

VITA**Martha M. Carr****Present Position**

Professor of Educational Psychology and
Research Fellow for the Institute of Behavioral Research, University of Georgia

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Education

B.A. in Psychology
University of Rhode Island, 1980

M.A. in Developmental Psychology
University of Notre Dame, 1985

Ph. D. in Developmental Psychology
University of Notre Dame, 1987

Doctoral Major and Minors

Developmental psychology; statistics; theories of achievement

Professional Experience

Professor, Applied Cognition and Development Program, Department of Educational Psychology and Instructional Technology, Univ. of Georgia, Athens (1998-present)

Associate Professor, Department of Educational Psychology, Univ. of Georgia, Athens (1993-1998)

Assistant Professor, Department of Educational Psychology, Univ. of Georgia, Athens (1989-1993)

Postdoctoral Fellow — Max Planck Institute for Psychological Research, Munich, Germany (1987-1989)

Membership in Professional Societies

Fellow, American Psychological Association
 Society for Research in Child Development
 Cognitive Development Society
 National Council for Teachers of Mathematics
 Women in Mathematics Education

Research Interests

The cognitive development of young children; mathematics strategy development and gender

Research Publications

Journal Articles

Taasoobshirazi, G., & Carr, M. (in press). A review and critique of context-based physics.
Educational Research Review.

Taasoobshirazi, G. & Carr, M. (2008). Gender Differences in Science: An Expertise Perspective.
Educational Psychology Review, 20, 149-16.

Carr, M., Steiner, H. H., Kyser, B. & Biddlecomb, B. (2008). A Comparison of Predictors of
 Early Emerging Gender Differences in Mathematics Competency. *Learning and
 Individual Differences*, 18, 61-75.

Steiner, H. H. & Carr, M. (2003). Cognitive development in gifted children: Toward a more
 precise understanding of emerging differences in intelligence. *Educational Psychology
 Review*, 15, 215-246.

Davis, H. & Carr, M. (2002). Gender differences in strategy use: The influence of
 temperament. *Learning and Individual Differences*, 13, 83-95.

Carr, M. & Davis, H. (2001). Gender differences in strategy use: A function of skills and
 preference. *Contemporary Educational Psychology*, 26, 330-347.

Carr, M., Jessup, D. L., & Fuller, D. (1999). Gender differences in first grade mathematics
 strategy use: Parent and teacher contributions. *Journal of Research in Mathematics
 Education*, 30, 20-26.

Mizelle, N. B., & Carr, M. (1997). Young adolescents' motivational processes and use of
 learning strategies with expository text. *Research in Middle Level Quarterly*, 21(1) 57-82.

Schwanenflugel, P. J. , Stevens, P. M., & Carr, M. (1997). Metacognitive knowledge of gifted
 and non-gifted children in early elementary school. *Gifted Child Quarterly*, 41(2), 25-35.

Carr, M., & Jessup, D. L. (1997). Gender differences in first grade mathematics strategy use:
 Social and metacognitive influences. *Journal of Educational Psychology*, 89, 318-328.

Carr, M. Alexander, J., & Schwanenflugel, P. J. (1996). Where gifted children do and do not

- excel on metacognitive tasks. *Roeper Review: A Journal on Gifted Education*, 18, 212-216.
- Carr, M., & Jessup, D. (1995). Cognitive and metacognitive predictors of mathematics strategy use. *Learning and Individual Difference*, 7, 235-247.
- Alexander, J. M., Carr, M., & Schwanenflugel, P. J. (1995). Metacognition in gifted children: Directions for future research. *Developmental Review*, 15, 1-37.
- Carr, M., Alexander, J., Folds-Bennett, T. (1994). Metacognition and mathematics strategy use. *Applied Cognitive Psychology*, 8, 583-595.
- Carr, M., & Kurtz-Costes, B. E. (1994). Is being smart everything?: The influence of student achievement on teachers' perceptions. *British Journal of Educational Psychology*, 64, 263-276.
- Carr, M. & Schellenbach, C. (1993). Reflective monitoring in lonely adolescents. *Adolescence*, 28, 737-747.
- Carr, M., & Kurtz, B. E. (1991). Teachers' perceptions of their students' metacognition, attributions, and self-concept. *British Journal of Educational Psychology*, 61, 197-206.
- Carr, M. & Schneider, W. (1991). Training for long-term maintenance of organizational strategies in kindergarten children. *Contemporary Educational Psychology*, 16, 61-72.
- Carr, M., Borkowski, J. G., & Maxwell, S. T. (1991). Motivational components of underachievement. *Developmental Psychology*, 27, 108-118.
- Kurtz, B.E., Borkowski, J. G., Schneider, W., Carr, M., & Rellinger, L. (1990). Strategy instruction and attributional beliefs in West Germany and the United States: How teachers foster metacognitive development. *Contemporary Educational Psychology*, 15, 268-283.
- Carr, M., Kurtz, B. E., Schneider, W., Turner, L. A., & Borkowski, J. G. (1989). Strategy acquisition and transfer among U.S. and German children: Environmental influences on metacognitive development. *Developmental Psychology*, 25, 765-771.
- Carr, M., & Borkowski, J. G. (1989). Attributional training and the generalization of reading strategies with underachieving children. *Learning and Individual Differences*, 1, 327-341.
- Carr, M., & Borkowski, J. G. (1989). Culture and the development of the metacognitive system. *Zeitschrift für Pädagogische Psychologie*, 3, 219-228.
- Borkowski, J. G., Weyhing, R. S., & Carr, M. (1988). Effects of attributional retraining on strategy-based reading comprehension in learning disabled students. *Journal of Educational Psychology*, 80, 40-53.

Carr, M., & Borkowski, J. G. (1987). Metacognition in gifted children. *Gifted Child Quarterly*, 31(1), 40-44.

Borkowski, J. G., Carr, M., & Pressley, M. (1987). Spontaneous strategy use: Perspectives from metacognitive theory. *Intelligence*, 11, 61-75.

Concannon, J. T., & Carr, M. (1982). Pretest epinephrine injections reverse DDC-induced retrograde amnesia. *Physiology & Behavior*, 29, 443-448.

Books Edited

Carr, M. (1996). *Motivation in Mathematics*. Cresskill, N. J.: Hampton Press.

Book Chapters

Carr, M. & Taasoobshirazi, G. (2008). Metacognition in the Gifted: Connections to Expertise. In M. Shaughnessy (Ed.) *Metacognition: A recent review of research, theory, and perspectives*. Hauppauge, NY: Nova Publishers.

Carr, M. & Shotwell, M. (2007). Information processing theory and clinical reasoning. In B. A. Schell & J. W. Schell (Eds.), *Professional reasoning in occupational therapy*. Hagerstown, MD: Lipincott, Williams, & Wilkins.

Steiner, H.H., & Carr, M. (2005). The development of problem solving strategies in gifted and average-ability children: Bringing research from cognitive development to educational practice. In Mitel, A.V. (Ed.), *Focus on Educational Psychology* (pp. 235-250) Hauppauge, NY: Nova Publishers.

Carr, M. & Hettinger, H. (2002). Perspectives on mathematics strategy development. In J. Royer (Ed.) *Current perspectives on cognition, learning, and instruction: Mathematics cognition*. (pp. 33-68). Greenwich, CT: Information Age Publishing.

Carr, M., Mizelle, N., & Charak, D. (1998). Motivation to read and learn from text. In C. Hynd, S. Stahl, M. Carr, & S. Glynn (Eds.), *Learning from text: Views across conceptual domains in secondary schools* (pp. 45-70). Hillsdale, N. J.: Erlbaum.

Carr, M., & Biddlecomb, B. D. (1998). Metacognition in Mathematics from a Constructivist Perspective. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.). *Metacognition in educational theory and practice* (pp. 69-92). Hillsdale, N.J.: Erlbaum.

Carr, M. (1996). Metacognitive, motivational, and social influences on the development of mathematics strategies. In M. Carr (Ed.), *Motivation in mathematics* (pp. 89-111). Cresskill, N. J.: Hampton.

Stahl, S. A., Hynd, C. R., Glynn, S. M., & Carr, M. (1995). Beyond reading to learn: Developing

content and disciplinary knowledge through texts. In L. Baker, P. Afflerbach, & D. Reinking (Eds.), *Developing engaged readers in the home and school communities* (pp. 139-163). Hillsdale, N.J.: Erlbaum.

Borkowski, J. G., Carr, M., Rellinger, E., & Pressley, M. (1990). Self-regulated cognition: Interdependence of metacognition, attributions, and self-esteem. In B. Jones & L. Idol (Eds.), *Dimensions of thinking and cognitive instruction* (pp. 53-92). Hillsdale, N.J.: Erlbaum.

Carr, M. (1990). The role of context and development from a lifespan perspective. In W. Schneider & F. E. Weinert (Eds.), *Interactions among aptitudes, strategies, and knowledge in cognitive performance* (pp. 222-231). New York: Springer Verlag.

Kurtz, B. E., Schneider, W., Carr, M., Borkowski, J. G., & Turner, L. A. (1988). Sources of memory and metamemory development: Societal, parental, and educational influences. In M. Gruneberg, P. Morris, & R. Sykes (Eds.) *Proceedings of the Second International Conference on Practical Aspects of Memory, Volume 2* (pp. 537-542). Swansea, Wales, New York: Wiley.

Technical Reports/Resources

Carr, M. with Anderson, D. L., Kloosterman, P., Werner, J., & Yankic, E. (2000). *Bibliography for gender equity in mathematics: Resources published in 1996-2000*. Women in Mathematics Education Association.

Carr, M. (1996). *Teaching children to self-regulate: A resource for teachers*. Instructional Resource No. 34. Athens, Georgia, University of Georgia, National Reading Research Center.

Carr, M., & Thompson, H. (1995). *Interest and metacognition as predictors of reading comprehension*. Technical Report No. 35. Athens, Georgia, University of Georgia, National Reading Research Center.

Current Projects

Cognitive Psychology in Education. Textbook under contract to Erlbaum.

Improving mathematics competency through instruction on cognitive strategies and computational fluency. (with Mike Royer). Three year project testing the effectiveness of fluency and cognitive strategy instruction for improving mathematics achievement in early elementary school children.

Early influences on gender differences in mathematics achievement. Data analysis of three year longitudinal data collected as a part of a National Science Foundation Grant.

Papers Presented at Professional Meetings

- Carr, M. & Alexeev, N. (2008, August). *Developmental Trajectories of Mathematic Strategies: Influence of Fluency, Accuracy and Gender*. Poster presented at the Annual Meeting of the American Psychological Association. Boston, MA.
- Taasoobshirza, G. & Carr, M. (March, 2008). *A Structural Equation Model of Expertise in College Physics*. Paper presented at the Annual Meeting of the American Educational Research Association. New York.
- Janes, P. & Carr, M. (2008, April). *Profiles and Predictors of Math Achievement in Early Elementary School*. Paper presented at the Biennial Conference on Human Development. Indianapolis, IN.
- Carr, M., Royer, J. M., Walles, R., Taasoobshirza, G., & Galloway, C. (August, 2007). *The Impact of Fluency and Cognitive Strategy Instruction on Mathematics Achievement*. Poster presented at the National Science Foundation Joint Annual Meeting. Washington, DC.
- Carr, M. and Janes, P. (2007, May). *Spatial ability, gender and cognitive strategy use as predictors of mathematics subtest performance*. Presented at the NSF sponsored workshop on spatial processing, Hancock, MI.
- Carr, M., Shing, Y. L., Janes, P. & Steiner, H. H. (2007, March). *Early gender differences in strategy use and fluency: Implications for the emergence of gender differences in mathematics*. Poster presented at the Biennial Meeting of the Society for Research in Child Development, Boston, MA.
- Biddlecomb, B. & Carr, M. (2006, August). *Counting schemes and strategies: Evidence from exploratory factor analysis*. Poster presented at the American Psychological Association, New Orleans, LA.
- Carr, M., Shing, Yee Lee, Steiner, H. H. & Kyser, B. (2005, April). *A Comparison of predictors of gender differences in calculation, geometry, and word problem solving*. Presented at the Society for Research in Child Development, Atlanta, GA.
- Shing, Yee Lee, Carr, M., Miller, P., Janes, P. & Lewis, R. (2005, April). *Strategy variability and utilization deficiency in arithmetic problems*. Presented at the Biennial Meeting of the Society for Research in Child Development, Atlanta, GA.
- Carr, M., Steiner, H. H., & Kyser, B. (2004, March). *Gender differences in predictors of elementary school mathematics achievement*, Presented at the National Science Foundation Human Resources Development Joint Annual Meeting, Washington, DC.
- McGee-Jeniski, J., Shing, Y. L., Lewis, R. L., Carr, M. & Miller, P. H. (2003, March). *The relationship between utilization deficiency and variability of strategy selection in solving arithmetic problems*. Presented at the Annual Psi Chi Conference, University of Georgia,

Athens, GA.

- Davis, H. A., Molitch-Hou, T. , Christian, H., & Carr, M. (2002, July). *Understanding gender differences in mathematics motivation: The single sex context*. Presented at the Annual Meeting of the American Psychological Association.
- Hettinger, H. & Carr, M. (2002, April). *The effects of conceptual and fluency instruction on children's development of mathematics strategies*. Presented at the Annual Meeting of the American Educational Research Association, New Orleans.
- Knapp, N. F. & Carr, M. (2000, April). *But what did they learn? Evaluating the construction of pre-service teachers' knowledge in context*. Presented at the Annual Meeting of the American Educational Research Association, New Orleans.
- Carr, M. (2000, April). *Challenges to young girls' strategy use*. Invited presentation as a part of a WME symposium at the Annual Meeting of the National Council of Teachers of Mathematics, Chicago.
- Carr, M. & Davis, H. A. (1999, April). *Gender differences in mathematics strategy use as a function of skill*. Presented at the Biennial Meeting of the Society for Research in Child Development, Albuquerque, New Mexico.
- Davis, H. A. & Carr, M. (1999, April). *Temperament and gender differences in mathematics strategy use*. Presented at the Biennial Meeting of the Society for Research in Child Development, Albuquerque, New Mexico.
- Carr, M., Jessup, D. L., & Fuller, D. (1996, October). *Gender differences in early strategy use: Parent and teacher contributions*. North American Chapter of the International Group for the Psychology of Mathematics Education, Panama City, Florida.
- Thompson, H., & Carr, M. (1995, April). *Metacognition and interest as predictors of learning through reading*. Presented at the Annual Meeting of the American Educational Research Association, San Francisco.
- Carr, M., Jessup, D. L., & Fuller, D. (1995, April). *Parent and teacher influences on gender differences in first grade mathematics strategy use*. Presented at the Annual Meeting of the American Educational Research Association, San Francisco.
- Carr, M. (1994, August). *The metacognitive processing of mathematical knowledge: Implications for strategy use*. Conference on the Practical Aspects of Memory, College Park, Maryland.
- Carr, M., & Jessup, D. L. (1994, April). *Gender differences in first grade mathematics strategy use: Social, metacognitive, and attributional influences*. Presented at the Annual Meeting of the American Educational Research Association, New Orleans.

- Carr, M. (1993, April). *Motivational links to mathematics achievement: Theory and research*. Presented at the Annual Meeting of the American Educational Research Association, Atlanta, GA.
- Mizelle, N. B., Hart, L. E., & Carr, M. (1993, April). *Middle grade students' motivational processes and use of strategies with expository text*. Presented at the Annual Meeting of the American Educational Research Association, Atlanta, GA.
- Carr, M., & Jessup, D. (1993, March). *Metacognition as a predictor of math strategy use in second grade children*. Presented at the Biennial Meeting of the Society for Research in Child Development, New Orleans, LA.
- Carr, M. (1992, January). *Metacognitive knowledge as a predictor of decomposition strategy use*. Southeastern Cognitive Science Conference, Atlanta, GA.
- Carr, M. & Schneider, W. (1991, April). *Training for long-term maintenance of organizational strategies in kindergarten children*. Presented at the Biennial Meeting of the Society for Research in Child Development, Seattle, WA.
- Kurtz, B. E., Carr, M., Schneider, W., & Rellinger, L. (1990, April). *Strategy instruction and attributional beliefs in West Germany and the United States: How teachers foster metacognitive development*. Presented at the Annual Meeting of the American Educational Research Association, Boston.
- Kurtz, B. E., Schneider, W., & Carr, M. (1989, September). *How teachers foster metacognitive development: Strategy instruction and attributional beliefs in West Germany and the United States*. Presented at the Annual Meeting of the European Association for Research on Learning and Instruction, Madrid, Spain.
- Carr, M. (1989, March). *Teachers' perceptions of pupils' metacognition and attributions*. Presented at the Annual Meeting of the American Educational Research Association, San Francisco.
- Kurtz, B. E., Carr, M., & Schneider, W. (1988, April). *Development of attributional beliefs and self-concept in German and American children*. Presented at the Annual Meeting of the American Educational Research Association, New Orleans.
- Carr, M., & Borkowski, J. G. (1988, April). *Motivational components of underachievement*. Presented at the Annual Meeting of the American Educational Research Association, New Orleans.
- Kurtz, B. E., Borkowski, J. G., Carr, M., Schneider, W., & Turner, L. A. (1987, August). *Sources of memory and metamemory development: Societal, parental, and educational influences*. Second International Conference on Practical Aspects of Memory, Swansea, Wales.

Carr, M., Turner, L. A., Kurtz, B. E., & Schneider, W. (1987, April). *Origins of strategy acquisition in German and American children*. Presented at the Biennial Meeting of the Society for Research in Child Development, Baltimore, M. D.

Carr, M., & Borkowski, J. G. (1987, April). *Underachievement: The importance of attributional retraining for generalization of comprehension strategies*. Presented at the Annual Meeting of the American Educational Research Association, Washington, D. C.

Carr, M. (1986, August). *Extensions of metacognitive theory to exceptional children*. Max Planck Institute for Psychological Research, Munich.

Kurtz, B. E., Schneider, W., Turner, L. A., & Carr, M. (1986, April). *Memory performance in German and American children: Differing roles of metacognitive and motivational variables*. Presented at the Annual Meeting of the American Educational Research Association, San Francisco.

Awards

Recipient, COE Russell H. Yeany, Jr. Research Award (2005) for outstanding cumulative research.

Fellow, American Psychological Association (2000).

Award of Excellence (1993). American Mensa Education & Research Foundation.

Grants

Improving mathematics competency through instruction on cognitive strategies and computational fluency (2004). Funded by the National Science Foundation (\$497,434).

Early influences on gender differences in mathematics achievement (2001). Funded by the National Science Foundation (\$134,432).

Contextual Teaching and Learning (1998). Funded by the Office of Educational Research and Improvement (\$9000). With Don Scheider, Richard Lynch, and Dorothy Harnish.

Learning from text across conceptual domains in secondary schools (1996). Funded by the Office of Educational Research and Improvement as a part of the National Reading Research Center based at the Universities of Maryland and Georgia (\$69,248). Co-principal investigator with Cynthia Hynd, Steven Stahl, and Shawn Glynn

An examination of an integrated curriculum at a high school level: Strategy use, interest, and self-efficacy (1995). Funded by the Office of Educational Research and Improvement as a part of the National Reading Research Center based at the Universities of Maryland and Georgia (\$18,663).

Metacognition and the structure of knowledge as predictors of children's ability to detect inconsistencies in text (1994). Funded by the Office of Educational Research and

Improvement as a part of the National Reading Research Center based at the Universities of Maryland and Georgia (\$18,000).

Metacognition and Interest as predictors of learning through reading (1993). Funded by the Office of Educational Research and Improvement as a part of the National Reading Research Center based at the Universities of Maryland and Georgia (\$30,718).

Social and metacognitive influences on strategy use in first-grade children (1992). Funded by the National Science Foundation (\$106,010).

Social and metacognitive influences on strategy use in first-grade children (1990). University of Georgia, Institute for Behavioral Research Mentoring Program (\$3000).

Courses Taught

Foundations of Cognition, EPSY 6800

Achievement and Intelligence, EPSY 8190

Research Seminar in Educational Psychology (professional issues), EPY 8990

Metacognitive Strategies and Motivation in the Classroom, EPY 780/EPY 7160

Metacognition and Motivation, EPY 816

Applications of Cognitive Theory to Instructional Technology (with Michael Orey), EPY 816

Teaching Interests

Cognitive Development

Cognition in Education

Editorial Boards:

Educational Psychology Review (1996- 2000)

Journal of Educational Psychology (1997- present)

School Psychology Quarterly (1992-1998)

Journal Reviewer:

Journal of Personality and Social Psychology: Attitudes and Social Cognition

Developmental Psychology

Contemporary Educational Psychology

Child Development

Journal of Research in Mathematics Education

Applied Cognitive Psychology

Journal of Reading Behavior

Journal of Educational Psychology

Journal of Learning Disabilities

Journal of Experimental Child Psychology

Service to Professional Organizations

President, Women and Mathematics Education (2003-2005)

Fellow Selection Committee, Division 15, American Psychological Association (2003-2005)

Chair, Fellow Committee, Division 15, American Psychological Association (current)

University and Department Service:

President: College of Education Faculty Senate (1999- 2003)

Coordinator: Applied Cognition & Development Area (1999- 2005)

Coordinator: Institute for Behavioral Research, Development and Learning Group (2004-2006)

Coordinator: Institute for Behavioral Research, Cognitive Studies Group (1996-1999)

Coordinator: Institute for Behavioral Research, Contextual Research Group (1998- 2000)

References

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