

Curriculum Vitae

Robert S. Siegler

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Carnegie-Mellon University
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Education:

<u>Schools</u>	<u>Dates</u>	<u>Degree</u>	<u>Major</u>
Univ. of Illinois	1966-1970	B.A.	Psychology
SUNY at Stony Brook	1970-1974	Ph.D.	Psychology

Employment:

1974-1978	Assistant Professor, Carnegie-Mellon University
1978-1980	Associate Professor, Carnegie-Mellon University
1980-1981	Associate Professor, University of Chicago
1981-1984	Associate Professor, Carnegie-Mellon University
1984- 1997	Professor, Carnegie-Mellon University
1997-	Teresa Heinz Professor of Cognitive Psychology, Carnegie-Mellon University

Courses taught:

Developmental Psychology	Children's Learning
Cognitive Development	Development of Mathematical Skills
Adolescent Psychology	Principles of Child Development
Graduate Research Methods	Theories of Development
Research Methods in Developmental Psychology	Information Processing Approaches to Development
Experimental Design	New Perspectives on Cognitive Development
Cognitive Processes in Reading	
How Children Learn Mathematics	

Memberships in Professional Organizations:

American Psychological Association
Society for Research in Child Development
Cognitive Development Society

Awards and Honors:

Spencer Fellow, National Academy of Education, 1978
 McCandless Distinguished Young Scientist Award, Division 7 of the American Psychological Association, 1979
 Festival in Honor of Dr. Siegler, Tokyo University, September, 1984
 McEachern Lecturer, University of Alberta, 1988
 Association of American Publishers, "Best Psychology Book of 1996", Second Prize
 U.S. Delegate for Psychology, Oxford University Press, 1997-2002
 Teresa Heinz Chair in Cognitive Psychology, 1997-
 Named 1 of 40 most prominent alumni from University's first 40 years, SUNY at Stony Brook, 1998
 Honorary doctorate (Doctor Honoris Causa), University of Liege, Liege, Belgium, 2004
 American Psychological Association Distinguished Scientific Contribution Award, 2005
 Appointed to the National Mathematics Advisory Panel (Presidential Commission), 2006-2008
 Brotherton Fellow, University of Melbourne, 2006
 Pickering Lecturer, Carlton University, Ottawa, 2008
 Head of Mathematica Policy Research/IES panel for Fractions Practice Guide, 2009-2010

References:

Dr. Judy DeLoache	Dr. David Klahr
Dr. John Flavell	Dr. Robert Sternberg
Dr. Susan Goldin-Meadow	

Publications:

Books

Siegler, R. S. (1978). (Ed.), *Children's thinking: What develops?* Hillsdale, NJ: Erlbaum.

Siegler, R. S. (1986). *Children's thinking*. Englewood-Cliffs, NJ: Prentice-Hall. Translated into Japanese.

Siegler, R. S., & Jenkins, E. A. (1989). *How children discover new strategies*. Hillsdale, NJ: Erlbaum.

Siegler, R. S. (1991). *Children's thinking, 2nd edition*. Englewood Cliffs, NJ: Prentice-Hall. Translated into Korean.

Siegler, R. S. (1996). *Emerging minds: The process of change in children's thinking*. New York: Oxford University Press. Translated into French and Portuguese.

- Kuhn, D., & Siegler, R. S. (Vol. Eds.). (1998). *Volume 2: Cognition, perception, and language*. In W. Damon (Series Ed.), *Handbook of child psychology* (5th ed.). New York: Wiley.
- Siegler, R. S. (1998). *Children's thinking, 3rd edition*. Upper Saddle River, NJ: Prentice Hall. Translated into French and Greek.
- McClelland, J. L., & Siegler, R. S. (Eds.). (2001). *Mechanisms of cognitive development: Behavioral and neural perspectives*. Mahwah, NJ: Erlbaum.
- Siegler, R. S., DeLoache, J., & Eisenberg, N. (2003). *How Children Develop*. New York: Worth. Translated into German.
- Siegler, R. S., & Alibali, M. W. (2005). *Children's thinking, 4th edition*. Upper Saddle River, NJ: Prentice Hall. Translated into Chinese, 2006.
- Siegler, R. S., DeLoache, J., & Eisenberg, N. (2006). *How Children Develop, 2nd edition*. New York: Worth.
- Siegler, R. S., DeLoache, J., & Eisenberg, N. (Eds.) (2006). *Child Development Reader: 15 articles from Scientific American*. New York: Scientific American, Inc./Worth.
- Kuhn, D., & Siegler, R. S. (Vol. Eds.). (2006). *Volume 2: Cognition, perception, and language*. In W. Damon & R. M. Lerner (Series Eds.), *Handbook of child psychology* (6th ed.). Hoboken, NJ: Wiley.

Journal Articles and Book Chapters

1972

- Siegler, R. S., & Liebert, R. M. (1972). Effects of presenting relevant rules and complete feedback on the conservation of liquid quantity task. *Developmental Psychology*, 7, 133-138.
- Siegler, R. S., & Liebert, R. M. (1972). Learning of liquid quantity relationships as a function of rules and feedback, number of training problems, and age of subjects. *Proceedings of the American Psychological Association*, 80, 117-118.

1973

- Siegler, R. S. (1973). Inducing a general conservation of liquid quantity relationship as a function of rules and feedback, number of training problems, and age of subjects. *Perceptual and Motor Skills*, 37, 443-452.
- Siegler, R. S., & Liebert, R. M. (1973). Effects of consistent, partially consistent, and inconsistent model behavior on children's imitative learning. *Proceedings of the American Psychological Association*, 81, 75-76.
- Siegler, R. S., Liebert, D. E., & Liebert, R. M. (1973). Inhelder and Piaget's pendulum problem: Teaching preadolescents to act as scientists. *Developmental Psychology*, 9, 97-101.

Siegler, R. S. (Among 56 other contributing consultants) (1973). *Educational psychology: A contemporary view*. Camino Del Mar, California: CRM Books.

1974

Siegler, R. S., & Liebert, R. M. (1974). Effects of contiguity, regularity, and age on children's causal inferences. *Developmental Psychology*, *10*, 574-579.

Siegler, R. S. (Among 19 other contributing consultants) (1974). *Social Psychology: Experiments in understanding*. Camino Del Mar, CA: CRM Books.

1975

Siegler, R. S. (1975). Defining the locus of developmental differences in children's causal reasoning. *Journal of Experimental Child Psychology*, *20*, 512-525.

Siegler, R. S., & Liebert, R. M. (1975). Acquisition of formal scientific reasoning by 10- and 13-year-olds: Designing a factorial experiment. *Developmental Psychology*, *11*, 401-412.

1976

Siegler, R. S. (1976). Three aspects of cognitive development. *Cognitive Psychology*, *8*, 481-520.

Siegler, R. S. (1976). The effects of simple necessity and sufficiency relationships on children's causal inferences. *Child Development*, *47*, 1058-1063.

Siegler, R. S., & Atlas, M. (1976). Acquisition of formal scientific reasoning by 10- and 13-year-olds: Detecting interactive patterns in data. *Journal of Educational Psychology*, *68*, 360-370.

Siegler, R. S. (1976). Where is the logic? Review of *Reasoning: Representation and process*. R. Falmagne (Ed.), *Contemporary Psychology*, *21*, 462-464.

Siegler, D. M., & Siegler, R. S. (1976). Stereotypes of male and female speech. *Psychological Reports*, *39*, 167-170.

1977

Carroll, J. S., & Siegler, R. S. (1977). Strategies for the use of base-rate information. *Organizational Behavior and Human Performance*, *19*, 392-402.

Siegler, R. S. (1977). The 20 questions game as a form of problem solving. *Child Development*, *48*, 395-403.

Siegler, R. S. (1977). Adventures in epistemology. Review of *Knowledge and development: Advances in theory and research*. W. Overton & J. M. Gallagher (Eds.), *Contemporary Psychology*, *22*, 802-804.

Siegler, R. S. (1977). Cognition, instruction, development, and individual differences. In A. M. Lesgold, J. W. Pellegrino, S. S. Fokkema, and R. Glaser (Eds.), *Cognitive psychology and instruction: The NATO conference* (pp. 389-403). New York: Plenum Press.

Siegler, R. S. (1977). The development of formal operations. *The Genetic Epistemologist*, 6, 4-6.

1978

Klahr, D., & Siegler, R. S. (1978). The representation of children's knowledge. In H. Reese & L. Lipsitt (Eds.), *Advances in child development and behavior*, Vol. 12 (pp. 61-116). New York: Academic Press.

Siegler, R. S. (1978). The origins of scientific reasoning. In R. S. Siegler (Ed.), *Children's thinking: What develops?* (pp. 109-149). Hillsdale, NJ: Erlbaum.

Siegler, R. S., & Vago, S. (1978). The development of a proportionality concept: Judging relative fullness. *Journal of Experimental Child Psychology*, 24, 371-395.

Siegler, R. S. (1978). Reply to Brainerd. *The Behavioral and Brain Sciences*, 1, 202-203.

Siegler, R. S. (1978). The intellectual development of Jean Piaget. Review of *Jean Piaget: Psychologist of the Real* (by Brian Rotman), *Contemporary Psychology*, 23, 818-819.

1979

Siegler, R. S., & Richards, D. D. (1979). The development of speed, time, and distance concepts. *Developmental Psychology*, 15, 288-298.

Siegler, R. S. (1979). Children's thinking: The search for limits. In R. Whitehurst & B. Zimmerman (Eds.), *The functions of language and cognition* (pp. 83-113). New York: Academic Press.

Siegler, R. S. (1979). What young children do know. Review of *The child's understanding of number* (by R. Gelman & C. R. Gallistel), *Contemporary Psychology*, 24, 613-615.

1980

Siegler, R. S. (1980). Recent trends in the study of cognitive development: Variations on a task-analytic theme. *Human Development*, 23, 278-285.

Siegler, R. S. (1980). When do children learn? The relationship between existing knowledge and learning. *Educational Psychologist*, 15, 135-150.

1981

- Richards, D. D., & Siegler, R. S. (1981). Children's acquisition of systematic problem solving strategies. *Child Development*, *52*, 1318-1321.
- Richards, D. D., & Siegler, R. S. (1981). U-shaped curves: It's not whether you're right or wrong, it's why. In S. Strauss & R. Stavy (Eds.), *U-shaped behavioral growth* (pp. 37-61). New York: Academic Press.
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- Siegler, R. S. (1981). Seven generalizations about cognitive development. In the Japanese journal *Psychology*, June Issue, 60-67.
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1982

- Siegler, R. S. (1982). The rule assessment approach and education. *Contemporary Educational Psychology*, *7*, 272-289.
- Siegler, R. S., & Klahr, D. (1982). When do children learn: The relationship between existing knowledge and the ability to acquire new knowledge. In R. Glaser (Ed.), *Advances in Instructional Psychology: Vol. 2* (pp. 121-211). Hillsdale, NJ: Erlbaum.
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1983

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Reprinted in E. M. Hetherington & R. D. Parke (Eds.) (1988). *Contemporary readings in child psychology, 3rd edition* (pp. 263-277). New York: McGraw-Hill.
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- Siegler, R. S. (1983). Psychology is ready. Review of *The psychology of mathematics for instruction*. L. B. Resnick and W. Ford (Eds.), *American Journal of Education*, 91, 385-387.
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1984

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- Richards, D. D., & Siegler, R. S. (1984). The effects of task requirements on children's life judgments. *Child Development*, 55, 1687-1696.
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- Siegler, R. S. (1984). Research on learning. In T. Romberg and D. Stewart (Eds.), *School mathematics: Options for the 1990s* (pp. 79-84). Washington, DC: National Council of Teachers of Mathematics.
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1985

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1986

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1987

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Reprinted in A. Demetriou (Ed.), (1988). *The neo-Piagetian theories of cognitive development: Toward an integration* (pp. 223-243). Elsevier: The Netherlands.
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1988

- Siegler, R. S. (1988). Strategy choice procedures and the development of multiplication skill. *Journal of Experimental Psychology: General*, *117*, 258-275.

- Siegler, R. S. (1988). Individual differences in strategy choices: Good students, not-so-good students, and perfectionists. *Child Development*, *59*, 833-851.
- Siegler, R. S. (1988). Transitions in strategy choices. In *Proceedings of the Cognitive Science Society*, *9*, 11-18.

1989

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- Siegler, R. S. (1989). Mechanisms of cognitive development. *Annual Review of Psychology*, *40*, 353-379.
- Siegler, R. S. (1989). How domain-general and domain-specific knowledge interact to produce strategy choices. *Merrill-Palmer Quarterly*, *35*, 1-26.
- Siegler, R. S. (1989). Hazards of mental chronometry: An example from children's subtraction. *Journal of Educational Psychology*, *81*, 497-506.
- Siegler, R. S. (1989). Strategy diversity and cognitive assessment. *Educational Researcher*, *18*, 15-20.
- Siegler, R. S. (1989). Commentary. Special topic "Development of biological concepts in cross-cultural perspective." *Human Development*, *32*, 104-109.
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- Siegler, R. S., & Campbell, J. I. D. (1989). Individual differences in children's strategy choices. In P. L. Ackerman, R. J. Sternberg, & R. Glaser (Eds.), (pp. 218-254). *Learning and individual differences*. New York: Freeman.
- Siegler, R. S., & McGilly, K. (1989). Strategy choices in children's time-telling. In I. Levin and D. Zakay (Eds.) *Time and human cognition: A life span perspective* (pp. 185-218). The Netherlands: Elsevier Science Publishers.

1990

- Levin, I., Siegler, R. S., & Druyan, S. (1990). Misconceptions about motion: Development and training effects. *Child Development*, *61*, 1544-1557.
- Levin, I., Siegler, R. S., Druyan, S., & Gardosh, R. (1990). Everyday and curriculum-based physics concepts: When does short-term training bring change where years of schooling have failed to do so? *British Journal of Developmental Psychology*, *8*, 269-279.
- McGilly, K., & Siegler, R. S. (1990). The influence of encoding and strategic knowledge on children's choices among serial recall strategies. *Developmental Psychology*, *26*, 931-941.

- Siegler, R. S. (1990). How content knowledge, strategies, and individual differences interact to produce strategy choices. In W. Schneider and F. E. Weinert (Eds.), *Interactions among aptitudes, strategies, and knowledge in cognitive performance* (pp. 74-89). New York: Springer-Verlag.
- Siegler, R. S. (1990). Information processing theories and developmental research. In The Developmental Psychology Committee of the Chinese Psychological Association (Eds.), *Lectures on special topics in developmental psychology*. Beijing, China: Beijing Normal College Press.
- Siegler, R. S., & Campbell, J. I. D. (1990). Diagnosing individual differences in strategy choice procedures. In N. Fredriksen, R. Glaser, A. Lesgold., & M. G. Shafto (Eds.), *Diagnostic monitoring of skill and knowledge acquisition* (pp. 113-139). Hillsdale, NJ: Erlbaum.

1991

- Brown, N. R., & Siegler, R. S. (1991). Subjective organization of U.S. presidents. *American Journal of Psychology*, *104*, 1-33.
- Brown, N. R., & Siegler, R. S. (1991). Understanding and improving real-world quantitative estimation. In *Proceedings of the 13th Annual Conference of the Cognitive Science Society* (pp. 209-215). Hillsdale, NJ: Erlbaum.
- Crowley, K., & Siegler, R. S. (1991). Review of *Children's strategies: Contemporary views of cognitive development*. D. F. Bjorklund (Ed.), Hillsdale, NJ: Erlbaum, *The American Journal of Psychology*, *104*, 605-609.
- Siegler, R. S. (1991). In young children's counting, procedures precede principles. *Educational Psychology Review*, *3*, 127-135.
- Siegler, R. S. (1991). Strategy choice and strategy discovery. *Learning and Instruction*, *1*, 89-102.
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1992

- Brown, N. R., & Siegler, R. S. (1992). The role of availability in the estimation of national populations. *Memory and Cognition*, *20*, 406-412.

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1993

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- Crowley, K., & Siegler, R. S. (1993). Flexible strategy use in young children's tic-tac-toe. *Cognitive Science*, *17*, 531-561.
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 Reprinted in the Chinese Journal, *Psychological Science*, *17*, 1994, 21-27.
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1994

- Ellis, S. A., & Siegler, R. S. (1994). Development of problem solving. In R. J. Sternberg (Ed.) *Handbook of perception and cognition: Vol. 12. Thinking and problem solving* (pp. 333-367). New York: Academic Press.
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Reprinted in M. Gauvain & M. Cole (Eds.) (1997). *Readings on the development of children, 2nd Edition* (pp. 165-171). New York: Freeman.
Reprinted in K. Lee (Ed.) (2000). *Childhood cognitive development: The essential readings* (pp. 51-61). Malden, MA: Blackwell.
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1995

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1996

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1997

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- Siegler, R. S., Thompson, C. A., & Opfer, J. E. (2009). The logarithmic-to-linear shift: One learning sequence, many tasks, many time scales. *Mind, Brain, and Education, 3*, 143-150.

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- Geary, D. C., Berch, D. B., Boykin, A. W., Embretson, S., Reyna, V., & Siegler, R. S. (in press). Learning Mathematics: Findings from the National (United States) Mathematics Advisory Panel. In N. Canto (Ed.), *Issues and proposals in mathematics education*. Lisbon, Portugal: Gulbenkian.

- Schneider, M., & Siegler, R. S. (in press). Representations of the magnitudes of fractions. *Journal of Experimental Psychology: Human Perception and Performance*.
- Siegler, R. S. (in press). Playing numerical board games improves number sense in children from low-income backgrounds. In R. Cowan, M. Saxton, & A. Tolmie (Eds.), *Understanding number development and number difficulties (No. 7, British Journal of Educational Psychology, Monograph Series II: Psychological Aspects of Education - Current Trends)*. Leicester, UK: British Psychological Society.
- Siegler, R. S. (in press). Robbie Case: A modern classic. Preface for *Developmental interplay between mind, brain, and education: Essays in honor of Robbie Case*, M. Ferrari & L. Vuletic (Eds.). Springer.

Talks

Keynote Addresses

From 1993 to the present, I have presented keynote addresses at the following meetings: International Society for the Study of Behavioral Development, Recife, Brazil, July, 1993; Gatlinburg Conference on Mental Retardation, March, 1994; Human Development Conference, April, 1994; Jean Piaget Society, June 1994; Society for Research and Child Development, 1995; British Psychological Society, London, 1996; Freiburg Autumn School in Cognitive Science, Freiburg, Germany, October, 1997; Conference on Intellectual Development, Santiago, Chile, January, 1998; Human Development Conference, March, 1998; American Psychological Association, 2000; Conference on the Rule Assessment Method, Amsterdam, Netherlands, 2001; 16th Annual Joseph Royce Conference, Edmonton, Canada, April 2002; American Psychological Association, August, 2002; Conference on Learning & Instruction, Paris, France, June, 2002; Third Annual Waterford Early Education Conference, November, 2003; American Education Research Association, April, 2004; Conference on Studying Developmental Change Processes, Verona, Italy, May, 2004; Conference on Microgenetic Methods, St. Andrews, Scotland, September, 2004; American Psychological Association, August, 2005; Midwestern Psychological Association, May, 2006; International Society for the Study of Behavioral Development, Melbourne, Australia, July, 2006; Cognitive Science Society, Vancouver, BC, July, 2006, Conference on Human Development, Indianapolis, April, 2008, Eastern Psychological Association, Pittsburgh, March, 2009, Japanese Psychological Association, Kyoto, August, 2009.

Colloquia

From 1974 to the present, I have presented colloquia at the following universities: University of Virginia, University of Washington, University of North Carolina, Chapel Hill, Washington University of St. Louis, University of Pittsburgh, University of California at Santa Barbara, University of Alberta, University of Delaware, University of Heidelberg, Germany, Yale University, University of California at San Diego, University of Michigan, Institute of Child Development (University of Minnesota), Cornell University, University of Chicago, University of Rochester, Stanford University, University of Waterloo, University of Massachusetts, University of Texas, University of California at Los Angeles, Tulane University, Case Western Reserve University, University of Delaware, University of Wisconsin, University of Virginia, University of Michigan, Tokyo University, University of Kyoto, University of Minnesota, Brown University, McGill University, Vanderbilt University, University of California, Berkeley, University of California, Santa Barbara, University of Illinois, Chicago, Duke University, Tel Aviv University, Oberlin College, Beijing University, University of Delaware, Yale University, University of North Carolina, Greensboro, University of Puerto Rico, Catholic University of Puerto Rico, Max-Planck-Institut, Munich, Stanford University, University of Alberta, University of California, Santa Cruz, Ontario Institutes for Studies in Education (OISE), Vanderbilt University, SUNY at Stony Brook, General Motors Institute (Sigma XI Speaker), Johns Hopkins University, University of California at Berkeley, University of West Virginia, Fordham University, University of Minnesota, Universidad Autonoma, Madrid, Spain, U.N.E.D. Ciudad Universitaria, Madrid, Spain, Universidad de La Laguna, Tenerife, Spain, University of North Carolina (Carolina Consortium on Development), University of Illinois, Urbana, University of South Florida, University of Virginia, University of California, Riverside, UCLA, Yale University, Tel-Aviv University, University of Paris, University of Alabama, Birmingham, Fordham University, Brock University, University of Missouri, University of Leipzig (Germany), University of Padova, Italy, Max Planck Institut, Berlin, University of Texas at Dallas, Brandeis University, University of Illinois, Champaign, University of Sussex, University College, London, University of Iowa, Ohio State University, University of Freiburg, Germany, University de Chile, University of South Alabama, University of Pittsburgh, West Virginia University, University of Aix-en-Provence, University of Iowa, Vanderbilt University, Yale University, Arizona State University, UCLA, University of Amsterdam, University of Hawaii, University of Alberta, University of Paris, University of Maryland, University of Leuven, University of St. Andrews, Brock University, University of California, Davis, University of Maryland, University of Liege, Belgium, University of Verona, Italy, University of St. Andrews, Scotland, University of California, San

Diego, University of California, Davis, Brock University, St. Catherine's University, Ontario University, Emory University, Tel-Aviv University, Sackler Institute (Cornell Medical School), Duke University, University of Melbourne, Harvard University, University of Athens, University of Pavia, University of Delaware, Beijing Normal University.

Convention Papers

From 1972 to the present, I have presented over 150 talks at conferences, including those of the American Association of Physics Teachers, American Chemical Society, American Educational Research Association, American Psychological Association, American Psychological Society, British Psychological Association, Carnegie-Mellon Cognition Symposium, Cognitive Development Society, Cognitive Science Society, Gatlinburg Conference on Mental Retardation, International Society for the Study of Behavioral Development, Learning Disabilities Conference, Midwest Psychological Association, Minnesota Symposium on Child Development, National Council of Teachers of Mathematics, Jean Piaget Society, Psychiatric Outpatient Clinics of America, Psychonomics Society, Reading Recovery Council of North America, Society for Research in Child Development, Waterford Institute.

Grant Funding:

- 1978-1981 National Institutes of Health Grant HD15285, "Development of scientific reasoning," Principal Investigator.
- 1981-1984 National Institutes of Health Grant HD15285 (4-6), "Development of scientific reasoning," Principal Investigator.
- 1984-1986 National Institute of Education, Grant NIE-G-0050, "Children's early understandings of numbers," Principal Investigator.
- 1984-1986 National Institutes of Health Grant HD 19011, "Development of strategy choice procedures," Principal Investigator.
- 1986-1989 Spencer Foundation, "Children's strategy choices: Theoretical and educational issues." Principal Investigator.
- 1986-1990 National Institutes of Health, HD 19011/3-6 "The development of strategy choice procedures". Principal Investigator.

- 1987-1991 McDonnell Foundation. "Project Rightstart" Co Principal Investigator (with Robbie Case).
- 1989-1993 Spencer Foundation, "Long term strategy construction." Principal Investigator.
- 1989-1992 Mellon Foundation, "Literacy in Science Center." Project Director (David Klahr, PI).
- 1990-1992 Binational Foundation (U.S.-Israel) "A geometrical misconception: Development, schooling, and training effects." Co Principal Investigator (with Iris Levin).
- 1991-1995 National Institutes of Health, HD 19011/6-10 "The development of strategy choice procedures". Principal Investigator.
- 1992-1995 Mellon Foundation, "Literacy in Science Center," Project Director. (David Klahr, PI).
- 1995-2000 National Institutes of Health, HD 19011/11-15 "The development of strategy choice procedures". Principal Investigator.
- 1997-2000 Spencer Foundation Grant "Microgenetic studies of self-explanation". Principal Investigator.
- 1997-1999 NICHD Grant PA-96 025 "Microgenetic studies of infants' problem solving". Co-Principal Investigator (with Zhe Chen)
- 1997-1998 University of Iowa grant "Closing the "Great Divide": Toward a synthesis of social-emotional and cognitive development". Co-Principal Investigator (with Grazyna Kochanska).
- 1998-1999 National Science Foundation SBR-9729061 "Mechanisms of cognitive development: Behavioral and neural perspectives". (Funding for Carnegie Mellon Cognition Symposium, October, 1998). Co-Principal Investigator (with Jay McClelland).
- 2000-2005 National Institutes of Health, HD 19011/16-20 "The development of strategy choice procedures". Principal Investigator.

- 2002-2005 U.S. Department of Education, R305H020060 “Using cognitive analyses to improve children’s math and science learning”. Project Director.
- 2005-2010 U.S. Department of Education, R305H050035 “Improving children’s pure numerical estimation”. Project Director.
- 2008-2011 U.S. Department of Education, Institute of Education Sciences, R305A080013, “Improving children’s numerical understanding”. Project Director.

Professional Work:

Associate Editor

Developmental Psychology (1993-1996)

Editorial Board Member

Child Development (1976-1984)

Developmental Psychology (1977-1984)

Developmental Review (1980-)

American Journal of Education (1982-1986)

Contemporary Psychology (1984-1991)

Cognitive Development (1985-1999)

Developmental Science (1996-)

Cognitive Science Quarterly (1999-)

Journal of Experimental Psychology: General (2001-)

Journal of Cognition and Development (2006-)

Guest Consulting Editor

American Psychologist

American Scientist

Cognition and Instruction

Cognitive Psychology

Contemporary Psychology

Journal of Educational Psychology

Journal of Experimental Child Psychology

Journal of Experimental Psychology: General

Psychological Bulletin

Psychological Review

Review of Educational Research

Science

Grants Review Panel Member

National Institutes of Health - Child Development & Aging
(1987-1991)

National Institute of Education - Mathematics Learning - Ad
Hoc

NIE/NSF Joint Panel on Science Learning - Ad Hoc

NIE Center for the Study of Learning - Ad Hoc

National Institutes of Health - BPPP IV - Ad Hoc

Grant Reviewer

Bush Foundation

Canada Council

McDonnell Foundation

National Institute of Education

National Institute of Mental Health

National Research Council of Canada

National Science Foundation

Spencer Foundation