

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

In Press Edited Books

- Nemirovsky , R., Rosbery , A., & Warren , B. (Eds.). (in press). *The encounter between everyday and disciplinary experiences*. Mahwah, NJ: Erlbaum.
- Romberg, T. A. (Ed.). (in press). *Insight stories: Assessing middle school mathematics*. New York: Teachers College Press.
- Romberg, T. A., Carpenter, T., P., & Dremock, F. (Eds.). (in press). *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.

In Press Book Chapters

- Blanton, M. L., & Kaput, J. J. (in press). Instructional contexts that support students' transition from arithmetic to algebraic reasoning: Elements of tasks and culture. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- Carpenter, T. P., & Franke, M. L. (in press). Challenging the core of educational practice: The case of Cognitively Guided Instruction. In S. Bodilly & T. Glennan (Eds.) *Taking educational programs to scale: Lessons from the field*. Washington, DC: Rand.
- Carpenter, T. P., Levi, L., Berman, P., & Pligge, M. (in press). Developing algebraic reasoning in the elementary school. In T. A. Romberg, T. P. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- Cartier, J. L., Passmore, C. M., Stewart, J., & Willauer, J. P. (in press). Involving students in realistic scientific practice: Strategies for laying epistemological groundwork. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- Cobb, P. & McClain, K. (in press). The collective mediation of a high-stakes accountability program: Communities and networks of practice. In E. Kelly & R. Lesh (Eds.), *Design research in mathematics and science education*. Mahwah, NJ: Erlbaum.
- Cobb, P. (in press). Classroom interactions and discourse as a context for mathematical and language learning. In T. Kool (Ed.), *Advances in applied linguistics*. Continuum.
- Cobb, P. (in press). Investigating students' reasoning about linear measurement as a paradigm case of design research. In M. Stephan, J. Bowers, J., & P. Cobb (Eds.), *Supporting students' development of measuring conceptions: Analyzing students' learning in social context*. *Journal for Research in Mathematics Education Monographs*.
- Cobb, P., & McClain, K. (in press). Proposed design principles for the teaching and learning of elementary statistics. In D. Ben-Zvi & J. Farfield (Eds.), *The challenge of developing statistical literacy, reasoning, and thinking*. Dordrecht, The Netherlands: Kluwer.
- Cueto, S. & Secada, W. (in press). Eficacia escolar en escuelas bilingües en Puno, Perú [Academic outcomes in bilingual schools in Puno, Peru]. *Revista Electrónica Iberoamericana sobre Calidad, Eficacia y Cambio en la Educación* (www.rinace.org).

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- de Lange, J., & Romberg, T. A. (in press). Monitoring student progress. In T. A. Romberg (Ed.), *Insight stories: Assessing middle school mathematics*. New York: Teachers College Press.
- Feijs, E. (in press). Constructing a learning environment that promotes reinvention. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- Forman, E. A., & Ansell, E. (in press). Creating mathematics stories: Learning to explain in a third-grade classroom. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- Franke, M. L. (in press). Fostering the development of young children's mathematical thinking. In C. Howes & S. Ritchie (Eds.), *Best practices in early childhood education*: National Center for Early Childhood Education.
- Franke, M., Kazemi, E., Shih, J., Biagetti, S., & Battey, D. (in press). Changing teachers' professional work in mathematics: One school's journey. In T. A. Romberg, T. P. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- Gamoran, A. (in press). Capacity for change: Organizational support for teaching for understanding. In T. A. Romberg, T. C. Carpenter, & F. Dremock, (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- Gamoran, A., Gunter, R., & Williams, T. (in press). Professional community by design: Building social capital through teacher professional development. In B. Schneider & L. V. Hedges (Eds.), *Reflections on the social organization of schooling: A tribute to Charles E. Bidwell*. New York: Russell Sage.
- García, E. E., & Lee-Salwen, O. (in press). Science instruction for all: Creating a responsive learning community. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- Her, T., & Webb, D. C. (in press). Retracing a path to assessing for understanding. In T. A. Romberg (Ed.), *Insight stories: Assessing middle school mathematics*. New York: Teachers College Press.
- Kaput, J. J., & Shaffer, D. W. (in press). On the development of human representational competence from an evolutionary point of view. In K. Gravemeijer & R. Lehrer & B. v. Oers & L. Verschaffel (Eds.), *Symbolizing, modeling, and tool use in mathematics education*. Dordrecht, The Netherlands: Kluwer.
- Kaput, J., & Blanton, M. (in press). A teacher-centered approach to algebrafying elementary mathematics. In T. Romberg, T. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- Kaput, J., Noss, R., & Hoyles, C. (in press). Developing new notations for a learnable mathematics in the computational era. In L. D. English (Ed.), *The handbook of international research in mathematics*. Mahwah, NJ: Erlbaum.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Kaput, J., Roschelle, J., & Stroup, W. (in press). Accelerating students' engagement with the mathematics of change and variation. In M. Jacobson & R. Kozma (Eds.), *Learning the sciences of the 21st century: Research, design, and implementation of advanced technology learning environments*. Mahwah, NJ: Erlbaum.
- Lee, O. (in press). Promoting scientific inquiry with elementary students from diverse cultures and languages. In W. G. Secada (Ed.), *Review of research in education* (Vol. 26). Washington, DC: American Educational Research Association.
- Lehrer, R., & Pritchard, C. (in press). Symbolizing space into being. In K. Gravemeijer & R. Lehrer & B. v. Oers & L. Verschaffel (Eds.), *Symbolization and modeling in mathematics education*. Dordchedt, The Netherlands: Kluwer.
- Lehrer, R., & Schauble, L. (in press). Developing modeling and argument in the elementary grades. In T. A. Romberg, T. P. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- McClain, K. (in press a). A methodological approach for conducting classroom teaching experiments. In S. Goodchild & L. English (Eds.), *methodologies for conducting research in mathematics education: International Group for the Psychology of Mathematics Education*.
- McClain, K. (in press b). Task-analysis cycles as tools for supporting students' mathematical development. In R. Lesh & H. Doerr (Eds.), *Models and modeling*. Dordrecht, The Netherlands: Kluwer Academic.
- McClain, K. (in press-c). The mathematics behind the graph: Discussions of data. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- McClain, K., Cobb, P., & Gravemeijer, K. (in press). Statistical data analysis: A tool for learning. In T. A. Romberg, T. P. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- Monk, S. (in press). "Why would run be in speed?": Artifacts and situated actions in a curricular plan. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- Nemirovsky, R. (in press). Mathematical places. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- Nemirovsky, R., Barros, A., Noble, T., Schnepf, M., & Solomon, J. (in press). Learning mathematics in high school: Symbolic places and family resemblances. Nemirovsky, R., Rosebery, A., Solomon, J., & Warren, B. (Eds.). (in press). *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- Romberg, T. A. (in press). Creating a research community in mathematics education. In E. C. Lagemann (Ed.), *Traditions of scholarship in education*. Chicago, IL: Spenser Foundation.
- Romberg, T. A., Carpenter, T. P., & Dremock, F. (in press). Preface. In T. A. Romberg, T. P. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Romberg, T. A., Carpenter, T. P., & Kwako, J. (in press). Standards-based reform and teaching for understanding. In T. A. Romberg, T. P. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- Rosebery, A. (in press). "What are we going to do next?": Lesson planning as a resource for teaching. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- Rosebery, A. S., Warren, B., Ballenger, C., & Ogonowski, M. (in press). The generative potential of students' everyday knowledge in learning science. In T. A. Romberg, T. P. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- Secada, W. G., & Williams, T. (in press). Managing uncertainty and creating technical knowledge. In T. A. Romberg, T. P. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- Sherin, B. L., Azevedo, F. S., & diSessa, A. A. (in press). Exploration zones: A framework for describing the emergent structure of learning activities. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- Stephan, M., & Cobb, P. (in press). The methodological approach to classroom-based research. In M. Stephan, J. Bowers, & P. Cobb (Eds.), *Supporting students' development of measuring conceptions: Analyzing students' learning in social context. Journal for Research in Mathematics Education Monographs*.
- Stewart, J., Cartier, J., & Passmore, C. (in press). Developing understanding through model-based inquiry. In S. Donovan & J. Bransford (Eds.), *How people learn II: A view from the classroom*. Washington, DC: National Academy Press.
- Stewart, J., Cartier, J., & Passmore, C. (in press). Project MUSE: An example of secondary science classrooms that promote learning with understanding. In N. A. O. Sciences (Ed.), *Unknown*. Washington, D.C.: National Academy of Science.
- Stewart, J., Passmore, C., & Cartier, J. (in press). Modeling for understanding in science education. In T. A. Romberg, T. P. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- Valentine, C., Carpenter, T. P., & Pligge, M. (in press). Developing concepts of justification and proof in a sixth-grade classroom. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.
- van Reeuwijk, M. (in press). Making instructional decisions: Assessment to inform the teacher. In T. A. Romberg (Ed.), *Insight stories: Assessing middle school mathematics*. New York: Teachers College Press.
- Warren, B., Ogonowski, M., & Pothier, S. (in press). Children's accounts of motion: Rethinking the role of everyday experience. In R. Nemirovsky, A. Rosebery, J. Solomon, & B. Warren (Eds.), *Everyday matters in science and mathematics: Studies of complex classroom events*. Mahwah, NJ: Erlbaum.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Webb, D. C. (in press). Enriching opportunities for assessment through classroom discourse. In T. A. Romberg (Ed.), *Insight stories: Assessing middle school mathematics*. New York: Teachers College Press.
- Webb, D. C., Dekker, T., de Lange, J., & Romberg, T. A. (in press). CATCH: Classroom assessment as a basis for teacher change. In T. A. Romberg (Ed.), *Insight stories: Assessing middle school mathematics*. New York: Teachers College Press.
- Webb, D. C., Romberg, T. A., Burrill, J., & Ford, M. J. (in press). Spreading out the risk for innovation: Building school capacity for teaching for understanding. In T. A. Romberg & T. P. Carpenter (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.
- Webb, D. C., Romberg, T. A., Ford, M. J., & Burrill, J. (in press). Teacher collaboration: Focusing on problems of practice. In T. A. Romberg, T. P. Carpenter, & F. Dremock (Eds.), *Understanding mathematics and science matters*. Mahwah, NJ: Erlbaum.

In-Press Journal Articles

- Blanton, M., Bereson, S. B., & Norwood, K. S. (in press). Exploring a pedagogy for the supervision of prospective mathematics teachers. *Journal of Mathematics Teacher Education*.
- Cartier, J. L., & Stewart, J. (in press). Assessment of explanatory models in genetics: implications for building expistemological understanding using a modeling approach in the classroom. *Cognition and Instruction*.
- Cobb, P. (in press). Discourse, participation, and mathematical learning. *For the Learning of Mathematics*.
- Cobb, P. (in press-b). Theories of knowledge and instructional design: A response to colliver. *Teaching and Learning in Medicine*.
- Cobb, P. (in press-c). Mathematics, literacies, and identity. *Reading Research Quarterly*.
- Cobb, P. (in press-d). Reasoning with tools and inscription. *Journal of the Learning Sciences*.
- Cobb, P., & McClain, K. (in press). Learning about statistical covariation. *Cognition and Instruction*.
- Cobb, P., McClain, K., de Silva Lamberg, T., & Dean, C. (in press). Situating teachers' instructional practices in the institutional setting of the school and school district. *Educational Researcher*.
- Dekker, T., & Webb, D. C. (in press). Toetsen op niveau [Higher level tests]. *Tijdschrift voor Didactiek der B-wetenschappen* [Journal for the Instruction of Natural Science].
- diSessa, A. A., & Cobb, P. (in press). Ontological innovation and the role of theory in design experiments. *Journal of the Learning Sciences*.
- Grodsky, E., & Gamoran, A. (in press). The relation between professional development and professional community in American schools. *School Improvement and School Effectiveness*.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Johnson, S., & Stewart, J. (in press). Revising and assessing explanatory models in a high school genetics class: A comparison of unsuccessful and successful performance. *Science Education*.
- Koehler, M. J. (in press). Designing case-based hypermedia for developing understanding of children's mathematical reasoning. *Cognition and Instruction*.
- Lee, O., & Avalos, M. (in press). Promoting science instruction and assessment for English language learners. *The Electronic Journal of Science Education*.
- McClain, K. (in press). Building from students' current understandings about data: A case for teacher reflection. *Mathematics Teaching in the Middle School*.
- McClain, K. (in press). The object and the context: What our data are and where they come from. *Journal for the Learning Sciences*.
- McClain, K. (in press-c). Teacher's and student's understanding: The role of tools and inscriptions in supporting effective communication. *Journal for the Learning Sciences*.
- Passmore, C., & Stewart, J. (in press). Assessing student understanding in evolutionary biology. *PeersMatters*.
- Passmore, C., Stewart, J., & Zoellner, B. (in press). Reasoning like evolutionary biologists in a high school course. *The American Biology Teacher*.
- Romberg, T. A. (in press). Reflections on progress: A review of "Cognition and Instruction:" Twenty-five years of progress" by Sharon M. Carver and David Klahr. *Contemporary Psychology: The APA Review of Books*.
- Secada, W. G. (in press). Moving beyond stereotypes of mathematics and African American youth. [Review of the book *mathematics success and failure among African American youth*]. *Contemporary Psychology: The APA Review of Books*.
- Sfard, A., & McClain, K. (in press). Analyzing tools: Perspectives on the role of designed artifacts in mathematics learning. *Journal for the Learning Sciences*.
- Stephan, M., Bowers, J., & Cobb, P. (in press). supporting students' development of measuring conceptions: Analyzing students' learning in social context. *Journal for Research in Mathematics Education Monograph*.
- Stephan, M., Cobb, P., & Gravemeijer, K. (in press). Coordinating social and psychological analyses: Learning as participation in mathematical practices. In M. Stephan, J. Bowers, & P. Cobb (Eds.), Supporting students' development of measuring conceptions: Analyzing students' learning in social context. *Journal for Research in Mathematics Education Monographs*.
- Stewart, J., & Rudolph, J. L. (in press). Considering the nature of scientific problems when designing science curricula. *Science Education*.
- Stewart, J., & Rudolph, J. L. (in press). Rethinking the nature of scientific problems and student problem solving. *Science Education*.
- Strom, D., Kemeny, V., Lehrer, R., & Forman, E. (in press). Tracing the semiotics of a mathematical argument. *Cognitive Science*.
- Warren, B., & Ognowski, M. (in press). From knowledge to knowing: An inquiry into teacher learning in science. *International Journal of Science Education*.

Published as of January 2004

Published Journal Articles

McClain, K., & Schmitt, P. (2004). Teachers grow mathematically together: A case study from data analysis. *Mathematics Teaching in the Middle Schools* (9) 5, pp 274–279.

Unpublished Manuscripts

Moschkovich, J. (2004). *Bilingual mathematics learners: Language choice, code switching, and learning*. . Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.

Moschovich, J. (2004). *Language and learning mathematics: A review of research on Latino English language learners and mathemtics learning*. . Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.

Media Products

Carpenter, T. P., & Romberg, T. A. (2004). *Powerful practices in mathematics and science*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science; Naperville, IL: North Central Eisenhower Mathematics & Science Consortium at NCREL.

Research Briefs

Winter 2004: *Designing Statistics Instruction for Middle School Students*

Research Report

Carpenter, T. P., Blanton, M., Cobb, P., Franke, M. L., Kaput, J., McClaiin, K. (2004). *Scaling up innovative practices in mathematics and science*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.

Center Reports

Final Report: February 2004

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

2003

Published Center Books

- Bright, G., Brewer, W., McClain, K., & Mooney, E. (2003). *Navigating through data analysis in Grades 6–8*. Reston, VA: National Council of Teachers of Mathematics.
- Carpenter, T. P., Franke, M. L., & Levi, L. (2003). *Thinking mathematically: Integrating arithmetic and algebra in elementary school*. Portsmouth: Heinemann.
- Gamoran, A., Anderson, C. W., Quiroz, P. A., Secada, W. G., Williams, T., & Ashmann, S. (2003). *How schools and districts can support change: Transforming teaching in math and science*. New York: Teachers College Press.

Published Book Chapters

- Ambrose, R., Baek, J. M., & Carpenter, T. P. (2003). Children's invention of multiplication and division algorithms. In A. Baroody & A. Dowker (Eds.), *The development of arithmetic concepts and skills: Recent research and theory*. (pp. 305–336). Mahwah, NJ: Erlbaum.
- Forman, E. (2003). A sociocultural approach to mathematics reform: Speaking, inscribing, and doing mathematics within communities of practice. In J. Kilpatrick, D. Shifter, & G. Martin (Eds.), *Principles and practices of school mathematics: Research companion volume*. Reston, VA: National Council of Teachers of Mathematics.
- Romberg, T. A., & Shafer, M. C. (2003). *Mathematics in Context (MiC)*-- preliminary evidence about student outcomes. In S. Senk & D. Thompson (Eds.), *Standards-based school mathematics curricula: What are they? What do students learn?* (pp. 225-250). Mahwah, NJ: Erlbaum.
- Secada, W. G., Cueto, S., & Andrade, F. (2003). Opportunity to learn mathematics among Aymara-, Quechua-, and Spanish-speaking rural and urban, fourth and fifth graders in Puno, Peru. In L. Burton (Ed.), *Which way social justice in mathematics education?* (pp. 103–132). Westport, CT: Greenwood.
- Lampert, M., & Cobb, P. (2003). White paper on communication and language. In J. Kilpatrick, D. Shifter, & G. Martin (Eds.), *Principles and practices of school mathematics: Research companion volume*. Reston, VA: National Council of Teachers of Mathematics.
- McClain, K. (2003). Task-analysis cycles as tools for supporting students' mathematical development. In D. Lesh & H. Doerr (Eds.), *Beyond constructivism: A models and modeling perspective on mathematics problem solving* (pp. 175–191). Dordrecht, The Netherlands: Kluwer Academic.

Published Journal Articles

- Blanton, M., & Kaput, J. (2003). Developing elementary teachers' "algebra eyes and ears." *Teaching Children Mathematics*, 10(2), 70–77.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Cobb, P., McClain, K., Lamberg, T. d. S., & Dean, C. (2003). Situating teachers' instructional practices in the institutional setting of the school and district. *Educational Researcher*, 32(6), 13-24.
- Cobb, P. (2003). Epistemological world views, subject matter contexts, and the institutional setting of teaching. *Issues in Education*, 8, 149-158.
- Cobb, P., Confrey, J., diSessa, A., Lehrer, R., & Schauble, L. (2003). Design experiments in education research. *Educational Researcher*, 32(1), 9-13.
- Cobb, P., McClain, K., & Gravemeijer, K. (2003). Learning about statistical covariation. *Cognition and Instruction*, 21, 1-78.
- Dean, C., & The PT3 Group at Vanderbilt. (2003). Three amigos: Using "anchored modular inquiry" to help prepare future teachers. *Educational Technology Research and Development*, 51(1), 105-123.
- Gamoran, A. (2003). What are they thinking? Teachers learn with professional development that centers on student thinking about math and science ideas. *Journal of Staff Development*, 24, 56-60.
- McClain, K. (2003). Supporting preservice teacher change: Understanding place value and multidigit addition and subtraction. *Journal of Mathematical Thinking and Learning*, 5(4), 281-306.

Unpublished Manuscripts

- Abels, M. (2003). *Elements for professional development* (CATCH professional development guide). Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.
- Blanton, M., & Kaput, J. (2003). *Building district capacity for teacher development in algebraic reasoning*. Manuscript submitted for publication.
- Cartier, J., Stewart, J., & Zoellner, B. (2003). *A modeling approach to teaching high school genetics*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.
- Cobb, P., & Hodge, L. L. (2003). *An initial contribution to the development of a design theory of mathematical interests: The case of statistical data analysis*. Unpublished manuscript. Madison, WI: National Center for Improving Student Achievement in Mathematics and Science.
- Cobb, P., & Hodge, L. L. (2003). *An interpretive scheme for analyzing the identities that students develop in mathematics classrooms*. Unpublished manuscript. Madison, WI: National Center for Improving Student Achievement in Mathematics and Science.
- Cortina, J., Zhao, Q. , & Cobb, P. (2003). *Using technology in the orchestration of mathematical conversations*. Manuscript submitted for publication.
- Lee, O., & Luykx A. (2003). *Science Education and Student Diversity: Synthesis and Research Agenda*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- McClain, K., & McGatha, M., (2003). *Tools for supporting elementary preservice teacher change: A case from mathematics*. Manuscript submitted for publication.
- McClain, K., Leckman, J., Regis, T., & Schmitt, P. (2003). *Technology as a tool for improving teachers' and students' knowledge of the big ideas in statistics*. Manuscript submitted for publication.
- Secada, W., Mallett, R., & Park, S. Y. (2003). *Adding, them in: English language learning students and achievement in mathematics*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.
- Stewart, J., Cartier, J., & Passmore, C. (2003). *Scientific practice as a context for argumentation in science classrooms*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.

Conference Presentations

- Blanton, M. (2003, April). *Algebraic conversations in the elementary classroom*. Paper presented at the annual meeting of the National Council of Teachers of Mathematics, San Antonio, TX.
- Cartier, J., Passmore, C., Anderson, B. A., Cheyne, M., & Gearhart, J. (2003, March). *Supporting teachers' efforts to implement an inquiry framework in K-12 science classrooms: Looking at cases from research & practice*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Philadelphia, PA.
- Cobb, P., & McClain, K. (2003, April). *Situating teachers' instructional practices in the institutional setting of the school and school district*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Cobb, P., & McClain, K. (2003, April). *Supporting the development of professional teaching communities*. Paper presented at the Research Pre-session of the annual meeting of the National Council of Teachers of Mathematics, San Antonio, TX.
- Hodge, L. L., & Cobb, P. (2003, April). *Two views of culture and their implications for investigating equity in mathematics education*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Hodge, L. L., McClain, K., & Cobb, P. (2003, April). *Classrooms as design spaces for supporting students' identities as doers of mathematics*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- McClain, K., & Cobb, P. (2003, February). *Accounting for variability in reasoning about distributions*. Paper presented at the PCMI Statistics conference, Nashville, TN.
- McClain, K. (2003, July). *Supporting teacher change: A case from statistics*. In N. Pateman, B. Dougherty, & J. Zilliox (Eds.), *Proceedings of the 2003 annual meeting of the International Group for the Psychology of Mathematics Education 3*, 253–260.
- Visnovska, J. & Cortina, J. L. (2003). *Building on students' reasoning: Using students' preconceptions of proportional relations in developing instruction*. *Proceedings from International Symposium Elementary Mathematics Teaching*, 157–161. Prague, Czech Republic.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

Newsletters

Winter 2003: *Tied to High Stakes*

Research Briefs

Summer 2003: Algebraic Skills and Strategies for Elementary Teachers and Students

Semiannual Performance Reports

15th Semiannual Performance Report December 1, 2002 – May 31, 2003

2002

Published Edited Books

Lehrer, R., & Schauble, L. (Eds.). (2002). *Investigating real data in the classroom: Expanding children's understanding of mathematics and science*. New York: Teachers College Press.

Published Book Chapters

- Cobb, P. (2002). Modeling, symbolizing and tool use in statistical data analysis. In K. Gravemeijer, R. Lehrer, B. v. Oers & L. Verschaffel (Eds.), *Modeling, Symbolizing and Tool Use in Statistical Data Analysis* (pp. 171-195). Utrecht, The Netherlands: The Freudenthal Institute.
- Cobb, P., & McClain, K. (2002). Supporting students' learning of significant mathematical ideas. In G. Wells & G. Claxton (Eds.), *Learning for life in the 21st century: Sociocultural perspectives on the future of education* (pp. 154-166). Oxford, England: Blackwell.
- Gamoran, A. (2002-a). Curriculum. In D. Levinson (Ed.), *Education and sociology: An encyclopedia* (pp. 125-131). New York: Taylor and Francis.
- Gamoran, A. (2002-b). Beyond curriculum wars: Content and understanding in mathematics. In T. Loveless (Ed.), *The great curriculum debate: How should we teach reading and math?* (pp. 134-162). Washington, DC: Brookings.
- McClain, K. (2002a). Symbolizing, mathematizing, and communicating. In K. Gravemeijer, R. Lehrer, B. v. Oers & L. Verschaffel (Eds.), *Symbolizing and tool use in statistical data analysis*. (pp. 9-12). Utrecht, The Netherlands: Kluwer.
- McClain, K. (2002b). Computer-based tools for data analysis: Support for teachers' understanding. In F. Hitt (ED.) *Representations and mathematics visualization: Psychology of mathematics education*. (pp. 141-156). Mexico : Cinvestav-IPN.
- McClain, K. (2002c). A methodology of classroom teaching experiments. In S. Goodchild & L. English (Eds.), *Researching mathematics classrooms: A critical examination of methodology* (pp. 91-118). Westport, CT: London, Praeger.
- Olive, J., Blanton, M., & Izsak, A. (2002). *Investigating and enhancing the development of algebraic reasoning in the early grades (K-8): The early algebra working group*. Paper presented at the 26th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Athens, GA.

Published Journal Articles

Cobb, P., & Hodge, L. (2002). A relational perspective on issues of cultural diversity and equity as they play out in the mathematics classroom. *Mathematical Thinking and Learning*, 4(2&3), 294-284.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Cobb, P., & McClain, K. (2002). Situating teachers' instructional practices in the institutional setting of the school and district. *Educational Researcher*.
- Grodsky, E., & Gamoran, A. (2002). The relation between professional development and professional community in American schools. *School Effectiveness and School Improvement, 14*, 1–29.
- Koehler, M. J. (2002). Designing case-based hypermedia for developing understanding of children's mathematical reasoning. *Cognition and Instruction, 20*(2), 151-195.
- Lee, O. (2002). Promoting scientific inquiry with elementary students from diverse cultures and languages. *Review of Research in Education* [Special issue, W. G. Secada, Ed.], *26*, 23–69.
- McClain, K. (2002a). The object and the context: What our data are and where they come from. *Journal for the Learning Sciences, 11*(2&3), 163-185.
- McClain, K. (2002b). Teacher's and student's understanding: The role of tools and inscriptions in supporting effective communication. *Journal for the Learning Sciences, 11*(2&3), 217-249.
- McGatha, M., Cobb, P., & McClain, K. (2002). An analysis of students' initial statistical understandings: Developing a conjectured learning trajectory. *Journal of Mathematical Behavior, 16*(3), 339–355.
- Romberg, T. A. (2002). Reflections on progress: A review of "Cognition and Instruction: Twenty-five Years of Progress" by Sharon M. Carver and David Klahr. *Contemporary Psychology: The APA Review of Books, 47*(5), 594-596.
- Sfard, A., & McClain, K. (2002). Analyzing tools: Perspectives on the role of designed artifacts in mathematics learning. *Journal for the Learning Sciences, 11*(2&3), 153-161.

Unpublished Manuscripts

- Carpenter, T. P., Levi, L., Berman, P., & Pligge, M. A. (2002). *Developing algebraic reasoning in the elementary school*. Unpublished manuscript, Madison, WI: Wisconsin Center for Research in Mathematical Sciences Education.
- Cartier, J., Passmore, C., Stewart, J., & Willauer, J. (2002). *Involving students in realistic scientific practice: Strategies for laying epistemological groundwork*. Unpublished manuscript, University of Wisconsin-Madison.
- Cobb, P. (2002). *Classroom interactions and discourse as a context for mathematical and language learning*. Unpublished manuscript.
- Cobb, P., & McClain, K. (2002). *Situating Teachers' Instructional Practices in the Institutional Setting of the School and District*. Unpublished manuscript, University of Wisconsin-Madison.
- Dekker, T., & Querelle, N. (2002). *Great assessment problems*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science. (Available at www.fi.uu.nl/catch/products/GAP_book/intro.html)
- de Lange, J. (2002). *Framework for classroom assessment in mathematics*. Unpublished manuscript.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Gamoran, A., Gunter, R., & Williams, T. (2002). *Professional community by design: Building Social capital through teacher professional development*. Unpublished manuscript, University of Wisconsin-Madison.
- Hodge, L., & Cobb, P. (2002). *Students' emerging identities as doers of mathematics in two contrasting classroom microcultures*. Unpublished manuscript, Vanderbilt University.
- Kazemi, E., & Franke, M. (2002). *Supporting teacher learning through collective study of student work*. Unpublished manuscript.
- Lee, O. (2002). *Promoting science instruction and assessment for english language learners*. Unpublished manuscript, University of Miami.
- McClain, K. (2002). *Supporting preservice teacher change: Understanding place value and multidigit addition and subtraction*. Unpublished manuscript, Vanderbilt University, Nashville, TN.

Conference Presentations

- Blanton, M., & Kaput, J. (2002, July). *Design principles for tasks that support algebraic thinking in elementary school classrooms*. Paper presented at the International Meeting of the Psychology of Mathematics Education, Norwich, England.
- Blanton, M., & Kaput, J. (2002a, April). *Developing elementary teachers' "eyes and ears": Understanding characteristics of professional development that promote generative and self-sustaining change in teachers practice*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Blanton, M., & Kaput, J. (2002b, April). *Instructional contexts that support students' transition from arithmetic to algebraic reasoning: Elements of tasks and culture*. Paper presented at the research pre-session of the annual meeting of the National Council of Teachers of Mathematics, Las Vegas, NV.
- Blanton, M., & Styliano, D. A. (2002a, July). *Exploring sociocultural aspects of undergraduate students' transition to mathematical proof*. Paper presented at the International Conference on the Teaching of Mathematics, Crete, Greece.
- Blanton, M., & Styliano, D. A. (2002b, October). *Sociocultural factors in undergraduate mathematics: The role of explanation and justification*. Paper presented at the 26th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Athens, GA.
- Cartier, J., & Passmore, C. (2002, April). *Representational tools are pivotal for students learning science through inquiry*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, New Orleans, LA.
- Cortina, J. L. (2002). Developing instructional conjectures about how to support students' understanding of the arithmetic mean as a ratio. In B. Phillips (Ed.), *Proceedings of the Sixth International Conference on Teaching Statistics* [CD-ROM]. Voorburg, The Netherlands: International Association for Statistical Education.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Cueto, S., & Secada, W. G. (2002, October). *Learning opportunities and performance in mathematics and reading comprehension by Aymara-, Quechua- and Spanish-speaking youngsters in bilingual and monolingual schools*. Paper presented at the World Bank Seminar Etnicidad, raza, genero, y education in America Latina [Ethnicity, race, gender, and education in Latin America], Lima, Peru.
- Dean, C., & McClain, K. (2002a). The learning of teachers in the context of professional teaching communities. In D. Mewborn (Ed.), *Proceedings of the 2002 Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*, 3, 1465–1473.
- Dean, C., & McClain, K. (2002, April). *Investigating teacher change in the context of professional teaching communities*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Dean, C., Tyler, L., & Cobb, P. (2002, March). *Using computer-based modules to prepare preservice teachers for future learning in the school classroom*. Paper presented at the Society for Information Technology and Teacher Education, Nashville, TN.
- Franke, M., Kazemi, E., Carpenter, T. P., Battey, D., & Deneroff, V. (2002, April). *Articulating and capturing generative growth: implications for professional development*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Gamoran, A., Anderson, C., & Williams, T. (2002, August). *Organizational barriers and supports to sustaining teaching reforms*. Paper presented at the American Sociological Association, Chicago, IL.
- Gamoran, A., & Williams, T. (2002, April). *How high is high? Using SASS to interpret case study findings*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Hegedus, S., & Kaput, J. (2002, October). *Exploring the phenomena of classroom connectivity*. Paper presented at the 26th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Athens, GA.
- Kaput, J. (2002, May). *Computer algebra systems for the 21st century*. Paper presented at the International Conference on Computational Technologies in the Math Curriculum, Bogota, Columbia.
- Kaput, J. J., & Hegedus, S. (2002, July). *Exploiting classroom connectivity by aggregating student constructions to create new learning opportunities*. Paper presented at the International Meeting of the Psychology of Mathematics Education, Norwich, England.
- McClain, K. (2002-a). Learning trajectories as tools for supporting teacher change: A case from statistical data analysis. In D. Mewborn (Ed.), *Proceedings of the 2002 Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*, 1545–1554.
- McClain, K. (2002-b). Supporting teachers' understanding of statistical data analysis: Learning trajectories as tools for change. In B. Phillips (Ed.), *Proceedings of the 2002 International Conference on Teaching Statistics* [CD-ROM].

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Passmore, C., & Stewart, J. (2002, April). *Student learning in modeling classrooms: investigating the lasting impact of understanding a model of celestial motion*. Paper presented at the National Association for Research in Science Teaching, New Orleans, LA.
- Secada, W. G. (2002, April). *Mechanisms of Bias*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Stylianou, D., & Kaput, J. (2002, October). *Understanding complexity: Linking phenomena to representations*. Paper presented at the 26th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Athens, GA.
- Webb, D. C., & Dekker, T. (2002). Classroom assessment as a basis for teacher change. In D. S. Mewborn, P. Sztajn, D. Y. White, H. G. Wiegel, R. L. Bryant, & K. Nooney (Eds.), *Proceedings of the 24th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, II*, 599–609.

Working Papers and Research Reports

- Stewart, J., Cartier, J., & Passmore, C. (2002). *Scientific practice as a context for argumentation in science classrooms: Project MUSE position paper*. Unpublished manuscript, Madison, WI.

Doctoral Dissertations

- Rousseau, C. (2002). *Context and community: Influences on a high school mathematics reform effort*. Unpublished Doctoral, University of Wisconsin, Madison, WI.

Research Briefs

Fall 2002 : Supporting Professional Development

Newsletters

Winter 2002: Evolutionary Biology Instruction

Semiannual Performance Reports

13 th Semiannual Performance Report	December 1, 2001 – May 31, 2002
14 th Semiannual Performance Report	June 1, 2002 – November 30, 2002

Annual Performance Report

Year 6 Annual Performance Report March 1, 2001 – February 28, 2002

2001

Published Edited Books

Kilpatrick, J., Swafford, J., Findell, B. (Eds.). (2001). *Adding it up: Helping children learn mathematics*. Washington D.C.: National Research Council. (Note: Thomas Carpenter is a member of the Mathematics Learning Study Committee, which authored this report.)

Published Book Chapters

- Carpenter, T. P., Ansell, E., & Levi, L. (2001). An alternative conception of teaching for understanding: Case studies of two 1st-grade mathematics classes. In T. Wood, B. S. Nelson & J. Warfield (Eds.), *Beyond classical pedagogy in elementary mathematics: The nature of facilitative teaching* (pp. 27-46). Mahwah, NJ: Erlbaum.
- Cobb, P. (2001). Supporting the improvement of learning and teaching in social and institutional context. In S. Carver & D. Klahr (Eds.), *Cognition and Instruction: Twenty-five Years of Progress* (pp. 455-476). Mahwah, NJ: Erlbaum.
- Cobb, P., & McClain, K. (2001). An approach for supporting teachers' learning in social content. In F. L. Lin & T. Cooney (Eds.), *Making sense of mathematics teacher education* (pp. 207-231). Dordrecht, The Netherlands: Kluwer.
- Franke, M., & Kazemi, E. (2001). Teaching as learning within a community of practice. In T. Wood, B. Nelson & J. Warfield (Eds.), *Beyond classical pedagogy in elementary mathematics: The nature of facilitative teaching* (pp. 47-74). Mahwah, NJ: Erlbaum.
- Kaput, J., Noss, R., & Hoyles, C. (2001). Developing new notations for learnable mathematics in the computational era. In L. D. English (Ed.), *The handbook of international research in mathematics* (pp. 51-73). London: Kluwer.
- Lehrer, R., & Schauble, L. (2001). Symbolic communication in mathematics and science: Co-Constituting Inscription and Thought. In E. D. Amsel & J. Byrnes (Eds.), *Language, literacy and cognitive development: The development and consequences of symbolic communication* (pp. 167-192). Mahwah, NJ: Erlbaum.
- Lehrer, R., Schauble, L., & Petrosino, A. (2001). Reconsidering the role of experiment in science education. In K. Crowley, C. D. Schunn & T. Okada (Eds.), *Designing for Science: implications from everyday, classrooms, and professional settings* (pp. 251-278). Mahwah, NJ: Erlbaum.
- Lehrer, R., Schauble, L., Strom, D., & Pligge, M. (2001). Similarity of form and substance: modeling material kind. In S. M. Carver & D. Klahr (Eds.), *Cognition and Instruction: 25 Years of Progress* (pp. 39-74). Mahwah, NJ: Erlbaum.
- McClain, K. (2001). The mathematics behind the graph: Discussions of data. In R. Nemirovsky, A. Rosebery, B. Warren & J. Solomon (Eds.), *Learning environments: The encounter of everyday and disciplinary experiences*. Mahwah, NJ: Erlbaum.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- McClain, K., & Cobb, P. (2001). Supporting students' ability to reason about data. *Educational Studies in Mathematics*, 45, 103-129.
- Romberg, T. A. (2001). Changing the teaching and learning of mathematics. In J. Grunow (Ed.), *Planning curriculum in mathematics* (pp. xb-xx). Madison, WI: Wisconsin Department of Public Instruction.
- Schnepp, M., J., & Nemirovsky, R. (2001). Constructing a foundation for the fundamental theorem of calculus. In A. A. Cuoco & F. R. Curcio (Eds.), *The roles of representation in school mathematics* (pp.90–102). Reston, VA: National Council of Teachers of Mathematics.
- Stephan, M., Cobb, P., Gravemeijer, K., & Estes, B. (2001). The role of tools in supporting students' development of measuring conceptions. In A. A. Cuoco (Ed.), *The roles of representation in school mathematics (2001 Yearbook)* (pp. 63-76). Reston, VA: National Council of Teachers of Mathematics.

Published Journal Articles

- Barton, A. M. (2001). The moon also rises: Investigating celestial motion models. *The Science Teacher*, 68(6), 34-39.
- Cobb, P., Stephan, M., McClain, K., & Gravemeijer, K. (2001). Participating in classroom mathematical practices. *Journal for the Learning Sciences*, 10(1 & 2), 113-163.
- Franke, M. L., Carpenter, T. P., Levi, L., & Fennema, E. (2001). Capturing teacher's generative change: A follow-up study of professional development in mathematics. *American Educational Research Journal*, 38(3), 653-690.
- Franke, M. L., & Kazemi, E. (2001). Learning to teach mathematics: developing a focus on students' mathematical thinking. *Theory into Practice*, 40(2), 102-109.
- Gamoran, A. (2001-a). American schooling and educational inequality: Forecast for the 21st century. *Sociology of Education*, 34, 135–153.
- Gamoran, A. (2001-b). Classroom organization and instructional quality: An examination of tracking and detracking. *CEIC Review*, 10(5), 15–16, 23.
- McClain, K., & Cobb, P. (2001-a). An analysis of development of sociomathematical norms in one first-grade classroom. *Journal for Research in Mathematics Education*, 32(3), 236-266.
- McClain, K., & Cobb, P. (2001-b). Supporting students' ability to reason about data. *Educational Studies in Mathematics*, 45, 103-129.
- Passmore, C., & Stewart, J. (2001). A course in evolutionary biology: Engaging students in the "Practice" of evolution. *BioQUEST Notes*, 11(2), 5-11.
- Romberg, T. A. (2001-a). Mathematical literacy: What does it mean for school mathematics? *Wisconsin School News*, 56(6), 4-31.
- Romberg, T. A. (2001-b). Understanding the standards-based reform movement in school mathematics. *The Mathematics Educator*, 6(1), 17-21.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

Wynne, C., Stewart, J., & Passmore, C. (2001). High school students' use of meiosis when solving realistic genetics problems. *International Journal of Science Education*, 23(5), 501-515.

Unpublished Manuscripts

- Barton, A. M. (2001). *A "MUSE"ing look at inquiry: A ninth-grade science curriculum in earth-moon-sun astronomy*. Unpublished manuscript, Madison, WI.
- Blanton, M., & Kaput, J. (2001). *Algebrafying the elementary mathematics experience: Part II: transforming practice on a district-wide scale*. Unpublished manuscript.
- Cartier, J., Barton, A. M., & Mesmer, K. (2001). *Constructing "dynamic knowledge" through inquiry in a ninth-grade science unit*. Unpublished manuscript.
- Cartier, J., Passmore, C., & Stewart, J. (2001). *Design principles and implementation strategies in science curriculum development: Examples from Modeling for Understanding in Science Education (MUSE)*. Unpublished manuscript, University of Wisconsin-Madison.
- Cobb, P., & Hodge, L. (2001). *A relational perspective on issues of cultural diversity and equity as they play out in the mathematics classroom*. Unpublished manuscript, Vanderbilt University.
- Cobb, P., & McClain, K. (2001). *Situating teaching in the institutional setting of the school and the school district*. Unpublished manuscript, Vanderbilt University.
- Cobb, P., & Tzou, C. (2001). *Supporting students' learning about data creation*. Unpublished manuscript, Vanderbilt University.
- Ford, M. (2001). *Inscribing intuitions of free fall: The reflexive relationship between invented representations and conceptual organizations of motion*. Unpublished manuscript, University of Wisconsin-Madison.
- Johnson, S. K., & Stewart, J. (2001). *Revising and assessing explanatory models in genetics: A comparison of differences in the performance of high school students*.
- Kaput, J., & Blanton, M. (2001). *Algebrafying the elementary mathematics experience part i transforming task structures*. Unpublished manuscript, University of Massachusetts - Dartmouth.
- McClain, K. (2001). *Teacher's and students' understanding: The role of tool use in communication*. Unpublished manuscript, Vanderbilt University.
- Passmore, C., & Stewart, J. (2001). *High school students' understanding of and reasoning with darwin's natural selection model*. Unpublished manuscript, University of Wisconsin-Madison.
- Passmore, C., & Stewart, J. (2001). *A modeling approach to teaching evolutionary biology in high schools*. *Journal of Research in Science Teaching*, 39(3), 185-204.
- Secada, W. G. (2001). *Teaching mathematics to dual-language students*. Unpublished manuscript, University of Wisconsin-Madison.
- Secada, W. G., Cueto, S., & Andrade, F. (2001). *Opportunity to learn mathematics among Aymara, Quechua, and Spanish speaking fourth and fifth graders in rural and urban schools in Puno, Peru*. Unpublished manuscript, University of Wisconsin-Madison.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

Conference Presentations

- Blanton, M., Westbrook, S. L., & Carter, G. (2001, July 12 - 17, 2001). *Using Valsiner's zone theory to interpret a pre-service mathematics teacher's zone of proximal development*. Paper presented at the 25th annual meeting of the International Group for the Psychology of Mathematics Education, Utrecht, The Netherlands.
- Blanton, M., & Kaput, J. (2001, December). Algebrafying the elementary mathematics experience. Part II: Transforming practice on a district-wide scale. In H. Chick, K. Stacey, J. Vincent, & J. Vincent (Eds.), *The future of teaching and learning of algebra: Proceedings of the 12th ICMI study conference* (pp. 87–95). Melbourne, Australia: The University of Melbourne.
- Cartier, J., Barton, A. M., & Mesmer, K. (2001, March). *Inquiry as a context for meaningful learning in a 9th grade science unit*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, St. Louis, MO.
- Cartier, J., Passmore, C., & Stewart, J. (2001, November). *Balancing generality and authenticity: A framework for science inquiry in education*. Paper presented at the annual meeting of the International History, Philosophy, and Science Teaching Group, Denver, CO.
- Cobb, P., & Hodge, L. (2001, June). *A relational perspective on issues of cultural diversity and equity as they play out in the mathematics classroom*. Paper presented at the symposium on Interaction in Multicultural Mathematics Classrooms, Doorn, The Netherlands.
- Cortina, J. L., Cobb, P., & McClain, K. (2001, April). *Understanding means and ratios as measures*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.
- Gamoran, A., Anderson, C., & Ashmann, S. (2001, August). *Leadership for change: Developing Capacity to support teaching for understanding*. Paper presented at the annual meeting of the American Sociological Association, Anaheim, CA.
- Gamoran, A., Gunter, R. L., & Williams, T. (2001a, October). *Professional community by design: Building a social capital through teacher professional development*. Paper presented at the conference honoring the career of Charles E. Bidwell, University of Chicago-II.
- Gamoran, A., Gunter, R. L., & Williams, T. (2001b, October). *Professional community by design: Building social capital through teacher professional development*. Paper presented at the Sociology of Education Conference, Chicago.
- Gravemeijer, K., & Cobb, P. (2001, April). *Designing classroom-learning environments that support mathematical learning*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.
- Hodge, L., & Cobb, P. (2001, April). *Students' emerging identities as doers of mathematics in two contrasting classroom microcultures*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.
- Kaput, J. (2001, October). *Learning algebra using dynamic simulations and visually editable graphs of rate and totals quantities*. Paper presented at the International Seminar on Reasoning, Explanation, and Proof in School Mathematics and Their Place in the Intended Curriculum, London England.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Kaput, J., & Blanton, M. (2001, October). Student achievement in algebraic thinking: A comparison of third graders' performance on a state fourth-grade assessment. In R. Speiser, C. Maher, & C. Walter (Eds.), *Proceedings of the 23rd annual meeting of the North American chapter of the International Group for the Psychology of Mathematics Education* (Vol. 1, pp. 99–107). Columbus, OH: The ERIC Clearinghouse for Science, Mathematics, and Environmental Education.
- McClain, K. (2001a, October). *The role of task-analysis cycles in supporting students' mathematical development*. Paper presented at the annual conference of the North American Chapter of the International Group for the Psychology of Mathematics Education, Snowbird, UT.
- McClain, K. (2001b, August). *Supporting students' developing ways of reasoning statistically about data: The teacher, the tools, and contexts*. Paper presented at the joint meetings of the American Statistics Association, Atlanta, GA.
- McClain, K. (2001c). *Supporting students' developing ways of reasoning statistically about data: the teacher, tools, and contexts*. Paper presented at the annual meeting of the American Statistic Association.
- McClain, K. (2001d). *Supporting students' developing ways of reasoning statistically about data: The teacher, tools, and contexts*. Paper presented at the annual meeting of the American Statistics Association.
- McClain, K., & McGatha, M. (2001, April). *Case studies as a tool for supporting elementary mathematics preservice teachers' professional growth*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.
- Middleton, J. A., de Silva, T., Toluk, Z., & Mitchell, W. (2001). *The emergence of quotient understanding in a fifth-grade classroom: A classroom teaching experiment*. In R. Speiser, C.A. Maher & C.W. Walter (Eds.), *Proceedings of the 28th annual meeting of the North American Chapter of the International Group of Mathematics Educations*, 263-271. Snowbird, UT: ERIC Clearinghouse for Science, Mathematics, and Environmental Education.
- Passmore, C., Cartier, J., & Barton, A. M. (2001a, March). *Developing instructional practices that support inquiry-based student learning*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, St. Louis, MO.
- Passmore, C., Cartier, J., & Barton, A. M. (2001b, March). *Instructional practices that support inquiry-based student learning*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, St. Louis, MO.
- Passmore, C., Stewart, J., & Mesmer, K. (2001, March). *High school students' understanding of and reasoning with darwin's natural selection model*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, St. Louis, MO.
- Romberg, T. A. (2001a, July). *Mathematics goals and achievement in the United States*. Paper presented at the 25th annual meeting of the International Group for the Psychology of Mathematics Education, Utrecht, The Netherlands.
- Romberg, T. A. (2001b, July). *Research Forum 3: Comparative views of mathematics goals and achievements*. Paper presented at the 25th Conference of the International Group for the Psychology of Mathematics Education, Utrecht, The Netherlands.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Secada, W. G. (2001a, June). *Conceptions of equity*. Paper presented at the Equitable Education, Utopia or Realism? Conference, Bodo, Norway.
- Secada, W. G. (2001b, March). *Teaching mathematics to dual-language students*. Paper presented at the Education of Language Minorities: The Teaching of Language and Mathematics, Thessaloniki, Greece.
- Smetzer-Anderson, S. (2001, April). *Leveraging communication theories & the agricultural extension I & E model to facilitate education research use among targeted publics*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.

Technical Reports

- Bostrom, M., Kieth, A., Nordness, C., R., S., Wiesner, B., & Weisner, B. (2001). *Early algebraic thinking: Classroom action research* (Report 2000-01). Madison, Wisconsin: Madison Metropolitan School District.
- Romberg, T. A., Webb, D. C., Burrill, J., & Ford, M. (July 2001). *NCISLA middle school design collaborative: Final report to the Verona school district*. University of Wisconsin—Madison: National Center for Improving Student Learning and Achievement in Mathematics and Science.
- Webb, D. C., Burrill, J., Romberg, T. A., Ford, M., Kwako, J., & Reif, J. (July 2001). *NCISLA middle school design collaborative: Second year student achievement technical report*. University of Wisconsin—Madison: National Center for Improving Student Learning and Achievement in Mathematics and Science.
- Webb, D., C., Ford, M. J., Burrill, J., Romberg, T. A., Reif, J., & Kwako, J. (July 2001). *NCISLA middle school design collaborative: Third year student achievement technical report*. University of Wisconsin—Madison: National Center for Improving Student Learning and Achievement in Mathematics and Science.

Working Papers and Research Reports

- Cartier, J., Rudolph, J. L., & Stewart, J. (2001). *The nature and structure of scientific models*. Unpublished manuscript, University of Wisconsin-Madison.
- Stewart, J., Cartier, J., & Passmore, C. (2001). *Contexts for argumentation in science classrooms*. Unpublished manuscript, University of Wisconsin-Madison.

Newsletters

- Winter 2001: NCISLA-CREDE Joint Newsletter: Diverse Students Learning Mathematics and Science

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

Annual Reports:

Year 5 Annual Performance Report March 1, 2000 – February 28, 2001

Semiannual Performance Reports

11 th Semiannual Performance Report	December 1, 2000 – May 31, 2001
12 th Semiannual Performance Report	June 1, 2001 – November 30, 2001

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

2000 – 1996

Published Center Books

1999

- Carpenter, T. P., Fennema, E., Franke, M. L., Levi, L., & Empson, S. B. (1999). *Children's mathematics—Cognitively guided instruction*. Portsmouth: Heinemann.
- Fennema, E. & Romberg, T. A. (1999). *Mathematics classrooms that promote understanding*. Mahwah, NJ: Erlbaum.

1997

- Heibert, J., Carpenter, T. P., Fennema, E., Fuson, K., Human, P., Murray, H., Olivier, A., & Wearne, D. (1997). *Making sense: Teaching and learning mathematics with understanding*. Portsmouth NH: Heinemann.
- Modeling in Mathematics and Science Collaborative. (1997). *Children's work with data*. University of Wisconsin - Madison: Wisconsin Center for Education Research.
- Romberg, T. A. (1995). *Reform in school mathematics and authentic assessment*. New York: SUNY.

Published Edited Books

2000

- Bransford, J. D., Brown, A. L., Cocking, R. R. (Eds.). (2000). *How people learn: Brain, mind, experience, and school*. Washington D. C.: National Academy Press. (Note: Thomas Romberg is a member of the Committee on Developments in the Science Learning, which authored this report.)
- Cobb, P., Yackel, E., & McClain, K. (Eds.). (2000). *Symbolizing and communicating in mathematics: Perspectives on discourse, tools, and instructional design*. Mahwah, NJ: Erlbaum.
- Kelly, A. E., & Lesh, R. A. (Eds.). (2000). *Handbook of research design in mathematics and science education*. Mahwah, NJ: Erlbaum.

1999

- Schleicher, A. (Ed.) (1999). *Measuring student knowledge and skills: A new framework for assessment*. OECD: PISA. (Note: Jan de Lange and Thomas Romberg are members of the PISA committee, which authored this report).

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

1998

- Lajoie, S. (Ed.). (1998). *Reflections on statistics*. Mahwah, NJ: Erlbaum.
- Lehrer, R., & Chazan, D. (Eds.). (1998). *Designing learning environments for developing understanding of geometry and space*. Mahwah, NJ: Erlbaum.
- Secada, W. G., Fennema, E., & Adajian, L. B. (Eds.). (1998). *Equidad y enseñanza de las matemáticas: Nuevas Tendencias*. Madrid: Ministerio de Educacion y Cultura: Morata, S. L.

1997

- Beishuizen, M., Gravemeijer, K., & E. C. D. M. van Lieshout (Eds.). (1997). *The role of contexts and models in the development of mathematical strategies and procedures*. Utrecht, The Netherlands: CdB Press.

1995

- Secada, W. G., Fennema, E., & Adajian, L. B. (Eds.). (1995). *New directions for equity in mathematics education*. New York: Cambridge University Press.

Published Book Chapters

2000

- Cobb, P. (2000a). Conducting classroom teaching experiments in collaboration with teachers. In A. Kelly & R. Lesh (Eds.), *Handbook of research design in mathematics and science education* (pp. 307-333). Mahwah, NJ: Erlbaum.
- Cobb, P. (2000b). Constructivism. In A. E. Kazdin (Ed.), *Encyclopedia of psychology* (Vol. 2, pp. 277-279). Washington D.C: American Psychological Association and Oxford University Press.
- Cobb, P. (2000c). Constructivism in social context. In L. P. Steffe & P. W. Thompson (Eds.), *Radical constructivism in action: Building on the pioneering work of ernst van glaserfeld* (pp. 152-178). London: Falmer.
- Cobb, P. (2000d). From Representations to symbolizing: Introductory comments on semiotics and mathematical learning. In P. Cobb, E. Yackel & K. McClain (Eds.), *Symbolizing and communicating in mathematics classrooms: Perspectives on discourse, tools, and instructional design* (pp. 17-36). Mahwah, NJ: Erlbaum.
- Cobb, P. (2000e). The Importance of a situated view of learning to the design of research and instruction. In J. Boaler (Ed.), *Multiple perspectives on mathematical teaching and learning* (pp. 45-82). Stamford, CT: Ablex.
- Cobb, P. (2000f). Accounting for mathematical development in the social context of the classroom. In L. P. Steffe & P. Thompson (Eds.), *Radical constructivism in action: Beyond the pioneering work of Ernst von Glasersfeld* (pp. 152-178). London: Falmer.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Gamoran, A., Secada, W. G., & Marrett, C. B. (2000). The organizational context of teaching and learning: Changing theoretical conceptions. In M. T. Hallinan (Ed.), *Handbook of the sociology of education* (pp. 37-63). New York: Kluwer Academic.
- Gravemeijer, K., Cobb, P., Bowers, J., & Whitenack, J. (2000). Symbolizing, modeling, and instructional design. In P. Cobb, E. Yackel & K. McClain (Eds.), *Symbolizing and communicating in mathematics classrooms: perspectives on discourse tools, and instructional design* (pp. 225-273). Mahwah, NJ: Erlbaum.
- Lehrer, R., Carpenter, S., Schauble, L., & Putz, A. (2000). Designing classrooms that support inquiry. In J. Minstrell & E. H. v. Zee (Eds.), *inquiring into inquiry learning and teaching in science* (pp. 80-99). Washington D.C.: American Association for the Advancement of Science.
- Lehrer, R., & Schauble, L. (2000). Modeling in mathematics and science. In R. Glaser (Ed.), *Advances in instructional psychology: educational design and cognitive science* (Vol. 5, pp. 101-159). Mahwah, NJ: Erlbaum.
- Lehrer, R., Schauble, L., Carpenter, S., & Penner, D. (2000). The inter-related development of inscriptions and conceptual understanding. In P. Cobb, E. Yackel & K. McClain (Eds.), *Symbolizing and communicating in mathematics classrooms: Perspectives on discourse, tools, and instructional design*. Mahwah, NJ: Erlbaum.
- Lesh, R., & Clarke, D. (2000). Formulating operational definitions of desired outcomes of instruction in mathematics and science education. In A. Kelly & R. Lesh (Eds.), *Handbook of research design in mathematics and science education* (pp. 113-150). Mahwah, NJ: Erlbaum.
- McClain, K., Cobb, P., & Gravemeijer, K. (2000). Supporting students' ways of reasoning about data. In M. J. Burke & F. R. Curcio (Eds.), *Learning mathematics for a new century* (pp. 174-187). Reston, VA: National Council of Teachers of Mathematics.
- Nemirovsky, R., & Monk, S. (2000). "If you look at it the other way," An Exploration into the nature of symbolizing. In P. Cobb, E. Yackel & K. McClain (Eds.), *Symbolizing and communicating in mathematics classrooms: Perspectives on discourse, tools, and instructional design* (pp. 177-221). Mahwah, NJ: Erlbaum.
- Pitman, A., & Romberg, T. A. (2000). Teachers' use of time in a period of change. In P. Gandara (Ed.), *The dimensions of time and the challenge of school reform* (pp. 135-152). Albany, NY: State University of New York Press.
- Romberg, T. A., & Collins, A. (2000). The impact of standards-based reform on methods of research in schools. In A. Kelly & R. Lesh (Eds.), *Handbook of research design in mathematics and science education* (pp. 73-85). Mahwah, NJ: Erlbaum.
- Roschelle, J., Kaput, J., & Stroup, W. (2000). SimCalc: Accelerating students' engagement with the mathematics of change. In M. J. Jacobson & R. B. Kozma (Eds.), *Innovations in science and mathematics education: Advanced designs for technologies of learning* (pp. 47-75). Mahwah, NJ: Erlbaum.
- Yackel, E. (2000). Perspectives on semiotics and instructional design. In P. Cobb, E. Yackel & K. McClain (Eds.), *Symbolizing and communicating in mathematics classrooms: Perspectives on discourse, tools, and instructional design* (pp. 1-13). Mahwah, NJ: Erlbaum.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

1999

- Carpenter, T. P., & Lehrer, R. (1999). Teaching and learning mathematics with understanding. In E. Fennema & T. A. Romberg (Eds.), *mathematics classrooms that promote understanding* (pp. 19-32). Mahwah, NJ: Erlbaum.
- Kaput, J. (1999). Teaching and learning a new algebra. In E. Fennema & T. A. Romberg (Eds.), *Mathematics classrooms that promote understanding* (pp. 133-155). Mahwah, NJ: Erlbaum.
- Lehrer, R., Jacobson, C., Kemeny, V., & Strom, D. (1999). Building on children's intuitions to develop mathematical understanding of space. In E. Fennema & T. A. Romberg (Eds.), *Mathematics classrooms that promote understanding* (pp. 63-87). Mahwah, NJ: Erlbaum.
- McClain, K., & Cobb, P. (1999). Supporting students' ways of reasoning about patterns and partitions. In J. Copley (Ed.), *Mathematics in the early years* (pp. 112-118). Reston, VA: National Council of Teachers of Mathematics.
- McClain, K., Cobb, P., Gravemeijer, K., & Estes, B. (1999). Developing first graders' mathematical reasoning within a context of measurement. In L. Stiff (Ed.), *Developing mathematical reasoning, K-12* (pp. 93-106). Reston, VA: National Council of Teachers of Mathematics.
- Romberg, T. A. (1999a). Curriculum research in the United States. In S. Shimizu (Ed.), *Issues about the reform of school mathematics: 1999 yearbook of the Japan society of mathematics education* (pp. 344-352). Tokyo: Japan Society of Mathematics Education.
- Romberg, T. A. (1999b). Realistic instruction in mathematics. In J. Block, S. Everson & T. Guskey (Eds.), *Comprehensive school reform: a program perspective* (pp. 287-314). Dubuque IA: Kendall/Hunt Publishing Company.
- Romberg, T. A. (1999c). School mathematics: The impact of international comparisons on national policy. In G. Kaiser, E. Luna & I. Huntley (Eds.), *International comparisons in mathematics education* (pp. 189-199). London: Falmer Press.
- Romberg, T. A., & Kaput, J. (1999). Mathematics worth teaching, mathematics worth understanding. In E. Fennema & T. A. Romberg (Eds.), *Mathematics classrooms that promote understanding* (pp. 3-17). Mahwah, NJ: Erlbaum.
- Secada, W. G. (1999). Commentary: Abandoning hierarchies, abandoning dichotomies. In L. Burton (Ed.), *Learning mathematics: From hierarchies to networks* (pp. 83-89). London: Falmer.
- Secada, W. G., & Berman, P. (1999). Equity as a value-added dimension in teaching for understanding in school mathematics. In E. Fennema & T. A. Romberg (Eds.), *Mathematics classrooms that promote understanding* (pp. 33-42). Mahwah, NJ: Erlbaum.
- Shafer, M. C., & Romberg, T. A. (1999). Assessment in classrooms that promote understanding. In E. Fennema & T. A. Romberg (Eds.), *Mathematics classrooms that promote understanding* (pp. 159-184). Mahwah, NJ: Erlbaum.
- Quiroz, P. A. (1999). Beyond educational policy: Bilingual teachers and the social construction of teaching "science" for understanding. In B. Levinson & M. Sutton (Eds.), *Policy as practice: An ethnographic vision* (pp. 167-192). Norwood, NJ: Ablex.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

1998

- Burrill, G., & Romberg, T. A. (1998). Statistics and probability for the middle grades: Examples from *Mathematics in Context*. In S. P. Lajoie (Ed.), *Reflections on statistics: Learning, teaching, and assessment in grades K-12*. (pp. 33-59). Mahwah, NJ: Erlbaum.
- Cobb, P. (1998). Modeling, symbolizing and tool use in statistical data analysis. In K. Gravemeijer (Ed.), *Symbolizing and modeling in mathematics education* (pp. 58–59). Utrecht, The Netherlands: Fruedenthal Instititue.
- Cobb, P., Perlwitz, M., & Underwood-Green, D. (1998). Individual construction, mathematical acculturation, and the classroom community. In M. Larochelle, N. Bednarz & J. Garrison (Eds.), *Constructivism and education* (pp. 63-80). New York: Cambridge University Press.
- Cobb, P., & Yackel, E. (1998). A constructivist perspective on the culture of the mathematics classroom. In F. Seeger, J. Voight & U. Waschescio (Eds.), *The culture of the mathematics classroom* (pp. 158-190). New York: Cambridge University Press.
- Kaput, J., & Roschelle, J. (1998). The mathematics of change and variation from a millennial perspective: New content, new context. In C. Hoyles, C. Morgan & G. Woodhouse (Eds.), *Rethinking the mathematics curriculum* (pp. 155-170). London: Springer-Verlag.
- Lehrer, R., & Romberg, T. A. (1998). Springboards to Geometry. In C. Mammana & V. Villani (Eds.), *Perspectives on the teaching of geometry for the 21st century: an ICMI study* (pp. 62-78). Dordrecht, The Netherlands: Kluwer.
- McClain, K., & Cobb, P. (1998). The role of imagery and discourse in supporting students' mathematical development. In M. Lampert & M. L. Blunk (Eds.), *Talking mathematics in school: studies of teaching and learning* (pp. 56-57). Cambridge: Cambridge University Press.
- McClain, K., Cobb, P., & Bowers, J. (1998). A contextual investigation of three-digit addition and subtraction. In L. Morrow & M. Kenney (Eds.), *Teaching and learning of algorithms in school mathematics* (pp. 141-150). Reston, VA: National Council of Teachers of Mathematics.
- Romberg, T. A. (1998). Designing middle school mathematics materials using problems created to help students progress from informal to formal mathematical reasoning. In L. Leutlinger (Ed.), *Mathematics in the middle: NCTM 1998 yearbook* (pp. 107-119). Reston, VA: National Council of Teachers of Mathematics.
- Secada, W. G. (1998). School mathematics for language enriched pupils. In S. H. Fradd & O. Lee (Eds.), *Creating florida's multilingual global work force: Educational policies and practices for students learning english as a new language*. Tallahassee, FL: Florida Department of Education.
- Zawojewski, J. S., & Silver, E. A. (1998). Assessing conceptual understanding. In G. W. Bright & J. M. Joyner (Eds.), *Classroom assessment in mathematics: views from a national science foundation working conference* (pp. 287-295). Lanham, MD: University Press of America.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

1997

- Cobb, P. (1997). Instructional design and reform: A plea for developmental research in context. In M. Beishuizen, K. Gravemeijer, E. v. Lieshout & H. v. Luit (Eds.), *The role of context and models in the development of mathematical strategies and procedures* (pp. 273- 289). Utrecht, The Netherlands: CD-B Press.
- Cobb, P., Gravemeijer, K., Yackel, E., McClain, K., & Whitenack, J. (1997). Mathematizing and symbolizing: The emergence of chains of signification in one first-grade classroom. In D. Kirshner & J. A. Whitson (Eds.), *Situated Cognition Theory: Social, Semiotic, and Neurological Perspectives* (pp. 151-233). Mahwah, NJ: Erlbaum.
- Gravemeijer, K. (1997). Instructional design for reform in mathematics education. In M. Beishuizen, K. Gravemeijer & E. v. Lieshout (Eds.), *The role of contexts and models in the development of mathematical strategies and procedures* (pp. 13-34). Utrecht, The Netherlands: CdB Press.
- Romberg, T. A. (1997). Mathematics in Context: Impact on teachers. In E. Fennema & B. S. Nelson (Eds.), *Mathematics teachers in transition* (pp. 357-380). Mahwah, NJ: Erlbaum.
- Seegers, G., & Gravemeijer, K. (1997). Implementation and effect of realistic curricula. In M. Beishuizen, K. Gravemeijer & E. V. Lieshout (Eds.), *The role of contexts and models in the development of mathematical strategies and procedures* (pp. 255-272). Utrecht, The Netherlands: CdB Press.

Published Journal Articles

2000

- Ayalon, H., & Gamoran, A. (2000). Stratification in academic secondary programs and educational inequality in Israel and the United States. *Comparative Education Review*, 44(1), 54-80.
- Forman, E. (2000). Knowledge building in discourse communities. *Human Development*, 43(6), 364-368.
- Gamoran, A. (2000). High standards: A strategy for equalizing opportunities for learning? In R. D. Kahlenberg (Ed.), *A nation at risk: Preserving public education as an engine for social mobility* (pp. 93-126). New York: The Century Foundation.
- Gamoran, A., & Hannigan, E. C. (2000). Algebra for everyone? Benefits of college-preparatory mathematics for students with diverse abilities in early secondary school. *Educational Evaluation and Policy Analysis*, 22(3), 241-254.
- Gleason, p. E., & Schauble, L. (2000). Parents' assistance of their children's scientific reasoning. *Cognition and Instruction*, 17(4), 343-378.
- Horvath, J. K., & Lehrer, R. (2000). The design of a case-based hypermedia teaching tool. *International Journal of Computers for Mathematical Learning*, 5, 115-141.
- Jacobson, C., & Lehrer, R. (2000). Teacher appropriation and student learning of geometry through design. *Journal for Research in Mathematics Education*, 31(1), 71-88.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Lehrer, R., & Curtis, C. L. (2000). Why are some solids perfect?: Conjectures and experiments by third graders. *Teaching Children Mathematics*, 6, 324-329.
- Lehrer, R., & Schauble, L. (2000). Developing model-based reasoning in mathematics and science. *Journal of Applied Developmental Psychology*, 21(1), 39-48.
- Lehrer, R., & Schauble, L. (2000). Inventing data structures for representational purposes: Elementary grade students' classification models. *Mathematical Thinking and Learning*, 2(1&2), 51-74.
- Levi, L. (2000). Gender equity in mathematics education. *Teaching Children Mathematics*, 7(2), 101-105.
- McClain, K. (2000). The teacher's role in supporting the emergence of ways of symbolizing. *Journal of Mathematical Behavior*, 19, 189-226.
- McClain, K., McGatha, M., & Hodge, L. L. (2000). Improving data analysis through discourse. *Mathematics Teaching in the Middle School*, 5(8), 548-553.
- Penner, E., & Lehrer, R. (2000). The shape of fairness. *Teaching Children Mathematics*, 7(4), 210-214.
- Romberg, T. A. (2000). Changing the teaching and learning of mathematics. *The Australian Mathematics Teacher*, 56(4), 6-9.
- Rudolph, J. L. (2000). Reconsidering the "Nature of Science" as a curriculum component. *Journal of Curriculum Studies*, 32(3), 403-419.

1999

- Bowers, J., Cobb, P., & McClain, K. (1999). The evolution of mathematical practices: A case study. *Cognition and Instruction*, 17(1), 25-64.
- Cartier, J., & Stewart, J. (1999). A modeling approach to teaching high school genetics. *BioQUEST Notes*, 10(2), 1-12.
- Cartier, J., & Stewart, J. (1999). Teaching the nature of inquiry: Further developments in a high school genetics curriculum. *Science and Education*, 9, 247-267.
- Cobb, P. (1999). Individual and collective mathematical learning: The case of statistical data analysis. *Mathematical Thinking and Learning*, 1(1), 5-43.
- Cobb, P., & Bowers, J. (1999). Cognitive and situated learning perspectives in theory and practice. *Educational Researcher*, 28(2), 4-14.
- Falkner, K. P., Levi, L., & Carpenter, T. P. (1999). Children's understanding of equality: A foundation for algebra. *Teaching Children Mathematics*, 6(4), 232-236.
- Forman, E., & Bert van Oers. (1998). Mathematics learning in sociocultural contexts. *Learning and Instruction*, 8(6), 469-472.
- McClain, K. (1999). Reflecting on students understandings of data. *Mathematics Teaching in the Middle School*, 4(6), 374-380.
- McClain, K. (1999). Statistical data analysis: A case for teacher reflection. *Mathematics Teaching in the Middle Grades*, 4(6), 374-380.
- Yackel, E., Cobb, P., & Wood, T. (1999). The interactive constitution of mathematical meaning in one second-grade classroom: An illustrative example. *Journal of Mathematical Behavior*, 17(4), 469-488.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

1998

- Cobb, P. (1998). Learning from distributed theories of intelligence. *Mind, Culture, and Activity*, 5(3), 187-204.
- Cobb, P. (1998). Theorizing about mathematical conversations and learning from practice. *For the Learning of Mathematics*, 18(1), 46-48.
- Forman, E. A., & Larreamendy-Joerns, J. (1998). Making explicit the implicit: Classroom explanations and conversational implicatures. *Mind, Culture, and Activity*, 5(2), 105-113.
- Forman, E. A., Larreamendy-Joerns, J., Stein, M. K., & Brown, C. A. (1998). "You're going to want to find out which and prove it": Collective argumentation in a mathematics classroom. *Learning and Instruction*, 8(6), 527-548.
- Forman, E. A., McCormick, D. W., & Donato, R. (1998). Learning what counts as a mathematical explanation. *Linguistics and Education*, 9(4), 313-339.
- Franke, M. L., Carpenter, T. P., Fennema, E., Ansell, E., & Behrend, J. (1998). Understanding teacher's self-sustaining, generative change in the context of professional development. *Teaching and Teacher Education*, 14(1), 67-80.
- Kaput, J. (1998). Representations, inscriptions, descriptions and learning: A kaleidoscope of windows. *Journal of Mathematical Behavior*, 17(2), 265-281.
- Penner, D., Lehrer, R., & Schauble, L. (1998). From physical models to biomechanics: A design-based modeling approach. *The Journal of the Learning Sciences*, 7(3 & 4), 429-449.
- Rosebery, A., & Puttick, G. M. (1998). Teacher professional development as situated sense making: A case study in science education. *Science Education*, 82(6), 649-677.
- Rudolph, J. L., & Stewart, J. (1998). Evolution and the nature of science: On the historical discord and its implications for education. *Journal of Research in Science Teaching*, 35(10), 1068-1089.

1997

- Cobb, P. (1997). Accounting for mathematical learning in the social context of the classroom. *L' Educazione Matematica*, 5(65-81), 66-81.
- Cobb, P. (1997). Accounting for mathematical learning in the social context of the classroom (Part Two). *L'Educazione Matematica*, 5, 123-142.
- Cobb, P. (1997). Cognitive science, instructional design, and teaching. *Issues in Education*, 3(1), 51-58.
- Cobb, P., Boufi, A., McClain, K., & Whitenack, J. (1997). Reflective discourse and collective reflection. *Journal for Research in Mathematics Education*, 28(3), 258-277.
- Duschl, R., & Gitomer, D. H. (1997). Strategies and challenges to changing the focus of assessment and instruction in science classrooms. *Educational Assessment*, 4(1), 37-73.
- Gamoran, A. (1997). Curriculum change as a reform strategy: lessons from the united states and scotland. *Teachers College Record*, 98(4), 608-628.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

Romberg, T. A. (1997). The influence of programs from other countries on the school mathematics reform curricula in the United States. *American Journal of Education*, 106(1), 127-147.

Unpublished Manuscripts

2003

- Blanton, M., & Kaput, J. (2003). *Building district capacity for teacher development in algebraic reasoning*. Manuscript submitted for publication.
- Cobb, P., & Hodge, L. L. (2003). *An interpretive scheme for analyzing the identities that students develop in mathematics classrooms*. Unpublished manuscript. Madison, WI:
- Cortina, J., Zhao, Q. , & Cobb, P. (2003). *Using technology in the orchestration of mathematical conversations*. Manuscript submitted for publication.
- McClain, K., & McGatha, M., (2003). *Tools for supporting elementary preservice teacher change: A case from mathematics*. Manuscript submitted for publication.

2000

- Cobb, P. (2000). *Reasoning with tools and inscriptions*. Unpublished manuscript.
- Ford, M. (2000). *Inscriptions and the development of mathematical models: Sixth-graders' invention and refinement of free fall representations*. Wisconsin Center for Education Research, University of Wisconsin-Madison: National Center for Improving Student Learning and Achievement in Mathematics and Science.
- Forman, E. A., & Ansell, E. (2000). *The multiple voices of a mathematics classroom community*. Unpublished manuscript.
- Gamoran, A. (2000a). *Classroom organization and instructional quality*. Unpublished manuscript.
- Gamoran, A. (2000b). *A sociology of schooling for the twenty-first century*. Unpublished manuscript, University of Wisconsin-Madison.
- Kazemi, E., & Franke, M. L. (2000). *Teacher learning in mathematics: A community of practice perspective*. Unpublished manuscript.
- McGatha, M., Cobb, P., & McClain, K. (2000). *An analysis of students' initial statistical understandings*. Unpublished manuscript.
- Passmore, C., & Stewart, J. (2000). *A course in evolution for high school students: The influence of BioQUEST*. Unpublished manuscript, University of Wisconsin-Madison.
- Rosebery, A. (2000). *"What are we going to do next?": A case study of lesson planning*. Unpublished manuscript.
- Secada, W. G. (2000). *Beyond metaphors in considering the role of professional development within the context of systemic reform*. Unpublished manuscript, University of Wisconsin-Madison.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Strom, D., Kemeny, V., Lehrer, R., & Forman, E. (2000). *Visualizing the emergent structure of children's mathematical argument*. Unpublished manuscript.
- Tzou, C., & Cobb, P. (2000). *Learning about data creation*. Unpublished manuscript.
- Cartier, J., Stewart, J., & Johnson, S. (1999). *Teaching high school genetics: BioQUEST's influence*. Unpublished manuscript.

1999

- Cartier, J. L. (1999). *Learning about the practice of genetics through modeling*. Unpublished manuscript.
- de Lange, J. (1999). *Framework for classroom assessment in mathematics*. Unpublished manuscript. The Netherlands and Madison WI: Freudenthal Institute & the National Center for Improving Student Learning and Achievement in Mathematics and Science.
- Feijs, E. (1999). *Constructing a learning environment that promote reinvention*: National Center for Improving Student Learning and Achievement in Mathematics and Science.
- Franke, M. L., Biagetti, S. C., Kazemi, E., & Shih, J. C. (1999). *Placing cases in the context of teacher change*. Unpublished manuscript.
- Hodge, L. (1999). *Issues in diversity: A survey of literature relevant to the reform mathematics classroom*. Unpublished manuscript, Vanderbilt University, Nashville, TN.
- Oakes, J., & Franke, M. (1999). *Detracking, mathematics, and possibility of equitable reform*. Unpublished manuscript.
- Passmore, C., & Stewart, J. (1999). *Model-based reasoning in an evolutionary biology classroom*. Unpublished manuscript.
- Passmore, C., & Stewart, J. (1999). *Promoting model-based reasoning: A high school course in evolutionary biology*. Unpublished manuscript.
- Romberg, T. A. (1999). *Monitoring student progress in mathematics*. Unpublished manuscript, University of Wisconsin - Madison.
- Stewart, J., & Rudolph, J. L. (1999). *Rethinking the nature of scientific problems and student problem solving*. Unpublished manuscript.
- Wijers, M., & Reeuwijk, M. c. (1999). *Investigations and other project tasks: Thought revealing assessment problems*: National Center for Improving Student Learning and Achievement in Mathematics and Science.

1998

- Cartier, J., & Stewart, J. (1998). *Design and implementation of an inquiry-focused genetics curriculum for high school biology students*. Unpublished manuscript.
- Conant, F. R. (1998). *"What do you think the height means?": Learning to use inscriptions in science*. Unpublished manuscript.
- Donovan, S. (1998). *Knowledge development and use in evolutionary inquiry*. Unpublished manuscript.
- Franke, M., Kazemi, E., Biagetti, S. C., & Shih, J. C. (1998). *Studying cases in the context of change*. Unpublished manuscript.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Green, P., Barnes, G., & Collins, A. (1998). *"Until you've thought about it, it's okay." The role of a structured support system in promoting teaching and learning for understanding.* Unpublished manuscript.
- Grodsky, E., & Gamoran, A. (1998). *The effects of professional development on professional community in american schools.* Unpublished manuscript.
- Kaput, J., & Romberg, T. A. (1998). *Mathematics worth learning in the 21st century.* Unpublished manuscript.
- Kessel, C. (1998). *An arithmetic carol.* Unpublished manuscript.
- Lampert, M., & Cobb, P. (1998). *White paper on communication and language for standards 2000 writing group.* Unpublished manuscript.
- Lesh, R., & Doerr, H. (1998). *Modeling and local conceptual development.* Unpublished manuscript.
- McClain, K., McGatha, M., & Hodge, L. (1998). *Supporting students' mathematical development through meaningful discourse.* Unpublished manuscript.
- Nagy, K., Collins, A., Duschl, R., & Erduran, S. (1998). *implementation of standards-based curriculum reforms: Necessary but not sufficient.* Unpublished manuscript.
- Nemirovsky, R. (1998a). *How does one experience become part of another?* Unpublished manuscript.
- Nemirovsky, R. (1998b). *The use of kinesthetic tools in mathematics education.* Unpublished manuscript, Amsterdam, The Netherlands.
- Nemirovsky, R., & Carraher, D. (1998). *Mathematical conversations: A multimedia article.* Unpublished manuscript, Cambridge, MA.
- Programme for International Student Assessment (PISA). (1998). *PISA frameworks for assessing mathematical literacy.* Unpublished manuscript, Camberville, Australia.
- Rowe, F., & Stewart, J. (1998). *Literature related to students' learning in evolutionary biology.* Unpublished manuscript, University of Wisconsin-Madison.
- Rowe, F., & Stewart, J. (1998). *A review of literature on student understanding in evolutionary biology.* Unpublished manuscript.
- Schliemann, A., Carraher, D., Pendexter, W., & Brizuela, B. (1998). *Solving algebra problems before algebra instruction.* Unpublished manuscript.

1997

- de Lange, J. (1997). *Looking through the TIMSS-mirror from a teaching angle.* Unpublished manuscript.
- Johnson, S., & Stewart, J. (1997). *Students as scientists: strategies used by high school students during model-revising problem solving.* Unpublished manuscript, National Center for Improving Student Learning and Achievement in Mathematics and Science.
- Larreamendy-Joerns, J., & Forman, E. (1997). *Argument analysis: Helping teachers construe classroom discourse.* Unpublished manuscript.
- McGatha, M. (1997). *Middle grades mathematics curriculum analysis.* Unpublished manuscript.
- Romberg, T. A. (1997a). *Curriculum design: A necessary component of systemic reform.* University of Wisconsin-Madison: National Institute for Science Education.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Romberg, T. A. (1997b, October). *Understanding reality through mathematical modeling*. Paper presented at the NCISLA Modeling Conference, Park City, Utah.
- Solomon, J., Nemirovsky, R., Noble, T., Wagoner, P., & Cook, J. (1997). *"How come you never told us that?": The role of classrooms discourse in developing classroom standards for proof*. Unpublished manuscript.
- Stephan, M. (1997). *Reviewing software for a technology-rich statistics teaching experiment*. Unpublished manuscript.

Conference Presentations

2000

- Ansell, E., Forman, E., & Dobransky-Fasiska, D. (2000, April). *Exploring alternative explanations for gender differences in primary-level strategy-use*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Blanton, M., & Kaput, J. (2000a, July). *Characterizing generative and self-sustaining teacher change in a classroom practice that promotes students' algebraic thinking*. Paper presented at the International Meeting of the Psychology of Mathematics Education, Hiroshima, Japan.
- Blanton, M., & Kaput, J. (2000b, November). *Design principles for instructional contexts that facilitate students' transition from arithmetic to algebraic reasoning*. Paper presented at the NCISLA Seminar on Case Studies and Instructional Design, Ashland, MA.
- Blanton, M., & Kaput, J. (2000c, October). *Generalizing and progressively formalizing in a third-grade mathematics classroom: Conversations about even and odd numbers*. Paper presented at the North American Chapter of the International Group for the Psychology of Mathematics Education, Tucson, AZ.
- Blanton, M., & Kaput, J. (2000, October). *Generalizing and progressively formalizing in a third-grade mathematics classroom: Conversations about even and odd numbers*. In M. L. Fernandez (Ed.), *Proceedings of the 22nd annual meeting of the North American chapter of the International Group for the Psychology of Mathematics Education* (Vol. 1, pp. 115–119). Columbus, OH: The ERIC Clearinghouse for Science, Mathematics, and Environmental Education.
- Cartier, J., & Stewart, J. (2000, November). *Introduction to modeling and argumentation in science: Examples from high school astronomy and evolutionary biology*. Paper presented at the NCISLA Seminar on Case Studies and Instructional Design, Ashland, MA.
- Cobb, P., & McClain, K. (2000, April). *Supporting students' learning of significant mathematical ideas*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- de Lange, J. (2000, April). *Framework for classroom assessment in mathematics*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Dobransky-Fasiska, D., Forman, E., & Ansell, E. (2000, April). *Children's cognitive beliefs and affective responses about mathematics in third grade*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Feijs, E., & Lange, J. d. (2000, April). *The design of open-open assessment tasks*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Ford, M., Frederickson, A., & Martin, L. (2000, April). *The interpretation of symbol schemes in a computational medium*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Forman, E. A. (2000). *An exploration of the semiotic mechanisms that create an inquiry classroom community*. Paper presented at the Third Conference for Sociocultural Research, Sao Paulo, Brazil.
- Gómez, C. (August, 2000). *The struggles of a community of mathematics teachers: Developing a community of practice in an urban bilingual high school*. Paper presented at the 9th International Congress on Mathematical Education, Tokyo, Japan.
- Gomez, C. (2000, April). *Examining relationships between students' solution strategies, algebraic reasoning, and achievement*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Hartmann, C., & McFarlane, D. (2000, April). *The assimilation of technology in a sixth-grade classroom: teacher learning from the use of an open toolset*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Kaput, J. (2000, November). *Implications of the shift from isolated, expensive technology to connected, inexpensive, diverse, and ubiquitous technologies*. Paper presented at the TIME 2000 Conference, Auckland, New Zealand.
- Kazemi, E., & Franke, M. L. (2000, October). *Understanding teacher learning as changing participation in communities of practice*. Paper presented at the North American Chapter of the Psychology of Mathematics Education, Tucson, AZ.
- Reeuwijk, M. v. (2000, April). *Making instructional decisions: assessment to inform the teacher*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Rosebery, A. (2000, April). *"What are we going to do next?": A case study of lesson planning*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Secada, W. G., & Brendefur, J. L. (2000, January). *Propuesta para estudiar las Comprension Del Concepto de Crecimineto Basada en las Estrategias de los Estudiantes*. Paper presented at the La V Reunion de Didactica Matematica del Cono Sur, Santiago, Chile.
- Secada, W. G., Brendefur, J. L., Gomez, C., & Rousseau, C. K. (2000, April). *Strategy-based analysis of solving constant rate of change problems*. Paper presented at the symposium conducted at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- Valentine, C., & Carpenter, T. P. (2000). *developing concepts of justification and proof in a sixth grade classroom*. Paper presented at the NCISLA Seminar on Case Studies and Instructional Design, Ashland, MA.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Warren, B., Ballenger, C., Ogonowski, M., Rosebery, A., & Hudicourt-Barnes, J. (2000, April). *Rethinking diversity in learning science: The logic of everyday languages*. 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.
- Wijers, M. (2000, April). *Explanations why?: The role of explanations in answers to assessment problems*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

1999

- Carpenter, T. P., & Levi, L. (1999, April). *Developing conceptions of algebraic reasoning in the primary grades*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Carpenter, T. P., Rousseau, C., Steinhorsdottir, O., Gomez, C., Valentine, C., Wagner, L., et al. (1999, April). *An analysis of student construction of ratio and proportional understanding*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Cartier, J. (1999, March). *Using a modeling approach to explore scientific epistemology with high school biology students*. Paper presented at the National Association for Research in Science Teaching, Boston, MA.
- Cobb, P. (1999, April). *The emergence of big statistical ideas in the classroom*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Cobb, P., & McClain, K. (1999). Supporting teachers' learning in social and institutional context. In F.-L. Lin (Ed.), *Proceedings of the 1999 International Conference on Mathematics Teacher Education*, 7-76. Taipei, Taiwan: Department of Mathematics, National Taiwan Normal University.
- Empson, S. B., Brinker, L., Ambrose, R., Pligge, M. A., & Baek, J.-M. (1999, April). *Transformation of activity: Towards a framework for understanding mathematical notating and knowing*. Paper presented at the research pre-session of the annual meeting of the National Council of Teachers of Mathematics, San Francisco, CA.
- Forman, E. (1999, July 25-30). *Plenary panel: Doing research in mathematics education in time of paradigm wars*. Paper presented at the 23rd conference of the International Group for the Psychology of Mathematics Education, Haifa, Israel.
- Giles, N., Steinhorsdottir, O., Fulton, D., Schauble, L., & Lehrer, R. (1999, April). *The transformation to teaching for math understanding in six elementary classrooms*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Gravemeijer, K. (1999, April). *Ending points of a learning trajectory: Clarifying big ideas in statistics and the means of supporting their emergence*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Kaput, J. (1999, October). *On the development of human representational competence from an evolutionary point of view: From episodic to virtual culture*. Paper presented at the PME-NA 21st annual Meeting, Cuernavaca, Mexico.
- Kaput, J., & Blanton, M. (1999, April). *Algebraic reasoning in the context of elementary mathematics: Making it implementable on a massive scale*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Kaput, J. J. (1999, October). *Algebra & technology: New semiotic continuities and referential connectivity (a discussion paper)*. Paper presented at the PME-NA XXI Annual Meeting.
- Koehler, M. J., Petrosino, A. J., & Lehrer, R. (1999, June). *Elements of a case design for hypermedia environments in teacher education*. Paper presented at the World Conference on Educational Multimedia, Seattle, WA.
- Lehrer, R., & Schauble, L. (1999, April). *What counts as difference? Reasoning about distributions and difference in the fifth grade*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- McClain, K. (1999). The teacher's role in supporting students' development of statistical reasoning. In F. Hitt & M. Santos (Eds.), *Proceedings of the 1999 Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education*, 485–491.
- McClain, K. (1999b, April). *The teacher's role in supporting the emergence of big statistical ideas*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- McClain, K., & Cobb, P. (1999). *An analysis of the teacher's proactive role in the development of symbolizations*. Paper presented at the 19th annual conference of the Mathematics Education Research Group of Australia (30 June-3 July 1996; University of Melbourne, Victoria).
- McGatha, M., Cobb, P., & McClain, K. (1999, April). *Starting points for a learning trajectory*. Paper presented at the annual meeting of the American Education Research Association, Montreal, Canada.
- Passmore, C., & Rudolph, J. L. (1999, March). *Model-based reasoning in an evolutionary biology classroom*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Boston, MA.
- Petrosino, A. (1999, April). *Model rockets and reflective inquiry: Design principles for effective hands-on activities*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.
- Secada, W. G., Brendefur, J. L., Gomez, C., Rousseau, C., Roy, F. C., Steinhorsdottir, O., et al. (1999, April). *The interrelationships among mathematics teachers' knowledge/beliefs, classroom environment, and student experience that promote student understanding in algebra*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Solomon, J., & Nemirovsky, R. (1999). *"This is crazy. Differences of differences!"*: On the flow of ideas in a mathematical conversation. Paper presented at the annual meeting of the International Group for the Psychology of Mathematics Education, Haifa, Israel.
- Strom, D., & Lehrer, R. (1999, April). *The epistemology of generalization*. Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

1998

- Berman, P. W., & Brendefur, J. L. (1998, April). *Functions: A focus on student understanding*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- Bright-Moore, S., & Collins, A. (1998, April). *Looking with purpose: A case study of two science teachers' assessment practices*. Paper presented at the annual conference for the National Association for Research in Science Teaching, San Diego, CA.
- Carpenter, T. P., Franke, M., & Levi, L. (1998). *Teacher's epistemological beliefs about their knowledge of children's mathematical thinking*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- Cartier, J., Stewart, J., & Johnson, S. (1998, April). *Design and implementation of an inquiry-focused genetics curriculum for high school biology students*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- Cobb, P. (1998). *Analyzing the mathematical learning of the classroom community: The case of statistical data analysis*. Paper presented at the 22nd Conference of the International Group for the Psychology of Mathematics Education, Stellenbosch, South Africa.
- Cobb, P. (1998). Instructional design and reform: Locating developmental research in context. In M. Beishuizen, K. Gravemeijer, & E. van Lieshout, & H. van Luit (Eds.), *The role of context and models in supporting mathematical development* (pp. 273–289). Utrecht, the Netherlands: CD-β Press.
- Cortina, J. L. (1998). *Use of computer-based minitools in supporting the emergence of statistical meaning in classroom discourse*. Paper presented at the 20th Meeting of the North American Chapter of the International Group of the Psychology of Mathematics Education, Raleigh, NC.
- Donovan, S., & Jungck, J. (1998, September). *A problem-solving approach to evolution education*. Paper presented at the vCUBE (Computers in University Biology Education) virtual Conference, Center for Technology Instruction.
- Franke, M., Carpenter, T. P., Levi, L., & Fennema, E. (1998, April). *Teachers as learners: Developing understanding through children's Thinking*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- Franke, M., Shih, J. C., Kazemi, E., & Biagetti, S. C. (1998, October). *Cases as contexts for teacher learning*. Paper presented at the annual meeting of the North American Chapter of the Psychology of Mathematics Education, Raleigh, NC.
- Gravemeijer, K., McClain, K., & Stephan, M. (1998). Supporting students' construction of increasingly sophisticated ways of reasoning through problem solving. In A. Olivier & K. Newstead (Eds.), *Paper presented at the 22nd conference of the International Group for*

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- the Psychology of Mathematics Education* (Vol. 1, pp. 194-209). Stellenbosch, South Africa: University of Stellenbosch.
- Hewson, P., Hopkins, E., & Davies, D. (1998, January). *Germs, diseases, and classification: designing a taxonomy curriculum for high school*. Paper presented at the 6th annual meeting of the South African Association for Research in Mathematics and Science Education, Pretoria, South Africa.
- Hodge, L., & Stephan, M. (1998). Relating culture and mathematical activity: An analysis of sociomathematical norms. In A. Olivier & K Newstead (Eds.), *Proceedings of the 22nd International Conference for the Psychology of Mathematics Education*, 3, 49–56.
- Hodge, L. (1998). Relating equity to classrooms which promote understanding: Identifying relevant issues. In S. Berenson (Ed.), *Proceedings of the 20th Meeting of the North American Chapter of the International Group of the Psychology of Mathematics Education*, 1, 549–555.
- Johnson, S., & Stewart, J. (1998). *Revising and assessing explanatory models in genetics: A comparison of successful and less successful performance by high school students*. Paper presented at the Paper presented at a Symposium on Theoretical And Empirical Perspectives on Learning Science organized by John Clement of the University of Massachusetts at Amherst during the annual meeting of the American Educational Research Association, San Diego, CA.
- Kaput, J. (1998a). *Mixing new technologies, new curricula and new pedagogies to obtain extraordinary performance from ordinary people in the next century*. Paper presented at the First ICMI-East Asia Regional Conference on Mathematics Education, Chungbuk, Korea.
- Kaput, J. (1998b, June). *Technology as a transformative force in math education: Transforming notations, curriculum structures, content and technologies*. Paper presented at the NCTM Standards 2000 Technology Meeting, Washington, D.C.
- Kaput, J. (1998c, May 27 & 28, 1997). *Transforming algebra from an engine of inequity to an engine of mathematical power by "algebrafying" the k-12 curriculum*. Paper presented at the Nature and Role of Algebra in the K-14 Curriculum: Proceedings of a National Symposium, Washington, D.C.
- Lehrer, R., & Schauble, L. (1998a, April). *Developing a community of practice for the reform of mathematics and science*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.
- Lehrer, R., & Schauble, L. (1998b, June). *The development of model-based reasoning in mathematics and science*. Paper presented at the annual meeting of the Jean Piaget Society, Chicago, IL.
- McClain, K., & Cobb, P. (1998). Supporting students' reasoning about data. In S. Berenson (Ed.), *Proceedings of the 20th meeting of the North American Chapter of the International Group of the Psychology of Mathematics Education*, 1, 389–395.
- McGatha, M., Cobb, P., & McClain, K. (1998). An analysis of students' statistical understandings. In S. Berenson (Ed.), *Proceedings of the 20th Meeting of the North American Chapter of the International Group of the Psychology of Mathematics Education*, 1, 395–401.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Nemirovsky, R. (1998a). *Symbol-use fusion, and logical necessity: On the significance of children's graphing*. Paper presented at the 22nd annual meeting of the International Group for the Psychology of Mathematics Education, Stellenbosch, South Africa.
- Nemirovsky, R. (1998b, June). *The use of kinesthetic tools in mathematics education*. Paper presented at the Paper presented to the Education Group of the Physics Department of the University of Amsterdam, Amsterdam, The Netherlands.
- Nemirovsky, R., Kaput, J., & Rochelle, J. (1998, July). *Enlarging mathematical activity from modeling phenomena to generating phenomena*. Paper presented at the XX Annual Conference of the International Group for the Psychology of Mathematics Education, Stellenbosch, South Africa.
- Shaffer, D. W., & Kaput, J. (1998). *Mathematics and virtual culture: An evolutionary perspective on technology and mathematics education*. Paper presented at the International Conference on Symbolizing and Modeling in Mathematics Education, Utrecht, The Netherlands.
- Stephan, M., & Cobb, P. (1998). The evolution of mathematical practices: How one first-grade classroom learned to measure. In A. Olivier & K. Newstead (Eds.), *Proceedings of the 22nd International Conference for the Psychology of Mathematics Education*, 4, 97–104.
- Thompson, P., & Cobb, P. (1998). On relationships between psychological and sociocultural perspectives. In S. Berenson (Ed.), *Proceedings of the 20th meeting of the North American Chapter of the International Group of the Psychology of Mathematics Education*, 1, 3–27.

1997

- Bowers, J., Cobb, P., & McClain, K. (1997). Design principles for developing integrated hypermedia instructional materials. *Proceedings of the 21st International Conference for the Psychology of Mathematics Education*, 1, 219.
- Cobb, P., & McClain, K. (1997, April). *The role of discourse in supporting students' mathematical development*. Paper presented at the annual meeting of the National Council of Teachers of Mathematics, Minneapolis, MN.
- Cobb, P. (1997). An analysis of the teacher's role in guiding the evolution of sociomathematical norms. In E. Pehkonen (Ed.), *Proceedings of the 21st International Conference for the Psychology of Mathematics Education*, 3, 224–231.
- Cobb, P. (1997). Learning from distributed theories of intelligence. In E. Pehkonen (Ed.), *Proceedings of the 21st International Conference for the Psychology of Mathematics Education*, 2, 169–176.
- Donovan, S., Price, F., Stewart, J., & Williamson, B. (1997, October). *Galapagos data: Variety is the spice of life for evolutionary biology*. Paper presented at the annual meeting of the Association of Midwestern College Biology Teachers, Beloit, WI.
- Erduran, S. (1997, March). *Using the theory of evolution to characterize concepts and their change: A philosophical discussion with implications for science education*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

- Gamoran, A., & Hannigan, E. C. (1997, March). *Algebra for everyone? Benefits of college-preparatory mathematics for students with diverse abilities in the early secondary school*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Kaput, J., & Roschelle, J. (1997, July). *Deepening the impact of technology beyond assistance with traditional formalisms in order to democratize access to ideas underlying calculus*. Paper presented at the 21st Conference of the International Group for the Psychology of Mathematics Education, Helsinki, Finland.
- McClain, K. (1997, April). *Statistically speaking, middle school students do not have a chance*. Paper presented at the annual meeting of the National Council of Teachers of Mathematics, Minneapolis, MN.
- McClain, K., & Cobb, P. (1997a, July). *An analysis of the teacher's role in guiding the evolution of sociomathematical norms*. Paper presented at the 21st International Conference for the Psychology of Mathematics Education, Helsinki, Finland.
- McClain, K., & Cobb, P. (1997b, April). *Initiating and guiding the negotiation of norms for productive mathematical discourse*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- McClain, K., Cobb, P., & Gravemeijer, K. (1997). An analysis of students' development of reasoning strategies within the context of measurement. In J. A. Dossey, J. O. Swafford, M. Parmantie, & A. E. Dossey (Eds.), *Proceedings of the 19th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, 2, 635–641.
- Stephan, M., & McClain, K. (1997). Coordinating social and psychological perspectives to analyze students' conceptions of measurement. In J. A. Dossey, J. O. Swafford, M. Parmantie & A. E. Dossey (Eds.), *Paper presented at the 19th annual meeting of the North American Chapter of the Psychology of Mathematics Education* (Vol. 2, pp. 643-648). Columbus, OH: ERIC Clearinghouse for Science, Mathematics and Environmental Education.
- Stephan, M., & McClain, K. (1997). Children's conceptions of measurement: Thirty-five years after Piaget. In J. Dossey (Ed.), *Proceedings of the 19th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, II, 643–648.
- Whitenack, J., & McClain, K. (1997, April). *Using interactive technologies to support teachers' professional development: Thoughts and reflections*. Paper presented at the research pre-session of the annual meeting of the National Council of Teachers of Mathematics, Minneapolis, MN.

1996

- Carpenter, T. P. (1996, December). *Models for reform for mathematics teaching*. Paper presented at the Role of Contexts and Modelings in the Development of Mathematics Strategies and Procedures Conference, The Netherlands.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

Gravemeijer, K. (1996, December). *Instructional design for reform in mathematics education*. Paper presented at the symposium on the Role of Contexts and Models in Mathematics Learning, Leiden, The Netherlands.

Gravemeijer, K., & Seegers, G. (1996, December). *Implementation and effect of realistic curricula*. Paper presented at the symposium on The Role of Contexts and Models of Mathematical Strategies and Procedures, Leiden, The Netherlands.

1995

Reeuwijk, M. (1995, April). *Developing tasks to assess reasoning in early algebra*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Technical Reports

2000

Carpenter, T. P., Fennema, E., Franke, M. L., Levi, L., & Empson, S. B. (September, 2000). *Cognitively guided instruction: A research based teacher professional development program for elementary school mathematics*. Research Report 00-3

Cartier, J. (January, 2000). *Assessment of explanatory models in genetics: Insights into students' conceptions of scientific models*. Research Report 98-1

Cartier, J. (January, 2000). *Using a modeling approach to explore scientific epistemology with high school biology students*. Research Report 99-1.

Passmore, C., & Stewart, J. (January 2000). *A course in evolutionary biology: Engaging students in the "practice" of evolution*. Research Report 00-1.

Rosebery, A., and Warren, B. (February, 2000). *Children's ways with words in science and mathematics: A conversation across disciplines*. Special Report 00-1.

1999

diSessa, A., Edwards, L., Ford, M., & Hartmann, C. (1999). *Technology and intermediate representations in middle-school mathematics and science*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.

1997

BOSUN Project. (1997). *Technical guide*. University of Pittsburgh: LRDC.

Duschl, R., & Collins, A. (1997). *Acids and bases curriculum unit*. Vanderbilt University, Nashville, TN.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

Working Papers and Research Reports

2000

Romberg, T. A. (2000). *The transformation of school mathematics*. Unpublished manuscript, University of Wisconsin-Madison.

1999

Blanton, M., & Kaput, J. (1999). *Supporting student generalization and formalization in the context of elementary mathematics: Portraits of effective classroom practice*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.

Kaput, J., & Blanton, M. (1999). *Enabling elementary teachers to achieve generalization and progressively systematic expressions of generality in their math classrooms: The role of authentic mathematical experience*. Madison, WI: National Center for Improving Student Learning and Achievement in Mathematics and Science.

1997

Romberg, T. A., Berman, P., Dremock, F., Hartmann, C., Roy, F. C., Uselmann, L., & Webb, D. C. (1997). *Policy-relevant research on school mathematics*. University of Wisconsin-Madison: Wisconsin Center for Education Research.

Doctoral Dissertations

2000

Gomez, C. (2000). *Learning in practice: Engagement, alignment, and imagination in a secondary mathematics teacher community*. Unpublished Doctoral Dissertation, University of Wisconsin, Madison.

Roy, F. M. (2000). *The teaching of mathematics to low performing students in secondary urban classrooms: highlighting the effects of student resistance*. Unpublished Doctoral Dissertation, University of Wisconsin, Madison.

1999

Cartier, J. (1999). *Learning genetic inquiry through the use, revision, and justification of explanatory models*. Unpublished Doctoral Dissertation, University of Wisconsin - Madison, Madison, WI.

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

Masters Thesis

1999

Ford, M. (1999). *Visual representations as conceptual bridges: Modeling of free fall by Galileo and sixth-graders*. Unpublished Masters, University of Wisconsin, Madison.

Unpublished Monographs

Lehrer, R., Petrosino, A., Bransford, J., & McClain, K. (June, 1998). *Hypermedia technologies for case-based teacher education*. Reston, VA: National Council of Teachers of Mathematics.

Newsletters

Winter 2003: *Tied to High Stakes*

Winter 2002: *Evolutionary Biology Instruction*

Winter 2001: *NCISLA-CREDE Joint Newsletter: Diverse Students Learning Mathematics and Science*

Spring 1999: *Science Education Reform*

Fall 1998: *Teacher Professional Development*

Spring 1998: *Curriculum as Web of Inquiry*

Fall 1997: *Assessment in Mathematics and Science*

Spring 1997: *Student Understanding in Mathematics and Science*

Research Briefs

Winter 2004: *Designing Statistics Instruction for Middle School Students*

Summer 2003: *Algebraic Skills and Strategies for Elementary Teachers and Students*

Winter 2003: *Tied to High Stakes*

Fall 2002 : *Supporting Professional Development*

Fall 2000: *Algebra in the Elementary Grades*

Winter 2000: *Learning through Scientific Modeling*

Annual Reports:

Year 1 Annual Performance Report March 1, 1996 – December 31, 1996

Year 2 Annual Performance Report January 1, 1997 – February 28, 1998

Year 3 Annual Performance Report March 1, 1998 – February 28, 1999

Year 4 Annual Performance Report March 1, 1999 – February 28, 2000

Year 5 Annual Performance Report March 1, 2000 – February 28, 2001

Year 6 Annual Performance Report March 1, 2001 – February 28, 2002

Final Report: February 2004

National Center for Improving Student Learning and Achievement in Mathematics and Science
(NCISLA)
CENTER BIBLIOGRAPHY
February, 2004

Semiannual Performance Reports

1 st Semiannual Performance Report	March 1, 1996 – May 31, 1996
2 nd Semiannual Performance Report	June 1, 1996 – November 30, 1996
3 rd Semiannual Performance Report	December 1, 1996 – May 31, 1997
4 th Semiannual Performance Report	June 1, 1997 – November 30, 1997
5 th Semiannual Performance Report	December 1, 1997 – May 31, 1998
6 th Semiannual Performance Report	June 1, 1998 – November 30, 1998
7 th Semiannual Performance Report	December 1, 1998 – May 31, 1999
8 th Semiannual Performance Report	June 1, 1999 – November 30, 1999
9 th Semiannual Performance Report	December 1, 1999 – May 31, 2000
10 th Semiannual Performance Report	June 1, 2000 – November 30, 2000
11 th Semiannual Performance Report	December 1, 2000 – May 31, 2001
12 th Semiannual Performance Report	June 1, 2001 – November 30, 2001
13 th Semiannual Performance Report	December 1, 2001 – May 31, 2002
14 th Semiannual Performance Report	June 1, 2002 – November 30, 2002
15 th Semiannual Performance Report	December 1, 2002 – May 31, 2003