Figuring All the Angles [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Johnson, C., Dekker, T., & Kindt, M. (2006). Algebra Rules! [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Krusi, J., Abels, M., & Wijers, M. (2006). Revisiting Numbers [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Krusi, J., Palha, S., & Dekker, T. (2006). Patterns and Figures [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Krusi, J., Wijers, M., & de Haan, D. (2006). Graphing Equations [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., McGrath, E., & Abels, M. (2006). Triangles and Beyond [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., McGrath, E., Feijs, E., de Lange, J., & Dekker, T. (2006). It's All the Same [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., McGrath, E., Wijers, M., de Haan, D., & Feijs, E. (2006). Insights into Data [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Park, A., Hazlett, E., Dekker, T., & Kindt, M. (2006). Operations [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.

- Webb, D.C., Rappaport, B., Abels, M., & Dekker, T. (2006). Ups and Downs [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Ulmer, C., & Abels, M. (2006). Facts and Factors [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.
- Webb, D.C., Ulmer, C., Abels, M., & Dekker, T. (2006). Reallotment [Teacher Guide]. In Wisconsin Center for Education Research & Freudenthal Institute (Eds.), *Mathematics in Context*. Chicago: Encyclopaedia Britannica, Inc.

Funded Activities

- Principal Investigator on award from Denver Public Schools: "DTR Secondary Mathematics Course Development, 1/15/2011-6/30/2012.
- PI on subaward through NSF-funded SBIR Phase II: "Scalable Game Design: Broadening Computer Science Participation with Low-Threshold, High-Ceiling Design Environments," 3/1/09 – 8/31/11.
- PI on subaward through NSF-funded SBIR Phase I: "CyberCollage: A Collective Programming Environment for the Social Exploration of Computational Thinking through Games." 7/1/10 – 12/31/10.
- PI on NSF subaward through NSF-funded I3: Towards a Center for STEM Education, "Developing the Learning Assistant Model for Calculus: Improving Access to Undergraduate STEM Education" (two 25% doctoral student lines), Fall 2010.
- Co-PI on NSF ITEST award, DR-12 proposal, "Strategies: Reforming IT Education through Game Design: Integrating Technology-Hub, Inner City, Rural and Remote Regions" \$ 1,499,425 over 3 years (PI Alex Repenning, co-PI Jeff Kidder), 1/1/2009 – 12/31/2011.
- Principal Investigator on award from University of Utrecht: "Freudenthal Institute USA." 200.000 euros total award, 4/1/2007 – 3/31/2012
- Co-PI on NSF subaward through NSF-funded I3: Towards a Center for STEM Education, "Developing the Learning Assistant Model for Calculus: Improving Access to Undergraduate STEM Education" (two 25% doctoral student lines in Year 1 with option for reapplication), Fall 2009 – Spring 2010.
- Co-PI on research and development award from Boulder Valley School District, "BVSD Secondary Mathematics Development Collaborative in Technology and Algebra" (\$10K+ over 12 months), 7/1/2009 – 6/30/2010.
- Co-PI on NSF Noyce award, "STEM Colorado/Noyce Teacher Scholarship Program" \$500,000 over 4 years (PI Valerie Otero, co-PIs Mike Klymkowsky, Noah Finkelstein, Steven Pollock), 1/1/2009 – 12/31/2012.
- Senior personnel on grant proposal awarded by the National Math and Science Initiative/Exxon Mobil : "CU-Teach" \$2.4 million total award, 11/15/2007-10/31/2012 (PI Valerie Otero; co-PIs Mike Klymkowsky and Jennie Whitcomb)

Principal Investigator on subcontract award from NSF Show-ME Center II: "Studies of Professional Development and Methods for Assessing Student Understanding in the Middle Grades." \$68,939 total award, 8/15/2005-6/30/2007

Co-PI on grant proposal awarded by the Colorado Department of Education: "Boulder Partnership for Excellence in Mathematics Education" \$600,000 total award, 3/1/2006-8/31/2008. PI Bee Wallace (BVSD), co-PIs D.C.Webb, Jim Curry (Appl Math), & Truus Dekker (Freudenthal Inst).

Principal Investigator on contract award from DPS Math/Special Education department: "Impact of Dynamic Math Applets on Student Learning and Achievement." Supporting the study of the first US implementation of the Freudenthal Institute's Digital Math Environment in two underperforming middle schools in Denver. \$5000 total, December 2007. This award was also designed to support the preparation of a grant proposal to be submitted in June 2008.

Principal Investigator on seed grant award from Front Range Community College "Development of a transformed College Algebra unit for exponential and logarithmic functions" \$1500 total award, October 2006. This award was also designed to support the preparation of a NSF CCLI Phase I grant proposal, submitted in May 2007 & 2008.

Grant Proposals: Submitted in 2010, pending and declined

PI on subaward for grant proposal to the National Science Foundation SBIR program, "CyberCollage: Phase II" (pending).

Co-PI on grant proposal to the National Science Foundation: STTR: Phase I, "A Gentle-Slope Cyberlearning Infrastructure to Support STEM Education through Game Design," \$45,000 12 months (PI Alex Reppenning), 7/1/2011 – 6/30/2012 (pending).

PI on grant proposal to the National Science Foundation: TUE program, "Developing Student-Centered Tutorials for the Undergraduate Calculus Sequence," \$200K over 2 years (declined).

Co-PI on grant proposal to the National Science Foundation: TUE program, "Designing and Assessing Mathematics for Systems Sciences" \$200K over 2 years (declined).

Awards and Honors

Chancellors Award for Excellence in STEM Education. Advisor for Doctoral Student Awards: Ryan Grover and Louisa Harris, School of Education, 2009-10.

Fellow, International Society for Design and Development in Education, 2008.

UCSB Chancellor's Award, 1994.

Chancellor's Marshall, Golden Key and Phi Eta Sigma Honor Societies, 1988.

Professional Activities

Executive Director, Freudenthal Institute USA (2003 – present)

Common Core State Standards Teacher Education Advisory Panel. (2010 – 2011).

Common Core State Standards for Mathematics, Curriculum Developers Advisory Meeting (2010).

Coordinator of the 3rd International Realistic Mathematics Education Conference (Sep 23 - 25, 2011), Boulder, CO. Interest in attending and presenting at this conference has already been expressed by faculty and educational leaders in the United States, Europe, Australia and Asia.

Member of the Colorado Department of Education Math Partners Group (2009).

Coordinator of the 2nd International Realistic Mathematics Education Conference (Oct 12 – 14, 2009), Boulder, CO. Attended by 130+ university faculty, state and district administrators, graduate students, and teachers from the United States, Canada, Japan, Mexico, Netherlands, Nigeria and the United Kingdom.

Member of the Review Board for Division C, Mathematics of AERA (2009-2010) – 11 proposals reviewed.

Reviewer for AERA Research in Mathematics Education SIG (2009) – 9 proposals reviewed

Fellow of the International Society for Design and Development in Education

Member (2008), CU-Boulder Flagship 2030 Facilities Task Force.

Reviewer for *Journal for Teacher Education*, *Journal for Research in Mathematics Education*, *American Education Research Journal*, *Educational Policy*, *Mathematics Teaching in the Middle Grades*, *Mathematics Teacher*, and professional conferences (e.g., PME-NA, AERA, NCTM research pre-session, Biennial Joint European Association for Research in Learning and Instruction, et al)

Consultant (2007 – 2008). Albany School District #1, Laramie, WY, to support the development of mathematics teachers' classroom assessment practices in Grades K – 12.

Voluntary professional development services for Coal Creek K-8 (2006 – 2008) Jefferson County School District, Colorado, to support teachers' assessment practices and implementation of a reformed math curriculum. Regular meetings every other month.

Member (2007), Boulder Valley Mathematics and Science Graduation Task Force, Boulder, CO.

Member (2005-2007), Ryan Elementary Strategic Planning Committee, Lafayette, CO.

Member (2005-2007), Board of Advisors, EdVantage Reports, Denver, CO

Coordinator of the 1st International Realistic Mathematics Education conference (Nov 14 - 15, 2005), Madison, WI. Attended by 120+ university faculty, state and district administrators, graduate students, and teachers from the United States, Canada, Great Britain, Italy and the Netherlands.

Coordinator of Realistic Mathematics Education mini-conference (Nov 16) at Boulder, CO. Attended by CU-Boulder faculty and graduate students, Front Range Community College math faculty, and school administrators and teachers from PIE districts.

Consultant (2004-present), The El Paso Collaborative for Academic Excellence, to support the development, field testing, scoring, analysis, and revision of algebra assessments that will be used as both a placement exam for local colleges and also as a summative exam for high school Algebra 2 courses.

Invited by the American University of Beirut to review materials and submit a letter of evaluation for Dr. Marjorie Henningsen's application for promotion to Associate Professor.

Mathematics Content Review Panel for “Studies of Enacted Curriculum” project, *Cyberchase* television series, and the Annenburg professional development video series for algebra

U.S. Item Selection, OECD Programme for International Student Assessment

Co-chair, Division C, Section 2, AERA Annual Convention (1998)

Print Media (Magazine and News Print)

Obama zet ramen open [Obama opens doors]. (2009, May). *Didaktief* [A Dutch general education magazine comparable to Education Week]. pp. 6, 7, 10.

Academic/Research Presentations (* = peer-reviewed)

- * Webb, D. C. (2011, April). *Integrating Assessment Principles and Disciplinary Content in Professional Development: Supporting Teacher Change in Classroom Assessment*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- * Webb, D. C., & MacGillivray, H. (2011, April). *Teachers' Conceptions of Computational Thinking: The impact of iDREAMS on teachers' articulation of CT and related reasoning*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- * Barr S., & Webb, D. C. (2011, April). *Relating Classroom Artifacts to the Nature of Classroom Practice Using the Scoop Notebook*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- * Basawapatna, A., Koh, K. H., Repenning, A., Webb, D. C., & Marshall, K. S. (2011, March). *Recognizing Computational Thinking Patterns*. Paper presented at the ACM Special Interest Group on Computer Science Education (SIGCSE) Conference, Dallas, TX.
- * Gray, K. E., Webb, D. C., & Otero, V. K. (2010). *Are Learning Assistants Better K-12 Science Teachers?* PERC Proceedings 2010, Melville, NY: AIP Press.
- * Webb, D.C. (2010, May). *Collective Simulations as a Context for Student Scientific Inquiry: Effects on Student Attitudes and Beliefs toward Science*. Paper presented at the Annual Meeting of the American Educational Research Association, Denver, Colorado.
- * Repenning, A., Ioannidou, A., Webb, D., Keyser, D., MacGillivray, H., Marshall, K. S., & Pohawpatchoko, C. (2010, May). *Teaching Computational Thinking through the Scalable Game Design Curriculum*. Paper presented at the Annual Meeting of the American Educational Research Association, Denver, Colorado.
- * Repenning, A., Webb, D., & Ioannidou, A. (2010, March). *Scalable Game Design and the Development of a Checklist for Getting Computational Thinking into Public Schools*. Paper presented at the ACM Special Interest Group on Computer Science Education (SIGCSE) Conference, Milwaukee, WI.
- * Otero, V. K., Finkelstein, N. D., Talbot, R. M., Webb, D. C., Moin, L. J., Klymkowski, M. W., & Krajik, J. (2009, April). *Symposium: A Longitudinal Study on Pedagogical Content Knowledge: Synthesizing our Research on Content, Pedagogy, and Practice*. Presentation at the Annual Meeting of the National Association for Research in Science Teaching, Garden Grove, CA.
- * Ioannidou, A., Repenning, A., & Webb, D. C. (2008, September). *Using Scalable Game Design to Promote 3D Fluency: Assessing the AgentCubes Incremental 3D End-User Development Framework*. Paper presented at the IEEE Symposium on Visual Languages and Human-Centric Computing, Herrsching am Ammersee, Germany.
- * Webb, D. C. (2008, August). *Progressive Formalization as an Interpretive Lens for Increasing the Learning Potentials*. Poster presented at the Biennial Joint European Association for Research in Learning and Instruction/Northumbria SIG Assessment Conference, Potsdam, Germany.
- Webb, D. C. (2008, July). *Design Considerations: Supporting Teacher Design of Classroom Assessment*. Presentation at the International Society for Design and Development in Education Conference. Egmond aan Zee, Netherlands.
- * Webb, D. C. (2008, April) *Effectiveness of Mathematics Curricula and Programs* (Discussant). Presentation at the Annual Meeting of the American Educational Research Association, New York, NY.

- * Webb, D. C., van der Kooij, H., & Geist, M. (2008, January). *Application of Dutch Curriculum Design Principles in College Algebra: Meaningful Contexts that Promote Mathematical Insight*. Paper presented at the Joint Mathematics Meetings (Mathematical Association of America & American Mathematical Association), San Diego, CA.
- * Geist, M. R., Webb, D. C., & van der Kooij, H. (2008, January). *The impact of curriculum change on teacher practice: The case of College Algebra*. Paper presented at the annual Joint Mathematics Meetings (Mathematical Association of America & American Mathematical Association), San Diego, CA.
- * Webb, D. C. (2007, August). *Assessment as a Means to Improve Potentials of Student Learning*. Paper presented at the Annual Meeting of the European Association for Research in Learning and Instruction, Budapest, Hungary.
- * Webb, D. C. (2005, April). *The impact of a standards-based curriculum, Mathematics in Context: The final results*. Presentation for the Research Pre-session of the National Council for Teachers of Mathematics, Anaheim, CA.
- * Rubinstein, D., & Webb, D. C. (2005, April). *Creating a district assessment plan that supports growth in teachers' classroom assessment practices*. Presentation for the Annual Meeting of the National Council for Supervisors of Mathematics, Anaheim, CA.
- * Webb, D. C. (2004, July). *Classroom assessment as a research context: Variations on a theme of pedagogical decision making*. Invited paper presented at the International Congress on Mathematics Education, Copenhagen, Denmark.
- * Webb, D. C. (2000, June). *Using a multi-dimensional assessment system to evaluate the impact of a Standards-based mathematics curriculum on student achievement*. Paper presented at the Council of Chief State School Officers 30th Annual National Conference on Large-Scale Assessment, Snowbird, UT.
- * Webb, D. C. (2000, April). *Variations in teachers' classroom assessment practices*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- * Webb, D. C. (2000, April). *Enriching opportunities for assessment through classroom discourse*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- * Webb, D. C., Greenlaw-Meyer, M., Her, T. (2000, April). *Toward classroom assessment strategies that promote student understanding*. Interactive poster session presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- * Wortham, D. W., Webb, D. C., & Atkinson, R. K. (1997, April). *Effects of two instructional treatments on student solutions to missing-value proportion problems*. Paper presented at the annual conference of the American Educational Research Association, Chicago, IL.

Practitioner Oriented Presentations and Workshops (* = peer-reviewed)

- Webb, D. C. (2011, January). *Using Student Responses to Inform Design and Revision of Classroom Assessment*. Design and facilitation of a full-day workshop for high school mathematics teachers, Middletown School District, Middletown, OH.
- Webb, D. C. (2010, October). *Development of Balanced Summative Assessments in Algebra and Geometry*. Design and facilitation of a full-day workshop for high school mathematics teachers, Middletown School District, Middletown, OH.

- Webb, D. C. (2010, September). *Design and Practice of Classroom Assessment in Secondary Mathematics Classrooms*. Design and facilitation of a full-day workshop for high school mathematics teachers, Middletown School District, Middletown, OH.
- * Webb, D. C. (2010, October). *Accessible Assessment: Selecting and Designing Tasks That Show What Students Know*. Presentation for the National Council for Teachers of Mathematics, Regional Conference, Denver, CO.
- Webb, D. C. (2010, August). *Understanding Formative Assessment: Assessing Student Understanding in Math and Science*. Presentation for 100+ math and science teachers. Illinois Math Science Partnership, Peoria, IL.
- * Webb, D. C. (2010, April). *Professional Development Experiences That Support Informed Assessment Design and Improved Formative Assessment Practices*. Presentation for the Annual Meeting of the National Council for Supervisors of Mathematics, San Diego, CA.
- * Webb, D. C. (2010, April). *Under the Tip of the Iceberg: A Model for Assessment and Instruction*. Presentation for the Annual Meeting of the National Council for Teachers of Mathematics, San Diego, CA.
- Webb, D. C. (2010, February). *Planning for Principled Formative Assessment Practices*. Design and facilitation of full-day workshop for 30 middle grades mathematics and special education teachers, Middletown School District, Middletown, OH.
- Webb, D. C. (2010, January). *Using Student Responses to Inform the Design and Revision of Accessible Assessment*. Design and facilitation of full-day workshop for 30 middle grades mathematics and special education teachers, Middletown School District, Middletown, OH.
- Webb, D. C. (2009, December). *Progressive formalization as a Framework for the Selection, Design and Interpretation of Assessment Tasks*. Design and facilitation of second full-day workshop for 30 middle grades mathematics and special education teachers, Middletown School District, Middletown, OH.
- Webb, D. C. (2009, November). *Rethinking and Redesigning Classroom Assessment*. Series of workshop presentations for the Knowles Foundation Teaching Scholars Meeting, Denver, CO.
- Webb, D. C. (2009, October). *Realistic Mathematics Education as Developmental Research: How theory informs practice and how practice informs theory*. Presentation at the 2nd Realistic Math Education Conference, Boulder, CO.
- Webb, D.C. Uittenbogaard, W., Abels, M., & van der Kooij, H. (2009, October). *The Promise of Progressive Formalization: Supporting Student Learning Using Portraits of Mathematical Development*. Invited 2.5 hour Pre-Session for the Colorado Council of Teachers of Mathematics Conference, Denver, CO.
- Webb, D. C. (2009, October). *Developing Principled Classroom Assessment Practices*. Design and facilitation of full-day workshop for 30 middle grades mathematics and special education teachers, Middletown School District, Middletown, OH.
- * Webb, D. C., Larson, P., & Matassa, M. (2009, April). *The Development of Teacher Expertise in Classroom Assessment as a Context for Deeper Understanding of Mathematics*. Presentation for the Annual Meeting of the National Council for Supervisors of Mathematics, Washington, DC.
- Webb, D. C. (2007, April). *Beneath the Tip of the Iceberg: Representational Pathways to Increase Student Access to Mathematics*. Invited Keynote for the 2nd Annual National Mathematics Recovery Conference, Westminster, CO.

- Webb, D. C. (2006, April). *The Use of Models in Realistic Mathematics Education to Develop Children's Number Sense*. Invited Presentation for the National Mathematics Recovery Conference, Westminster, CO.
- * Webb, D. C. (2006, September). *Using Models to Develop Children's Number Sense*. Presentation for the Colorado Council of Teachers of Mathematics Conference, Denver, CO.
- * Webb, D. C. (2006, October 20). *Tools for Teachers: Success for Students*. Presentation for the Northwest Mathematics Conference, Victoria, BC, Canada.
- Webb, D. C. (2006, October 24). *Using pre-formal mathematics to support students with special needs*. Invited Presentation for the Colorado Metro Math Intervention Team, Boulder, CO.
- Webb, D. C. (2005, November). *Assessing realistic mathematics education*. Presentation for the Realistic Mathematics Education Conference, Madison, WI.
- * Webb, D. C. (2005, April). *Tools to promote algebraic reasoning and relational thinking*. Presentation for the Annual Meeting of the National Council for Teachers of Mathematics, Anaheim, CA.
- Webb, D. C. (2004, August). *What we've learned about student learning*. Invited keynote address for the Washington State Regional Conference for MiC, North Thurston, WA.
- * Webb, D. C. (2004, April). *Understanding classroom assessment: Assessing student understanding*. Presentation for the Annual Meeting of the National Council for Teachers of Mathematics, Philadelphia, PA.
- * Webb, D. C., Rubinstein, D., Shinnars, G. (2004, April). *Supporting teacher change in classroom assessment*. Presentation for the Annual Meeting of the National Council for Supervisors of Mathematics, Philadelphia, PA.
- * Webb, D. C. (2003, April). *Beyond reproduction: Assessing students' understanding*. Presentation at the Annual Meeting of the National Council for Teachers of Mathematics, San Antonio, TX.
- Webb, D. C. (2002, May). *The state of mathematics: An international perspective*. Invited plenary for the South Milwaukee Conference on Mathematics, Alverno College, Milwaukee, WI.
- * Meyer, M. R., & Webb, D. C. (2002, April). *Beyond belief: Rethinking classroom assessment practices*. Presentation at the Annual Meeting of the National Council for Teachers of Mathematics, Las Vegas, NV.
- Webb, D. C. (2001, August). *Classroom assessment strategies to help all students master rigorous mathematics*. Co-presenter for a four-day workshop for District of Columbia Public School mathematics teachers, American Association for the Advancement of Science, Washington, DC.

Technical Reports and Working Papers

- Webb, D. C., & Marshall, K. S. (2010). *Web-Based Software to Support Collaborative Design Processes: Evaluation Report for the Fall 2010 pilot study of CyberCollage* [Final Evaluation Report for pilot study of CyberCollage, NSF # 1014249]. Boulder, CO.
- Webb, D. C., & Keyser, D. (2009). *A Comparative Analysis of Student Learning with a Collaborative Computer Simulation of the Cardiopulmonary System* [Final Evaluation Report for comparative research study of Mr. Vetro implementation, NIH # 5R44RR022008-03]. Boulder, CO.
- Webb, D.C. (2007). *FITness through AgentCubes: Game design as a problem context to improve middle school students' fluency with information technology* [Evaluation Report for the Fall 2007 pilot study of AgentCubes]. Boulder, CO.

- Romberg, T.A., Webb, D. C., Folgert, L., Shafer, M. C. (2005). Measures of student performance (Monograph #4, MiC Longitudinal Cross-Sectional Study). Madison, WI: University of Wisconsin-Madison.
- Romberg, T.A., Webb, D. C., Folgert, L., Shafer, M. C. (2005). The Impact of MiC on Student Achievement (Monograph #5, MiC Longitudinal Cross-Sectional Study). Madison, WI: University of Wisconsin-Madison.
- Romberg, T.A., Webb, D. C., Folgert, L., Shafer, M. C. (2005). Differences in Performance Between Mathematics in Context and Conventional Students (Monograph #6, MiC Longitudinal Cross-Sectional Study). Madison, WI: University of Wisconsin-Madison.
- Shafer, M. C., Marten, B., Webb, D., Folgert, L., & Davis, J. (2003) *Instruction for 1997-1998* (Working Paper #30, MiC Longitudinal Cross-Sectional Study). Madison, WI: University of Wisconsin-Madison.
- Shafer, M. C., Folgert, L., Webb, D., Kwako, J., Lee, C., & Wagner, L. (2003) *School Capacity for 1999-2000* (Technical Report #29, MiC Longitudinal Cross-Sectional Study). Madison, WI: University of Wisconsin-Madison.
- Webb, D. C., Ford, M. J., Burrill, J., Romberg, T. A., Reif, J., & Kwako, J. (2001) *Verona Middle School Design Collaborative: Year 3 Student Achievement Technical Report*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.
- Webb, D. C., Burrill, J., Romberg, T. A., Ford, M. J., Kwako, J., & Reif, J. (2001). *Verona Middle School Design Collaborative: Year 2 Student Achievement Data Technical Report*. Madison, WI: National Center for Improving Student Learning & Achievement in Mathematics & Science, Wisconsin Center for Education Research.
- Webb, D. C., Romberg, T. A., & Shafer, M. C. (2001). *Year 1 student performance on an assessment using NAEP and TIMSS items for program evaluation* (Working Paper #16, MiC Longitudinal Cross-Sectional Study). Madison, WI: University of Wisconsin-Madison.
- Webb, D. C. (1998). Curriculum Correlation Summary: *New York City Board of Education Scope and Sequence v. Mathematics in Context*. Chicago, IL: Encyclopaedia Britannica Educational Corporation.
- Webb, D. C. (1998). Correlation analysis: *State of Delaware Mathematics Performance Indicators v. Mathematics in Context*. Chicago, IL: Encyclopaedia Britannica Educational Corporation.
- Webb, D. C. (1997). Curriculum-Assessment Correlation: *Stanford 9 Achievement Test v. Mathematics in Context*. Chicago, IL: Encyclopaedia Britannica Educational Corporation.