

Publications Emerging From Research Funded Through the National Center for Education Research

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Since 2002, the Institute of Education Sciences (IES) has funded approximately 600 research grants through the National Center for Education Research. In this document, we list the publications that have resulted from these projects. Publications from IES grantees include articles intended for scientific audiences, as well as articles written for general audiences. The topics span the range from basic translational research to the evaluation of state education policies. Because the publishing process is dynamic and new articles are appearing regularly, we plan to update this list at regular intervals. Please check our website periodically for updated material.

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Cognition and Student Learning

FY 2002

Institution: Carnegie Mellon University

Principal Investigator: Robert Siegler

Project Title: Using Cognitive Analyses to Improve Children's Math and Science Learning

Grant: R305H020060

Booth, J.L., and Siegler, R.S. (2006). Developmental and Individual Differences in Pure Numerical Estimation. *Developmental Psychology*, 42(1): 189-201.

Booth, J.L., and Siegler, R.S. (2008). Numerical Magnitude Representations Influence Arithmetic Learning. *Child Development*, 79: 1016-1031.

Laski, E.V., and Siegler, R.S. (2007). Is 27 a Big Number? Correlational and Causal Connections Among Numerical Categorization, Number Line Estimation, and Numerical Magnitude Comparison. *Child Development*, 76: 1723-1743.

Opfer, J.E., and Siegler, R.S. (2004). Revisiting Preschoolers' Living Things Concept: A Microgenetic Analysis of Conceptual Change in Basic Biology. *Cognitive Psychology*, 49(4): 301-332.

Opfer, J.E., and Siegler, R.S. (2007). Representational Change and Children's Numerical Estimation. *Cognitive Psychology*, 55: 169-195.

Ramani, G.B., and Siegler, R.S. (2008). Promoting Broad and Stable Improvements in Low-Income Children's Numerical Knowledge through Playing Number Board Games. *Child Development*, 79: 375-394.

Siegler, R. S. (2003). Relations between Short-Term and Long-Term Cognitive Development. *Psychological Science Agenda*, 16: 8-10.

Siegler, R.S. (2004). Turning Memory Development Inside Out. *Developmental Review*, 24: 469-475.

Siegler, R.S. (2004). U-Shaped Interest in U-Shaped Development – and What It Means. *Journal of Cognition and Development*, 5(1): 1-10.

Siegler, R.S. (2006). Microgenetic Analyses of Learning. In W. Damon and R.M. Lerner (Series Eds.) and D. Kuhn and R.S. Siegler (Vol. Eds.), *Handbook of Child Psychology: Volume 2: Cognition, Perception, and Language* (6th ed., pp. 464-510). Hoboken, NJ: Wiley.

Siegler, R. S. (2009). Improving the Numerical Understanding of Children from Low-Income Families. *Child Development Perspectives*, 3: 118-124.

Siegler, R.S., and Araya, R. (2005). A Computational Model of Conscious and Unconscious Strategy Discovery. In R.V. Kail (Ed.), *Advances in Child Development and Behavior* (Vol. 33, pp. 1-42). Oxford, UK: Elsevier.

Siegler, R.S., and Booth, J.L. (2004). Development of Numerical Estimation in Young Children. *Child Development* 75(2): 428-444.

Siegler, R.S., and Booth, J.L. (2005). Development of Numerical Estimation: A Review. In J.I.D. Campbell (Ed.), *Handbook of Mathematical Cognition* (pp. 197-212). Boca Raton, FL: CRC Press.

Siegler, R. S., and Mu, Y. (2008). Chinese Children Excel on Novel Mathematics Problems Even before Elementary School. *Psychological Science*, 19, 759-763.

Siegler, R. S., and Opfer, J. (2003). The Development of Numerical Estimation: Evidence for Multiple Representations of Numerical Quantity. *Psychological Science*, 14: 237-243.

Siegler, R. S., Thompson, C. A., and Opfer, J. E. (2009). The Logarithmic-to-Linear Shift: One Learning Sequence, Many Tasks, Many Time Scales. *Mind, Brain, and Education*, 3, 143-150.

Siegler, R.S., and Ramani, G.B. (2006). Early Development of Estimation Skills. *APS Observer*, 19: 34-44.

Siegler, R.S., and Ramani, G.B. (2008). Playing Linear Numerical Board Games Promotes Low-Income Children's Numerical Development. *Developmental Science*, 11: 655-661.

Siegler, R.S., and Ramani, G.B. (2009). Playing Linear Board Games – But Not Circular Ones – Improves Low-Income Preschoolers' Numerical Understanding. *Journal of Educational Psychology*, 101(3): 545-560.

Siegler, R. S., and Svetina, M. (2006). What Leads Children to Adopt New Strategies? A Microgenetic/Cross Sectional Study of Class Inclusion. *Child Development*, 77: 997-1015.

Institution: Columbia University

Principal Investigator: Jennifer Mangels

Project Title: The Influence of Students' Intelligence Beliefs on Attention, Information Processing, and Learning: a Neurophysiological Analysis

Grant: R305H020031

Mangels, J.A., Butterfield, B., Lamb, J., Good, C.D., and Dweck, C.S. (2006). Why Do Beliefs About Intelligence Influence Learning Success? A Social Cognitive Neuroscience Model. *Social Cognitive and Affective Neuroscience (SCAN)*, 1(2): 75-86.

Institution: Northern Illinois University

Principal Investigator: M. Anne Britt

Project Title: Improving Students' Comprehension and Construction of Arguments

Grant: R305H020039

Britt, M.A., and Gabrys, G. (2004). Collecting Responses through Web Page Drag and Drop. *Behavior Research Methods, Instruments, and Computers*, 36(1): 52-68.

Britt, M.A., Wiemer-Hastings, P., Larson, A., and Perfetti, C.A. (2004). Automated Feedback on Source Citation in Essay Writing. *International Journal of Artificial Intelligence in Education*.

Butler, J.A. and Britt, M.A. (2011). Investigating Instruction for Improving Revision of Argumentative Essays. *Written Communication*, 28(1): 70-96.

Larson, M., Britt, M.A., and Larson, A. (2004). Disfluencies in Comprehending Argumentative Texts. *Reading Psychology*, 25: 205-224.

Wolfe, C.R., and Britt, M.A. (2008). The Locus of the Myside Bias in Written Argumentation. *Thinking and Reasoning*, 14:1-27.

Institution: Northwestern University

Principal Investigator: David Uttal

Project Title: Learning From Symbolic Objects

Grant: R305H020088

McNeil, N., Uttal, D.H., Jarvin, L., and Sternberg, R.J. (2009). Should You Show Me the Money? Concrete Objects Both Hurt and Help Performance on Mathematics Problems. *Learning and Instruction*, 19: 171-184.

Sternberg, R. (2008). Applying Psychological Theories to Educational Practice. *American Educational Research Journal*, 45: 150-165.

Uttal, D.H., Fisher, J.A. and Taylor, H.A. (2006). Words and Maps: Developmental Changes in Mental Models of Spatial Information Acquired from Descriptions and Depictions. *Developmental Science*, 9(2): 221-235.

Uttal, D.H., Sandstrom, L.B., Newcombe, N.S. (2006). One Hidden Object, Two Spatial Codes: Young Children's Use of Relational and Vector Coding. *Journal of Cognition and Development*, 7(4), 503-525.

Institution: University of California, Los Angeles

Principal Investigators: Robert Bjork and Marcia Linn

Project Title: Introducing Desirable Difficulties for Educational Applications in Science

Grant: R305H020113

Bjork, R.A., and Bjork, E.L. (2006). Optimizing Treatment and Instruction: Implications of a New Theory of Disuse. In L.G. Nilsson and N. Ohta (Eds.), *Memory and Society: Psychological Perspectives* (pp. 109-133). Psychology Press: Hove and New York.

Bjork, R.A., and Linn, M.C. (2006). The Science of Learning and the Learning of Science: Introducing Desirable Difficulties. *The APS Observer*, 19(3): 29, 39.

Casperson, J.M., and Linn, M.C. (2006). Scaffolded Visualizations for Electrostatics Instruction. *American Journal of Physics*, 74(4): 316-323.

Chiu, J., and Linn, M. C. (in press). The Role of Self-Monitoring in Learning Chemistry with Dynamic Visualization. In A. Zohar and Y. J. Dori (Eds.), *Metacognition and Science Education: Trends in Current Research*. London, UK: Springer-Verlag.

Kornell, N., and Bjork, R.A. (2007). The Promise and Perils of Self-Regulated Study. *Psychonomic Bulletin and Review*, 6: 219-224.

Linn, M.C. (2003). WISE Research: Promoting International Collaboration. In D. Psillos, P. Kariotoglou, V. Tselves, E. Hatzikraniotis, G. Fassoulopoulos, and M. Kallery (Eds.), *Science Education Research in the Knowledge-Based Society* (pp. 297-308). Boston, MA: Kluwer Academic Publishers.

Linn, M.C. (2005). WISE Design for Lifelong Learning: Pivotal Cases. In P. Gärdenfors and P. Johansson (Eds.), *Cognition, Education and Communication Technology*. Mahwah, NJ: Erlbaum.

Linn, M.C. (2006). WISE Teachers: Using Technology and Inquiry for Science Instruction. In E.A. Ashburn and R.E. Floden (Eds.), *Meaningful Learning Using Technology: What Educators Need to Know* (pp. 45-69). New York, NY: Teachers College Press.

Linn, M.C. (2006). The Knowledge Integration Perspective on Learning and Instruction. In R.K. Sawyer (Ed.), *The Cambridge Handbook of the Learning Sciences* (pp. 243-264). New York, NY: Cambridge University Press.

Linn, M.C., and Eylon, B.S. (2006). Science Education: Integrating Views of Learning and Instruction. In P.A. Alexander and P.H. Winne (Eds.), *Handbook of Educational Psychology* (2nd ed., pp. 511-544). Mahwah, NJ: Erlbaum.

Linn, M.C., Husic, F., Slotta, J., and Tinker, R. (2006). Technology Enhanced Learning in Science (TELS): Research Programs. *Educational Technology*, 46(3): 54-68.

Linn, M.C., Lee, H.S., Tinker, R., Husic, F., and Chiu, J.L. (2006). Teaching and Assessing Knowledge Integration in Science. *Science*, 313: 1049-1050.

Linn, M.C. (2007). Knowing When, Where, and How to Study Student Learning. In J.C. Campione, K.E. Metz, and A.S. Palincsar (Eds.), *Children's Learning in the Laboratory and in the Classroom: Essays in Honor of Ann Brown* (pp. 137-162). Mahwah, NJ: Erlbaum.

Linn, M.C. (2008). Teaching for Conceptual Change: Distinguish or Extinguish Ideas. In S. Vosniadou (Ed.), *Handbook of Research on Conceptual Change* (pp. 694-718). Mahwah, NJ: Erlbaum.

Linn, M.C., and Eylon, B.S. (2006). Science Education: Integrating Views of Learning and Instruction. In P.A. Alexander and P.H. Winne (Eds.), *Handbook of Educational Psychology* (2nd ed., pp. 511-544). Mahwah, NJ: Erlbaum.

Linn, M. C., Chang, H.-Y., Chiu, J., Zhang, H., and McElhaney, K. (2010). Can desirable difficulties overcome deceptive clarity in scientific visualizations? In A. Benjamin (Ed.), *Successful remembering and successful forgetting: a Festschrift in honor of Robert A. Bjork* (pp. 239-262). New York: Routledge.

Richland, L.E., Bjork, R.A., and Finley, J.R. (in press). Desirable Difficulty in Science Acquisition: Implications for Learning and Retention. *Cognition and Instruction*.

Richland, L.E., Bjork, R.A., Finley, J.R., and Linn, M.C. (2005). Linking Cognitive Science to Education: Generation and Interleaving Effects. In B.G. Bara, L. Barsalou and M. Bucciarelli (Eds.), *Proceedings of the 27th Annual Conference of the Cognitive Science Society* (pp. 1624). Mahwah, NJ: Erlbaum.

Richland, L.E., Finley, J.R., and Bjork, R.A. (2004). Differentiating the Contextual Interference Effect from the Spacing Effect. In K. Forbus, D. Gentner, and T. Regier (Eds.), *Proceedings of the 26th Annual Conference of the Cognitive Science Society* (pp. 1624). Mahwah, NJ: Erlbaum.

Richland, L.E., Linn, M.C., and Bjork, R.A. (2007). Chapter 21: Instruction. In F. Durso, R. Nickerson, S. Dumais, S. Lewandowsky, and T. Perfect (Eds.), *Handbook of Applied Cognition* (2nd ed., pp. 555-583). West Sussex, England: John Wiley and Sons, Ltd.

Institution: University of California, Riverside

Principal Investigator: H. Lee Swanson

Project Title: Age-Related Changes in Word Problem Solving and Working Memory

Grant: R305H020055

Swanson, H.L. (2004). Working Memory and Phonological Processing as Predictors of Children's Mathematical Problem Solving at Different Ages. *Memory and Cognition*, 32: 648-666.

Swanson, H.L. (2005). Working Memory, Intelligence and Learning Disabilities. In O. Wilhelm and R.W. Engle (Eds.), *Handbook of Understanding and Measuring Intelligence* (pp.409-429). New York, NY: Sage Publications, Inc.

Swanson, H.L. (2006). Cognitive Processes that Underlie Mathematical Precociousness in Young Children. *Journal of Experimental Child Psychology*, 93(3): 239-264.

Swanson, H.L. (2006). Cross Sectional and Incremental Changes in Working Memory and Mathematical Problem Solving in Elementary School Children. *Journal of Educational Psychology*, 98(2): 265-281.

Swanson, H.L. (2006). Working Memory and Dynamic Testing of Children with Learning Disabilities. In S. Pickering (Ed.), *Working Memory and Education* (pp. 125-156). San Diego, CA: Academic Press.

Swanson, H.L., and Beebe-Frankenberger, M. (2004). The Relationship between Working Memory and Mathematical Problem Solving in Children at Risk and Not at Risk for Math Difficulties. *Journal of Educational Psychology*, 96: 471-491.

Swanson, H.L., and Jerman, O. (2006). Math Disabilities: A Preliminary Meta-Analysis of the Published Literature on Cognitive Processes. In T. Scruggs and M. Mastropieri (Eds.), *Applications of Research Methodology, Volume 1 - Advances in Learning and Behavioral Disabilities* (pp. 285-314). Bristol, UK: Elsevier Ltd.

Swanson, H.L., and Jerman, O. (2006). Math Disabilities: A Selective Meta-Analysis of the Literature. *Review of Educational Research*, 76(2): 249-274.

Swanson, H.L., Howard, C.B., and Saez, L. (2006). Do Different Components of Working Memory Underlie Different Subgroups of Reading Disabilities? *Journal of Learning Disabilities*, 39(3): 252-269.

Swanson, H.L., Jerman, O., and Zheng, X. (2008). Growth in Working Memory and Mathematical Problem Solving in Children at Risk and Not at Risk for Serious Math Difficulties. *Journal of Educational Psychology*, 100: 343-379.

Swanson, H.L., Kehler, P., and Jerman, O. (2010). Working Memory, Strategy Knowledge, and Strategy Instruction in Children with Reading Disabilities. *Journal of Learning Disabilities*, 43(1): 24-47.

Swanson, H.L., Zheng, X., and Jerman, O. (2009). Working Memory, Short-Term Memory, and Reading Disabilities: A Selective Meta-Analysis of the Literature. *Journal of Learning Disabilities*, 42(3): 260-287.

Institution: University of California, San Diego
Principal Investigator: Hal Pashler
Project Title: Optimizing Resistance to Forgetting
Grant: R305H020061

Cepeda, N., Coburn, N., Rohrer, D., Wixted, J., Mozer, M., and Pashler, H. (2009). Optimizing Distributed Practice: Theoretical Analysis and Practical Implications. *Experimental Psychology*, 56(4): 236-246.

Cepeda, N., Vul, E., Rohrer, D., Wixted, J., and Pashler, H. (2008). Spacing Effect in Learning: A Temporal Ridgeline of Optimal Retention. *Psychological Science*, 19: 1095-1102.

Cepeda, N.J., Pashler, H., Vul, E., Wixted, J.T., and Rohrer, D. (2006). Distributed Practice in Verbal Recall Tasks: A Review and Quantitative Synthesis. *Psychological Bulletin*, 132(3): 354-380.

Pashler, H., Cepeda, N.J., Wixted, J.T., and Rohrer, D. (2005). When Does Feedback Facilitate Learning of Words? *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 31(1): 3-8.

Pashler, H., Zarow, G., and Triplett, B. (2003). Is Temporal Spacing of Tests Helpful Even When It Inflates Error Rates? *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 29(6): 1051-1057

Rohrer, D. (2009). The Effects of Spacing and Mixing Practice Problems. *Journal for Research in Mathematics Education*, 40: 4-17.

Rohrer, D., and Taylor, K. (2006). The Effects of Overlearning and Distributed Practice on the Retention of Mathematics Knowledge. *Applied Cognitive Psychology*, 20(9): 1209-1224.

Rohrer, D., Taylor, K., Pashler, H., Wixted, J.T., and Cepeda, N.J. (2005). The Effect of Overlearning on Long-Term Retention. *Applied Cognitive Psychology*, 19(3): 361-374.

FY 2003

Institution: Carnegie Mellon University
Principal Investigator: David Klahr
Project Title: From Cognitive Models of Reasoning to Lesson Plans for Inquiry
Grant: R305H030229

Klahr, D., and Li, J. (2005). Cognitive Research and Elementary Science Instruction: From the Laboratory, to the Classroom, and Back. *Journal of Science Education and Technology*, 14(2): 217-238.

Li, J., and Klahr, D. (2006). The Psychology of Scientific Thinking: Implications for Science Teaching and Learning. In J. Rhoton and P. Shane (Eds.), *Teaching Science in the 21st Century*. (pp 3017-328). Arlington, VA: National Science Teachers Association Press.

Li, J., Klahr, D., and Siler, S. (2006). What Lies Beneath the Science Achievement Gap? The Challenges of Aligning Science Education with Standards and Tests. *Science Educator*, 15: 1-12.

Institution: Carnegie Mellon University
Principal Investigator: John Anderson
Project Title: The Neural Markers of Effective Learning
Grant: R305H030016

Anderson, J.R. (2007). *How Can the Human Mind Occur in the Physical Universe?* New York, NY: Oxford University Press.

Anderson, J.R., Anderson, J.F., Ferris, J.L., Fincham, J.M., and Jung, K.J. (2009). Lateral Inferior Prefrontal Cortex and Interior Cingulate Cortex are Engaged at Different Stages in the Solution of Insight Problems. *PNAS Proceedings of the National Academy of Sciences of the United States of America*, 106(26): 10799-10804.

Institution: Columbia University
Principal Investigator: Janet Metcalfe
Project Title: Study Enhancement Based on Principles of Cognitive Science
Grant: R305H030175

Metcalfe, J. (2006). Principles of Cognitive Science in Education. *APS Observer*, 19: 27.

Metcalfe, J., and Kornell, N. (2007). Principles of Cognitive Science in Education: The Effects of Generation, Errors and Feedback. *Psychonomic Bulletin and Review*, 14(2): 225-229.

Metcalfe, J., Kornell, N., and Son, L.K. (2007). A Cognitive-Science Based Program to Enhance Study Efficacy in a High and Low-Risk Setting. *European Journal of Cognitive Psychology*, 19(4): 743-768.

Institution: George Mason University
Principal Investigator: Robert Pasnak
Project Title: Increasing Learning by Promoting Early Abstract Thought
Grant: R305H030031

Greene, M. R., Pasnak, R., and Romero, S. (2009). A Time Lag Analysis of Temporal Relations between Motivation, Academic Achievement, and Two Cognitive Abilities. *Early Education and Development*, 20: 799-825

Hendricks, C., Trueblood, L., and Pasnak, R. (2006). Effects of Teaching Patterning to 1st-Graders. *Journal of Research in Childhood Education*, 21(1): 79-89.

Kidd, J.K. Pasnak, R., Gadzichowski, M., Ferral-Like, M., and Gallington, D. (2008). Enhancing Kindergartners' Mathematics Achievement by Promoting Early Abstract Thought. *Journal of Advanced Academics*, 19: 164-200.

Pasnak, R., Cooke, W.D., and Hendricks, C. (2006). Enhancing Academic Performance by Strengthening Class-Inclusion Reasoning. *Journal of Psychology: Interdisciplinary and Applied*, 140: 603-613.

Pasnak, R., Kidd, J., Gadzichowski, M., Ferral-Like, M., Gallington, D., and Saracina, R. (2007). Nurturing Developmental Processes. *Journal of Developmental Processes*, 2: 90-115.

Pasnak, R., Kidd, J., Gadzichowski, M., Gallington, D. Saracina, R., and Addison, K. (2007). Teaching Kindergarteners Abstractions. *International Journal of Learning*, 13(11): 1-6.

Pasnak, R., Kidd, J., Gadzichowski, M., Gallington, D., Saracina, R., and Addison, K. (2009). Promoting Early Abstraction to Promote Early Literacy and Numeracy. *Journal of Applied Developmental Psychology*, 30(3): 239-249.

Pasnak, R., Kidd, J.K., Gadzichowski, M.K., Gallington, D.A., and Saracina, R.P. (2008). Can Emphasizing Cognitive Development Improve Academic Achievement? *Education Research*, 50: 261-276.

Pasnak, R., Maccubbin, E., and Ferral-Like, M. (2007). Using Developmental Principles to Assist At-Risk Preschoolers in Developing Numeracy and Phonemic Awareness. *Perceptual and Motor Skills*, 105:163-176.

Romero, S., Perez, K., Pasnak, R, and Lehman, E. (2009). Selection of Friends in Ethnically Diverse Preschools. *NHSA Dialog: A Research-To-Practice Journal*, 12(4): 293-306.

Institution: University of California, Los Angeles

Principal Investigator: Keith Holyoak

Project Title: a Multidisciplinary Study of Analogical Transfer in Children's Mathematical Learning

Grant: R305H030141

Morrison, R.G., Doumas, L.A.A., and Richland, L.E. (2006). The Development of Analogical Reasoning in Children: a Computational Account. In R. Sun and N. Miyake (Eds.), *Proceedings of the 28th Annual Conference of the Cognitive Science Society*. Mahwah, NJ: Erlbaum.

Richland, L.E., Bjork, R.A., and Linn, M.C. (2007). Instruction. In F. Durso, R. Nickerson, S. Dumais, S. Lewandowsky and T. Perfect (Eds.), *Handbook of Applied Cognition*, (2nd ed., pp. 555-583). Hoboken, NJ: Wiley and Sons, Ltd.

Richland, L.E., Holyoak, K.J., and Stigler, J.W. (2004). Analogy Generation in Eighth Grade Mathematics Classrooms. *Cognition and Instruction*, 22: 37-60.

Richland, L.E., Morrison, R.G., and Holyoak, K.J. (2004). Working Memory and Inhibition as Constraints on Children's Development of Analogical Reasoning. In K. Forbus, D. Gentner, and T. Regier (Eds.), *Proceedings of the 26th Annual Conference of the Cognitive Science Society* (pp. 1149-1154). Mahwah, NJ: Erlbaum.

Richland, L.E., Morrison, R.G., and Holyoak, K.J. (2006). Children's Development of Analogical Reasoning: Insights from Scene Analogy Problems. *Journal of Experimental Child Psychology*, 94: 249-271.

Richland, L.E., Zur, O., and Holyoak, K.J. (2005). Cross-Cultural Differences in Use of Comparisons: Imagery and Visual Cues. In B.G. Bara, L. Barsalou, M. Bucciarelli (Eds.), *Proceedings of the 27th Annual Conference of the Cognitive Science Society* (pp. 1149-1154). Mahwah, NJ: Erlbaum.

Richland, L.E., Zur, O., and Holyoak, K.J. (2007). Cognitive Supports for Analogy in the Mathematics Classroom. *Science*, 316: 1128-1129.

Institution: University of Illinois at Chicago

Principal Investigators: Jennifer Wiley and Keith Thiede

Project Title: Improving Monitoring Accuracy Improves Learning from Text

Grant: R305H030170

Dunlosky, J., and Thiede, K.W. (2004). Causes and Constraints of the Shift-To-Easier-Materials Effect in the Control of Study. *Memory and Cognition*, 32: 779-788.

Dunlosky, J., Hertzog, C., Kennedy, M., and Thiede, K. (2005). The Self-Monitoring Approach for Effective Learning. *Cognitive Technology*, 10: 4-11.

Griffin, T.D., Wiley, J., and Thiede, K.W. (2008). Individual Differences, Rereading, and Self-Explanation: Concurrent Processing and Cue Validity as Constraints on Metacomprehension Accuracy. *Memory and Cognition*, 36: 93-103.

Jee, B., Wiley, J., and Griffin, T.D. (2006). Expertise and the Illusion of Comprehension. In R. Sun and N. Miyake (Eds.), *Proceedings of the 28th Annual Conference of the Cognitive Science Society*. Mahwah, NJ: Erlbaum.

Thiede, K.W., Dunlosky, J., Griffin, T.D., and Wiley, J. (2005). Understanding the Delayed Keyword Effect on Metacomprehension Accuracy. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 31: 1267-1280.

Thiede, K.W., Griffin, T.D., Wiley, J., and Anderson, M. (2010). Poor Metacomprehension Accuracy as a Result of Inappropriate Cue Use. *Discourse Processes*, 47(4): 331-362.

Thiede, K.W., Griffin, T.D., Wiley, J., and Redford. (2009). Metacognitive Monitoring During and After Reading. In D.J. Hacker, J. Dunlosky, and A.C. Graesser (Eds.), *Handbook of Metacognition in Education*. Routledge.

Trabasso, T., and Wiley, J. (2005). What Happens at Reunions? Exploring Causal Connections and Their Role in Reunion Effects. *Discourse Processes*, 39: 129-164.

Wiley, J., Griffin, T.D., and Thiede, K.W. (2005). Putting the Comprehension in Metacomprehension. *Journal of General Psychology*, 132: 408-428.

Institution: University of Maryland

Principal Investigator: Thomas Wallsten (Original PI: Thomas Nelson)

Project Title: Computer-Assisted Instruction for Learning and Long-Term Retention Based on Recent Cognitive and Metacognitive Findings

Grant: R305H030283

Jang, Y., and Nelson, T.O. (2005). How Many Dimensions Underlie Judgments of Learning and Recall? Evidence from State-Trace Methodology. *Journal of Experimental Psychology: General*, 134: 308-326.

Nelson, T.O., Narens, L., and Dunlosky, J. (2004). A Revised Methodology for Research on Metamemory: Pre-Judgment Recall and Monitoring (PRAM). *Psychological Methods*, 9 (1): 53-69.

Richards, R.M., and Nelson, T.O. (2004). Effect of the Difficulty of Prior Items on the Magnitude of Judgments of Learning for Subsequent Items. *American Journal of Psychology*, 117(1): 81-91.

Scheck, P., and Nelson, T.O. (2005). Lack of Pervasiveness of the Underconfidence-With-Practice Effect: Boundary Conditions and an Explanation via Anchoring. *Journal of Experimental Psychology: General*, 134(1): 124-128.

Scheck, P., Meeter, M., and Nelson, T.O. (2004). Anchoring Effects in the Absolute Accuracy of Immediate Versus Delayed Judgments of Learning. *Journal of Memory and Language*, 51: 71-79.

Van Overschelde, J.P., and Nelson, T.O. (2006). Delayed Judgments of Learning Cause Both a Decrease in Absolute Accuracy (Calibration) and an Increase in Relative Accuracy (Resolution). *Memory and Cognition*, 34: 1527-1538.

Institution: Carnegie Mellon University

Principal Investigators: Erik Reichle and Jonathan Schooler

Project Title: Lapses in Meta-Cognition during Reading: Understanding Comprehension Failure

Grant: R305H030235

Pollatsek, A., Reichle, E.D., and Rayner, K. (2006). Serial Processing Is Consistent with the Time Course of Linguistic Information Extraction From Consecutive Words during Eye Fixations in Reading: A Response to Inhoff, Eiter, and Radach (2005). *Journal of Experimental Psychology: Human Perception and Performance*, 32: 1485-1489.

Pollatsek, A., Reichle, E.D., and Rayner, K. (2006). Tests of the E-Z Reader Model: Exploring the Interface Between Cognition and Eye-Movement Control. *Cognitive Psychology*, 52: 1-56.

Reichle, E.D., Pollatsek, A., and Rayner, K. (2007). Modeling the Effects of Lexical Ambiguity on Eye Movements during Reading. In R.P.G. Van Gompel, M.F. Fischer, W.S. Murray, and R.L. Hill (Eds.), *Eye Movements: A Window on Mind and Brain* (pp. 271-292). Oxford, UK: Elsevier.

Schooler, J.W., Reichle, E.D., and Halpern, D.V. (2004). Zoning Out while Reading: Evidence for Dissociations between Experience and Metaconsciousness. In D.T. Levin (Ed.), *Thinking and Seeing: Visual Metacognition in Adults and Children* (pp. 203-226). Cambridge, MA: MIT Press.

Smallwood, J., and Schooler, J.W. (2006). The Restless Mind. *Psychological Bulletin*, 132: 946-958.

Smallwood, J., Beech, E.M., Schooler, J.W., and Handy, T.C. (2008). Going AWOL in the Brain—Mind Wandering Reduces Cortical Analysis of the Task Environment. *Journal of Cognitive Neuroscience*, 20 (3): 458-469.

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Smallwood, J., McSpadden, M., and Schooler, J.W. (2007). The Lights Are on But No One's Home: Meta-Awareness and the Decoupling of Attention When the Mind Wanders. *Psychonomic Bulletin and Review*, 14: 527-533.

Smallwood, J., McSpadden, M., Luus, B., and Schooler, J.W. (2008). Segmenting the Stream of Consciousness—The Psychological Correlates of Temporal Structures in the Times Series Data of a Continuous Performance Task. *Brain and Cognition*, 66(1): 50-56.

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Institution: University of Wisconsin, Madison

Principal Investigator: Arthur Glenberg

Project Title: Training Indexing to Enhance Meaning Extraction in Young Readers

Grant: R305H030266

Glenberg, A.M., Brown, M., and Levin, J.R. (2007). Enhancing Comprehension in Small Reading Groups Using a Manipulation Strategy. *Contemporary Educational Psychology*, 32: 389-399.

Glenberg, A.M., Gutierrez, T., Levin, J.R., Japuntich, S., and Kaschak, M.P. (2004). Activity and Imagined Activity Can Enhance Young Children's Reading Comprehension. *Journal of Educational Psychology*, 96: 424-436.

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Marley, S.C., Levin, J.R., and Glenberg, A.M. (2007). Improving Native American Children's Listening Comprehension through Concrete Representations. *Contemporary Educational Psychology*, 32: 537-550.

Institution: Washington University, St. Louis

Principal Investigator: Henry L. Roediger, III

Project Title: Test-Enhanced Learning

Grant: R305H030339

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Kang, S.H.K., McDermott, K.B., and Roediger, H.L. (2007). Test Format and Corrective Feedback Modify the Effect of Testing on Long-Term Retention. *European Journal of Cognitive Psychology*, 19(4/5): 528-558.

Karpicke, J.D., and Roediger, H.L. (2008). The critical importance of retrieval for learning. *Science*, 319: 966-968.

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Institution: Yale University

Principal Investigator: Robert Sternberg

Project Title: Understanding Students' Mathematical Competencies: An Exploration of the Impact of Contextualizing Mathematical Problems

Grant: R305H030282

- McNeil, N., Uttal, D.H., Jarvin, L., and Sternberg, R.J. (2009). Should You Show Me the Money? Concrete Objects Both Hurt and Help Performance on Mathematics Problems. *Learning and Instruction*, 19: 171-184.
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FY 2004

Institution: Boston College

Principal Investigator: Michael Russell

Project Title: Bridging the Gap: Applying Algebra Cognition Research to Develop and Validate Diagnostic Classroom Algebra Testlet

Grant: R305H040099

- Russell, M., O'Dwyer, L. M., and Miranda, H. (2009). Diagnosing Students' Misconceptions in Algebra: Results from an Experimental Pilot Study. *Behavior Research Methods*, 41 (2): 414-424.

Institution: Florida State University

Principal Investigators: Carol M. Connor and Fred Morrison

Project Title: Child Instruction Interactions in Early Reading: Examining Causal Effects of Individualized Instruction

Grant: R305H040013

Cameron, C.E., Connor, C.M., Morrison, F.J., and Jewkes, A.M. (2008). Effects of Classroom Organization on Letter-Word Reading in First Grade. *Journal of School Psychology, 46*: 173-192

Connor, C.M., Piasta, S.B., Glasney, S., Schatschneider, C., Fishman, B., Underwood, P. (2009). Individualizing Student Instruction Precisely: Effects of Child X Instruction Interactions on First Graders' Literacy Development. *Child Development, 80*: 77-100.

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Morrison, F.J., and Connor, C.M. (2009). The Transition to School: Child-Instruction Transactions in Learning to Read. In A. Sameroff (Ed.), *The Transactional Model of Development: How Children and Contexts Shape Each Other* (pp. 183-201). Washington, DC: American Psychological Association.

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Institution: University of California, San Diego

Principal Investigator: Hal Pashler

Project Title: Optimizing Resistance to Forgetting

Grant: R305H040108

Carpenter, S., and Pashler, H. (2007). Testing Beyond Words: Using Tests to Enhance Visuospatial Map Learning. *Psychonomic Bulletin and Review, 14*: 474-478.

Carpenter, S., Pashler, H., and Cepeda, N. J. (2009). Using Tests to Enhance 8th Grade Students' Retention of U.S. History Facts. *Applied Cognitive Psychology, 23*: 760-771.

Carpenter, S., Pashler, H., and Vul, E. (2007). What Types of Learning Are Enhanced by a Cued Recall Test? *Psychonomic Bulletin and Review, 13*: 826 -830.

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Cepeda, N., Vul, E., Rohrer, D., Wixted, J., and Pashler, H. (2008). Spacing Effect in Learning: A Temporal Ridgeline of Optimal Retention. *Psychological Science, 19*: 1095-1102.

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Institution: University of Wisconsin, Madison

Principal Investigator: Brian Bottge

Project Title: Advancing the Math Skills of Low-Achieving Adolescents in Technology-Rich Learning Environments

Grant: R305H040032

- Bottge, B. A., Rueda, E., Grant, T. S., Stephens, A. C., and LaRoque, P. T. (2010). Anchoring Problem-Solving and Computation Instruction in Context-Rich Learning Environments. *Exceptional Children*. 76, 417-437.
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- Stephens, A. C., Bottge, B. A., and Rueda, E. (2009). Ramping Up on Fractions. *Mathematics Teaching in the Middle School*, 14(6): 520-526.

FY 2005

Institution: Duke University

Principal Investigator: David Rabiner

Project Title: A Randomized Trial of Two Promising Interventions for Students with Attention Problems

Grant: R305H050036

Rabiner, D.L., Murray, D.W., Rosen, L., Hardy, K., Skinner, A., and Underwood, M. (2010). Instability in Teacher Ratings of Children's Inattentive Symptoms: Implications for The Assessment of ADHD. *Journal of Developmental and Behavioral Pediatrics*, 31: 175-180.

Murray, D. W., Rabiner, D. L., Hardy, K. (2010). Teacher Management Practices for 1st Graders with Attention Problems. *Journal of Attention Disorders*.

Institution: Carnegie Mellon University

Principal Investigator: Robert Siegler

Project Title: Improving Children's Pure Numerical Estimation

Grant: R305H050035

Booth, J.L., and Siegler, R.S. (2006). Developmental and Individual Differences in Pure Numerical Estimation. *Developmental Psychology*, 41: 189-201.

Booth, J.L., and Siegler, R.S. (2008). Numerical Magnitude Representations Influence Arithmetic Learning. *Child Development*, 79: 1016-1031.

Laski, E.V., and Siegler, R.S. (2007). Is 27 a Big Number? Correlational and Causal Connections among Numerical Categorization, Number Line Estimation, and Numerical Magnitude Comparison. *Child Development*, 76: 1723-1743.

Opfer, J., and Siegler, R.S. (2007). Representational Change and Children's Numerical Estimation. *Cognitive Psychology*, 55: 169-195.

Ramani, G.B., and Siegler, R.S. (2008). Promoting Broad and Stable Improvements in Low-Income Children's Numerical Knowledge through Playing Number Board Games. *Child Development*, 79: 375-394.

Schneider, M., and Siegler, R. S. (2010). Representations of the Magnitudes of Fractions. *Journal of Experimental Psychology: Human Perception and Performance*.

Siegler, R. S. (2006). Microgenetic Analyses of Learning. In W. Damon, R. M. Lerner (Series Eds.) and D. Kuhn and R. S. Siegler (Vol. Eds.), *Handbook Of Child Psychology: Volume 2: Cognition, Perception, and Language* (6th ed., pp. 464-510). Hoboken, NJ: Wiley.

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Siegler, R.S., and Ramani, G.B. (2009). Playing Linear Number Board Games -- But Not Circular Ones -- Improves Low-Income Preschoolers' Numerical Understanding. *Journal of Educational Psychology*, 101(3): 545-560.

Siegler, R. S., and Svetina, M. (2006). What Leads Children to Adopt New Strategies? A Microgenetic/Cross Sectional Study of Class Inclusion. *Child Development*, 77: 997-1015.

Siegler, R. S., and Svetina, M. (2008). Relations Between Short-Term and Long-Term Changes in Children's Thinking. In S. Vosniadou, (Ed.), *International Handbook of Research on Conceptual Change* (pp. 102-123). New York, NY: Routledge/Taylor and Francis Group.

Siegler, R. S., Thompson, C. A., and Opfer, J. E. (2009). The Logarithmic-to-Linear Shift: One Learning Sequence, Many Tasks, Many Time Scales. *Mind, Brain, and Education*, 3: 143-150.

Institution: Harvard University

Principal Investigator: Jon Star

Project Title: Using Contrasting Examples to Support Procedural Flexibility and Conceptual Understanding in Mathematics

Grant: R305H050179

Rittle-Johnson, B., and Star, J.R. (2007). Does Comparing Solution Methods Facilitate Conceptual and Procedural Knowledge? An Experimental Study on Learning to Solve Equations. *Journal of Educational Psychology*, 99(3): 561-574.

Rittle-Johnson, B., and Star, J.R. (2009). Compared with What? The Effects of Different Comparisons on Flexible Knowledge and Procedural Flexibility for Equation Solving. *Journal of Educational Psychology*, 101(3): 529-544.

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Star, J.R., Kenyon, M., Joiner, R., and Rittle-Johnson, B. (2010). Comparison Helps Students Learn to be Better Estimators. *Teaching Children Mathematics*, 16(9): 557-563.

Star, J. R. and Rittle-Johnson, B. (2009a). It Pays to Compare: An Experimental Study on Computational Estimation. *Journal of Experimental Child Psychology*, 101: 408-426.

Star, J.R., and Rittle-Johnson, B. (2009b). Making Algebra Work: Instructional Strategies that Deepen Student Understanding, within and between Representations. *ERS Spectrum*, 27(2), 11- 18.

Star, J.R., and Rittle-Johnson, B. (2008). Flexibility in Problem Solving: The Case of Equation Solving. *Learning and Instruction*, 18: 565-579.

Star, J.R., Rittle-Johnson, B., Lynch, K., and Perova, N. (2009). The Role of Prior Knowledge and Comparison in the Development of Strategy Flexibility: The Case of Computational Estimation. *ZDM - The International Journal on Mathematics Education*, 41: 569-579.

Institution: Indiana University

Principal Investigator: Robert Goldstone

Project Title: Grounded and Transferable Knowledge of Complex Systems Using Computer Simulations

Grant: R305H050116

Barab, S., Scott, B., Siyahhan, S. Goldstone, R. L., Ingram-Goble, A., Zuiker, S., and Warren, S. (2009). Transformational Play as a Curricular Scaffold: Using Videogames to Support Science Education. *Journal of Science Education and Technology*, 18(4): 305-320.

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Feng, Y., Goldstone, R. L., and Menkov, V. (2005). A Graph Matching Algorithm and its Application to Conceptual System Translation. *International Journal on Artificial Intelligence Tools*, 14: 77-100.

Gerganov, A., Grinberg, M., and Goldstone, R. L. (2009). Partial Position Transfer in Categorical Perceptual Learning. In N. Taatgen, H. van Rijn, L. Schomaker and J. Nerbonne (Eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 1828-1833). Amsterdam, Netherlands: Cognitive Science Society. Retrieved: <http://cognitn.psych.indiana.edu/papers.html>

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Goldstone, R.L., and Janssen, M.A. (2005). Computational Models of Collective Behavior. *Trends in Cognitive Science*, 9: 424-430.

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Goldstone, R.L., and Wilensky, U. (2008). Promoting Transfer Through Complex Systems Principles. *Journal of the Learning Sciences*, 17: 465-516.

Goldstone, R.L., Ashpole, B.C., and Roberts, M.E., (2005). Knowledge of Resources and Competitors in Human Foraging. *Psychonomic Bulletin and Review*, 12: 81-87.

Goldstone, R.L., Day, S., and Son, J.Y. (2010). Comparison. In B. Glatzeder, V. Goel, and A. Von Müller (Eds.), *On Thinking: Volume II, Towards a Theory of Thinking* (pp 103-122). New York, NY: Springer Press.

Goldstone, R.L., Feng, Y., and Rogosky, B. (2005). Connecting Concepts to the World and Each Other. In D. Pecher and R. Zwaan (Eds.), *Grounding Cognition: The Role Of Perception And Action In Memory, Language, and Thinking* (pp. 292-314). Cambridge, UK: Cambridge University Press.

Goldstone, R.L., Gerganov, A., Landy, D., and Roberts, M.E. (2008). Learning to See and Conceive. In L. Tommasi, M. Peterson, and L. Nadel (Eds.), *The New Cognitive Sciences* (pp. 163-188). Cambridge, MA: MIT Press.

Goldstone, R.L., Jones, A., and Roberts, M. E. (2006). Group Path Formation. *IEEE Transactions on System, Man, and Cybernetics, Part A*, 36: 611-620.

Goldstone, R.L., Landy, D., and Son, J.Y. (2008). A Well Grounded Education: The Role of Perception in Science and Mathematics. In M. De Vega, A. Glenberg, and A. Graesser (Eds.), *Symbols, Embodiment, and Meaning* (pp. 327-355). Oxford, UK: Oxford Press.

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Institution: Kent State University

Principal Investigator: John Dunlosky

Project Title: Supporting Efficient and Durable Student Learning

Grant: R305H050038

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Institution: Northern Illinois University

Principal Investigator: Anne Britt

Project Title: Creating a Usable Environment to Teach Argument Comprehension and Production Skills

Grant: R305H050133

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Institution: Northwestern University

Principal Investigator: David Uttal

Project Title: Understanding and Facilitating Symbolic Learning

Grant: R305H050059

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Institution: Ohio State University

Principal Investigator: Andrew Heckler

Project Title: Scientific Misconceptions: From Cognitive Underpinning to Educational Treatment

Grant: R305H050125

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Institution: University of Chicago

Principal Investigator: Sian Beilock

Project Title: Improving the Assessment Capability of Standardized Tests: How High-Stakes Testing Environments Compromise Performance

Grant: R305H050004

Beilock, S.L. and Ramirez, G. (2011). On the Interplay of Emotion and Cognitive Control: Implications for Enhancing Academic Achievement. In Mestre, J.P. and Ross, B.H. (Eds.), *The Psychology of Learning and Motivation, Volume 55*. San Diego, CA: Elsevier Inc.

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Institution: University of Memphis

Principal Investigator: Barry Gholson

Project Title: An Implementation of Vicarious Learning with Deep-Level Reasoning Questions in Middle School and High School Classrooms

Grant: R305H050169

Craig, S. D., Chi, M. T. H. and VanLehn, K. (2009). Improving Classroom Learning by Collaboratively Observing Human Tutoring Videos While Problem Solving. *Journal of Educational Psychology*, 101(4), 779-789.

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Institution: University of Southern California

Principal Investigator: Carole Beal

Project Title: Dynamically Modifying the Learning Trajectories of Novices With Pedagogical Agents

Grant: R305H050052

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Beal, C.R., Shaw, E., and Birch, M. (2007). Intelligent Tutoring and Human Tutoring in Small Groups: An Empirical Comparison. In R. Luckin, K.R. Koedinger and J. Greer (Eds.), *Artificial Intelligence in Education: Building Technology Rich Learning Contexts that Work* (pp. 536-538).

Stevens, R.H., and Thadani, V. (2007). A Value-Based Approach for Quantifying Scientific Problem Solving Effectiveness. *Journal of Technology, Instruction, Cognition and Learning*, 5: 325-337.

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Institution: Carnegie Mellon University

Principal Investigator: David Klahr

Project Title: Training in Experimental Design: Developing Scalable and Adaptive Computer-Based Science Instruction

Grant: R305H060034

Klahr, D. (2009) "To Every Thing there is a Season, and a Time to Every Purpose under the Heavens": What about Direct Instruction? In S. Tobias and T. M. Duffy (Eds.) *Constructivist Theory Applied to Instruction: Success or failure?* London, UK: Taylor and Francis.

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Institution: Columbia University

Principal Investigator: Janet Metcalfe

Project Title: The Effect of Metacognition on Children's Control of Their Study and of Their Cognitive Processes

Grant: R305H060161

Metcalfe, J. and Finn, B. (2011). People's Hypercorrection of High-Confidence Errors: Did They Know It All Along? *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 37(2), 437-448.

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- Metcalfe, J., and Finn, B. (2008). Familiarity and Retrieval Processes in Delayed Judgments of Learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 34, 1084-1097.
- Finn, B. (2008). Framing Effects on Metacognitive Monitoring and Control. *Memory and Cognition*, 36, 813-821.
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Institution: University of California, Los Angeles

Principal Investigator: Philip Kellman

Project Title: Integrating Conceptual Foundations in Mathematics through the Application of Principles of Perceptual Learning

Grant: R305H060070

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Institution: University of Kentucky

Principal Investigator: Elizabeth Lorch

Project Title: Teaching the Logic of the Scientific Method in the Fourth Grade

Grant: R305H060150

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Institution: The University of North Carolina at Chapel Hill School of Medicine

Principal Investigator: Stephen Hooper

Project Title: Attention, Memory, and Executive Functions in Written Language Expression in Elementary School Children

Grant: R305H060042

Hooper, S.R., Roberts, J.E., Nelson, L., Zeisel, S., and Kasambira, D. (2010). Preschool Predictors of Narrative Writing Skills in Elementary School Children. *School Psychology Quarterly*, 25: 1-12.

Hooper, S.R., Roberts, J.E., Sideris, J., Burchinal, M., and Zeisel, S. (2010). Longitudinal Predictors of Reading and Math Skills for African-American Youth across Two studies: An Examination of Similar Predictors at Different Developmental Time Points. *Developmental Psychology*.

Institution: University of Washington

Principal Investigator: Deborah McCutchen

Project Title: Making Meaning: Morphological Processing and Its Contribution to Adolescent and Pre-Adolescent Literacy

Grant: R305H060073

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Institution: University of Wisconsin, Madison

Principal Investigator: Martha Alibali

Project Title: Does Visual Scaffolding Facilitate Students' Mathematics Learning? Evidence from Early Algebra

Grant: R305H060097

Alibali, M.W., and Nathan, M.J. (2009). Teachers' Gestures as a Means of Scaffolding Students' Understanding: Evidence from an Early Algebra Lesson. In R. Goldman, R. Pea, B. Barron, and S. J. Derry (Eds.), *Video Research in the Learning Sciences* (pp 349-365). Mahwah, NJ: Erlbaum.

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Nathan, M.J., and Kim, S. (2009). Regulation of Teacher Elicitations in the Mathematics Classroom. *Cognition and Instruction*, 27(2): 91-120.

Institution: Vanderbilt University

Principal Investigator: Gautam Biswas

Project Title: A Learning by Teaching Approach to Help Students Develop Self-Regulatory Skills in Middle School Science Classrooms

Grant: R305H060089

Biswas, G., Schwartz, D., and Catley, K.M. (2008, July). A Learning by Teaching Approach to Help Students Develop Self-Regulatory Learning Skills in Middle School Science Classrooms. In C.L. O'Donnell and R. Harwood (Co-Chairs), *Enhancing Learning Using Adaptive Computerized Tutoring in K-12 Settings*. In B.C. Love, K. Mcrae, and V.M. Sloutsky (Eds.), *Proceedings of the 30th Annual Conference of the Cognitive Science Society* (pp. 695-696). Washington, DC: Cognitive Science Society.

Biswas, G., Jeong, H., Kinnebrew, J., Sulcer, B., and Roscoe, R. (2010). Measuring Self-Regulated Learning Skills Through Social Interactions in a Teachable Agent Environment. *Research and Practice in Technology-Enhanced Learning (RPTEL)*.

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Institution: Washington University, St. Louis

Principal Investigator: Henry Roediger, III

Project Title: Test-Enhanced Learning in the Classroom

Grant: R305H060080

Agarwal, P.K., Karpicke, J.D., Kang, S.H.K., Roediger, H.L., and McDermott, K.B. (2008). Examining the Testing Effect with Open- and Closed-Book Tests. *Applied Cognitive Psychology*, 22(7): 861-876.

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Butler, A.C., and Roediger, H.L. (2008). Feedback Enhances the Positive Effects and Reduces the Negative Effects of Multiple-Choice Testing. *Memory and Cognition*, 36: 604-616.

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Butler, A.C., Zaromb, F.M. Lyle, K.B. and Roediger, H.L. (2009). Using Popular Films to Enhance Classroom Learning: The Good, the Bad, and the Interesting. *Psychological Science*, 20: 1161-1168.

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- Zaromb, F.M., and Roediger, H. L. (in press). The Testing Effect in Free Recall is Associated with Enhanced Organizational Processes. *Memory and Cognition*.

FY 2007

Institution: Boise State University

Principal Investigator: Keith Thiede

Project Title: Improving Metacomprehension and Self-Regulated Learning from Scientific Texts

Grant: R305B070460

- Anderson, M.C.M., and Thiede, K.W. (2008). Why do Delayed Summaries Improve Metacomprehension Accuracy? *Acta Psychologica*, 128: 110-118.
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- Wiley, J., Ash, I. K., Sanchez, C. A., and Jaeger, A. (in press). Clarifying Readers' Goals for Learning from Expository Science Texts. To appear in M. McCrudden, J. Magliano, and G. Schraw, (Eds.) *Relevance instructions and goal-focusing in text learning*. Information Age Publishing.
- Goldman, S. R. and Wiley, J. (in press). Discourse Analysis: Written text. In N. Duke and M. Malette (Eds.) *Literacy Research Methods*, Second Edition. New York: Guilford.
- Wiley, J. and Sanchez, C.A. (in press). Constraints on Learning from Expository Science Texts. In N.L. Stein and S. Raudenbush (Eds.), *Developmental Cognitive Science Goes to School*. Routledge Education: New York, NY.

Institution: Boulder Technologies

Principal Investigator: Wayne Ward

Project Title: Improving Science Learning through Tutorial Dialogs

Grant: R305B070434

Nielsen, R.D., Boyer, K., Heilman, M., Lin, C., Pino, J., and Stent, A. (2009). Evaluating question generation: Methodologies and performance metrics. In Vasile Rus and Art Graesser (Eds.) *The Question Generation Shared Task and Evaluation Challenge*. ISBN: 978-0-615-27428-7.

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Nielsen, R.D., Ward, W., and Martin, J.H. (2008). Soft Computing in Intelligent Tutoring Systems and Educational Assessment. In B. Prasad (Ed.), *Soft Computing Applications in Business* (pp. 201-230). Heidelberg, Germany: Springer-Verlag .

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- Nielsen, R.D., Ward, W., and Martin, J.H. (2008). Learning to Assess Low-Level Conceptual Understanding. in David Wilson and H. Chad Lane (Eds.): *Proceedings of the Twenty-First International Artificial Intelligence Researchers Society Conference (FLAIRS-08)* (pp. 427-432). Menlo Park, CA: Association for the Advancement of Artificial Intelligence.
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Institution: Carnegie Mellon University

Principal Investigator: Philip Pavlik

Project Title: Bridging the Bridge to Algebra: Measuring and Optimizing the Influence of Prerequisite Skills on a Pre-Algebra Curriculum

Grant: R305B070487

- Pavlik Jr., P.I., and Toth, J. (2010). How to Build Bridges Between Intelligent Tutoring System Subfields of Research. In J. Kay and V. Alevan (Eds.), *Proceedings of the 10th International Conference on Intelligent Tutoring Systems* (pp. 534-543). Pittsburgh, PA.
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Pavlik, P.I., Cen, H., Wu, L., and Keodinger, K.R. (2008). Using Item-Type Performance Covariance to Improve the Skill Model of an Existing Tutor. In R.S. Baker and J.E. Beck (Eds.), *Proceedings of the 1st International Conference on Educational Data Mining* (pp. 77-86). Montreal, Canada: UQAM.

Pavlik Jr., P. I., Bolster, T., Wu, S., Koedinger, K. R., and MacWhinney, B. (2008). Using Optimally Selected Drill Practice to Train Basic Facts. In B. Woolf, E. Aimer and R. Nkambou (Eds.), *Proceedings of the 9th International Conference on Intelligent Tutoring Systems*. (vol 5091, pp 593-602). Berlin, Germany: Springer.

Institution: Carnegie Mellon University

Principal Investigator: David Mostow

Project Title: Explicit Comprehension Instruction in an Automated Reading Tutor that Listens

Grant: R305B070458

Aist, G., and Mostow, J. (2009). *Predictable and Educational Spoken Dialogues: Pilot Results*. Second ISCA Workshop on Speech and Language Technology in Education (SLaTE) (pp. 29-30). Warwickshire, UK: Wroxall Abbey Estate. <http://www.eee.bham.ac.uk/SLaTE2009/papers/SLaTE-2009-Programme-v3.pdf>

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Chen, W., Aist, G., and Mostow, J. (2009). *Generating Questions Automatically from Informational Text*. Proceedings of AIED 2009 Workshop on Question Generation. Brighton, UK. 17-24.

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Mostow, J., and Chen, W. (2009). Generating Instruction Automatically for the Reading Strategy of Self-Questioning. Proceedings of the 14th International Conference on Artificial Intelligence in Education (AIED2009), Brighton, UK, 465-472.

Zhang, X., Mostow, J., Duke, N.K., Trotochaud, C., Valeri, J., and Corbett, A. (2008). Mining Free-Form Spoken Responses to Tutor Prompts. *Proceedings of the First International Conference on Educational Data Mining*. (pp 234-241). Montreal, Canada: UQAM.

Institution: University of Oregon

Principal Investigator: Helen Neville

Project Title: Training Attention in Preschool: Effects on Neurocognitive Functions and School Performance

Grant: R305B070018

Stevens, C., Lauinger, B. and Neville, H. (2009). Differences in the Neural Mechanisms of Selective Attention in Children from Different Socioeconomic Backgrounds: An Event-Related Brain Potential Study. *Developmental Science* 12(4): 634-646.

Institution: George Mason University

Principal Investigator: Robert Pasnak

Project Title: An Economical Improvement in Literacy and Numeracy

Grant: R305B070542

Greene, M.R., Pasnak, R., and Romero, S. (2009). A Time Lag Analysis of Temporal Relations between Motivation, Academic Achievement, and Two Cognitive Abilities. *Early Education and Development*, 20(5): 799-825.

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Pasnak, R., Kidd, J.K., Gadzichowski, M.K., Gallington, D.A., Saracina, R.P., and Addison, K. (2008). Can Emphasizing Cognitive Development Improve Academic Achievement? *Education Research*, 50(3): 261-276.

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Institution: Northern Illinois University

Principal Investigator: Keith Millis

Project Title: Acquiring Research Investigative and Evaluative Skills (ARIES) for Scientific Inquiry

Grant: R305B070349

Graesser, A.C., Chipman, P., and King, B.G. (2008). Computer-Mediated Technologies. In J.M. Spector, M.D. Merrill, J.J.G. Van Merriënboer, and M.P. Driscoll (Eds.), *Handbook of Research on Educational Communications and Technology* (3rd ed., pp. 211-224). London: Taylor and Francis.

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Storey, J.K., Kopp, K.J., Wiemer, K., Chipman, P., and Graesser, A.C. (in press). Using AutoTutor to Teach Scientific Critical Thinking Skills. *Behavior Research Methods*.

Institution: Ohio State University

Principal Investigator: Vladimir Sloutsky

Project Title: The Role of External Representations in Learning and Transfer of Mathematical Knowledge

Grant: R305B070407

Kaminski, J. A., and Sloutsky, V. M. (in press). Representation and Transfer of Abstract Mathematical Concepts. In V. Reyna (Ed.) *The Adolescent Brain: Learning, Reasoning, and Decision Making*.

Sloutsky, V. M., and Fisher, A. V. (in press). The Development of Categorization. In B. H. Ross (Ed.), *The Psychology of Learning and Motivation*.

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- Robinson, C. W., and Sloutsky, V. M. (2010). Effects of Multimodal Presentation and Stimulus Familiarity on Auditory and Visual Processing. *Journal of Experimental Child Psychology*, 107, 351-358.
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- Kaminski, J. A., Sloutsky, V. M., and Heckler, A. F. (2009). Transfer of Mathematical Knowledge: The Portability of Generic Instantiations. *Child Development Perspectives*, 3: 151-155.
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Institution: University of California, San Diego

Principal Investigator: Harold E. Pashler

Project Title: Harnessing Retrieval Practice to Enhance Learning in Diverse Domains

Grant: R305B070537

Carpenter, S. K., Pashler, H., and Cepeda, N. J. (2009). Using Tests to Enhance 8th Grade Students' Retention of U.S. History Facts. *Applied Cognitive Psychology*, 23: 760– 771.

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Carpenter, S.K., Pashler, H., Wixted, J.T., and Vul, E. (2008). The Effects of Tests on Learning and Forgetting. *Memory and Cognition*, 36: 438-448.

Cepeda, N. J., Coburn, N., Rohrer, D., Wixted, J. T., Mozer, M. C., and Pashler, H. (2009). Optimizing Distributed Practice: Theoretical Analysis and Practical Implications. *Experimental Psychology*, 56: 236-246.

Cepeda, N. J., Vul, E., Rohrer, D., Wixted, J. T., and Pashler, H. (2008). Spacing Effects in Learning: A Temporal Ridgeline of Optimal Retention. *Psychological Science*, 19: 1095-1102.

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Rohrer, D. (in press). Avoidance of Overlearning Characterizes the Spacing Effect. *European Journal of Cognitive Psychology*.

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Rohrer, D. and Pashler, H. (2010). Recent Research on Human Learning Challenges Conventional Instructional Strategies. *Educational Researcher*, 39(5): 406-412.

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Taylor, K., and Rohrer, D. (in press). The Effects of Interleaved Practice. *Applied Cognitive Psychology*.

Institution: University of Illinois

Principal Investigator: Brian Ross

Project Title: Conceptual Analysis and Student Learning in Physics

Grant: R305B070407

D.T. Brookes, B.H. Ross, and J.P. Mestre (2008), The Specificity Effect: An Example from Refraction. In C. Henderson, M. Sabella and L. Hsu (Eds.), *Proceedings of the 2008 Physics Education Research Conference* (pp. 83-86). Melville, NY: American Institute of Physics.

Mestre, J.P., Ross, B.H., Brookes, D.T., Smith, A.D., and Nokes, T.J., (2009). How Cognitive Science Can Promote Conceptual Understanding in Physics Classrooms. I.M. Saleh and Khine, M.S. (Eds.), *Fostering Scientific Habits of Mind: Pedagogical Knowledge and Best Practices in Science Education*. Rotterdam, Netherlands: Sense Publishers.

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Institution: University of Notre Dame

Principal Investigator: Nicole McNeil

Project Title: Arithmetic Practice that Promotes Conceptual Understanding and Computational Fluency

Grant: R305B070297

Brown, M. C., McNeil, N. M., and Glenberg, A. M. (2009). Using Concreteness in Education: Real Problems, Potential Solutions. *Child Development Perspectives*, 3: 160-164.

Keultjes, M. C., Gibson, M. H., and McNeil, N. M. (2009). Children's Understanding of Approximate Addition Depends on Problem Format. In N. A. Taatgen and H. van Rijn (Eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 329-334). Austin, TX: Cognitive Science Society.

Knuth, E. J., Alibali, M. W., Hattikudur, S., McNeil, N. M., and Stephens, A. C. (2008). The Importance of Equal Sign Understanding in the Middle Grades. *Mathematics Teaching in the Middle School*, 13: 514-520.

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McNeil, N. M., Rittle-Johnson, B., Hattikudur, S., and Petersen, L. A. (2010). Continuity in Representations Between Children and Adults: Arithmetic Knowledge Hinders Undergraduates' Algebraic Problem Solving. *Journal of Cognition and Development*.

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Petersen, L. A., Heil, J. K., McNeil, N. M., and Haeffel, G. J. (2010). Learning from Errors in Game-Based Versus Formal Mathematics Contexts. In S. Ohlsson and R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

FY 2008

Institution: Carnegie Mellon University

Principal Investigator: Robert Siegler

Project Title: Improving Children's Numerical Understanding

Grant: R305H080013

Siegler, R. S. (2009). Improving Preschoolers' Number Sense Using Information Processing Theory. In O. A. Barbarin And B. H. Wasik (Eds.), *Handbook of Child Development and Early Education: Research to Practice* (pp. 429-454). New York, NY: Guilford.

Siegler, R. S. (2009). Improving the Numerical Understanding of Children from Low-Income Families. *Child Development Perspectives*, 3: 118-124.

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Siegler, R.S., Fazio, L.K., and Pyke, Aryn. (2011). There is Nothing So Practical As a Good Theory. In Mestre, J.P. and Ross, B.H. (Eds.), *The Psychology of Learning and Motivation, Volume 55*. San Diego, CA: Elsevier Inc.

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Schneider, M., and Siegler, R. S. (2010). Representations of the Magnitudes of Fractions. *Journal of Experimental Psychology: Human Perception and Performance*.

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 and L. Vuletic (Eds.). New York, NY: Springer Press.

Thompson, C. A., and Siegler, R. S. (2010). Linear Numerical Magnitude Representations Aid Children's Memory for Numbers. *Psychological Science*.

Institution: Kent State University

Principal Investigator: Katherine Rawson

Title: Developing the Retrieval-Monitoring-Feedback (RMF) Method for Improving the Durability and Efficiency of Student Learning

Grant: R305A080316

Pyc, M. A., and Rawson, K. A. (2009). Testing the Retrieval Effort Hypothesis: Does Greater Difficulty Correctly Recalling Information Lead to Higher Levels of Memory? *Journal of Memory and Language*, 60, 437-447.

Institution: Northwestern University

Principal Investigator: Lance Rips

Project Title: The Organization of Mathematical Knowledge

Grant: R305A080341

Bartels, D.M., and Rips, L.J. (2010). Psychological Connectedness and Intertemporal Choice. *Journal of Experimental Psychology: General*, 139(1): 49-69.

Institution: University of Illinois, Urbana Champaign

Principal Investigator: Richard Anderson

Project Title: Mindful Instruction of Nonmainstream Children

Grant: R305A080347

Jadallah, M., Anderson, R. C., Nguyen-Jahiel, K., Miller, B. W., Kim, I., Kou, L., Wu, X., and Dong, T. (2010). Influence of a Teacher's Scaffolding Moves during Child-Led Small-Group Discussions, *American Educational Research Journal*.

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Miller, B., Sun, J., Wu, X., and Anderson, R. C. (in press). Child Leaders in Collaborative Groups, in C. Hmelo-Silver, A. O'Donnell, C. Chan, and C. Chinn (Eds.) *International Handbook of Collaborative Learning*. London: Taylor and Francis.

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Reznitskaya, A., Kuo, L.-J., Glina, M., and Anderson, R. C. (2008). Measuring Argumentation: What's Behind the Numbers? *Learning and Individual Differences*.

Institution: University of Massachusetts, Amherst

Principal Investigator: Beverly Woolf

Title: Teaching Every Student: Using Intelligent Tutoring and Universal Design to Customize the Mathematics Curriculum

Grant: R305A080664

Woolf, B.P., Arroyo, I., Muldner, K., Burses, W., Cooper, D., Dolan, R., and Christopherson, R.M. (2010). *The Effect of Motivational Learning Companions on Low-Achieving Students and Students with Learning Disabilities*. International Conference on Intelligent Tutoring Systems, Pittsburgh, PA.

Institution: University of Texas Health Science Center at Houston

Principal Investigator: Jason Anthony

Title: Efficacy of Earobics Step I in English Language Learners and Low SES Minority Children

Grant: R305A080196

Anthony, J. L., Aghara, R. G., Solari, E. J., Dunkelberger, M. J., Williams, J. M., Liang, L. (in press). Quantifying Phonological Representation Abilities in Spanish Speaking Preschool Children. *Applied Psycholinguistics*.

Anthony, J.L., Solari, E.J., Williams, J.M., Schoger, K.D., Zhang, Z., Branum-Martin, L. and Francis, D.J.(2009) Development of Bilingual Phonological Awareness in Spanish-Speaking English Language Learners: The Roles of Vocabulary, Letter Knowledge, and Prior Phonological Awareness. *Scientific Studies of Reading, 13(6)*: 535 - 564

Institution: Vanderbilt

Principal Investigator: Laura Novick

Title: A Cognitive Approach to Implementing Tree Thinking in High School and College Biology Curricula

Grant: R305A080621

Novick, L. R., Catley, K. M., and Funk, D. J. (in press). Characters are Key: The Effect of Synapomorphies on Cladogram Comprehension. *Evolution: Education and Outreach*.

2011

Institution: Florida State University

Principal Investigator: Fara Rohani

Title: An Alternative Statewide Assessment Strategy that Uses Test Results to Support Learning and Includes Measures of Problem Solving

Grant: R305A110121

Oosterhof, A. (2011). Upgrading High-Stakes Assessments. *Better: Evidence-based Education*, 3(3), 20-21.

Early Learning Programs and Policies

FY2008

Institution: Florida State University

Principal Investigators: Cynthia Puranik and Christopher Lonigan

Project Title: Test of Emergent Writing Skills

Grant: R305A080488

Puranik, C., and Al Otaiba, S. (in press). Examining the Contribution of Handwriting and Spelling to Written Expression in Kindergarten Children. *Reading and Writing: An Interdisciplinary Journal*.

Puranik, C. and Apel, K. (2010). Effect of Assessment Task and Letter Writing Ability on Preschool Children's Spelling Performance. *Assessment for Effective Instruction* (Special Issue on Spelling).

Puranik, C., Lonigan, C., and Kim, Y. (in press). Contributions of Emergent Literacy Skills to Name Writing, Letter Writing, and Spelling in Preschool Children. *Early Childhood Research Quarterly*.

Institution: Ohio State University

Principal Investigator: Laura Justice

Project Title: Efficacy of *Read It Again!* in Rural Preschool Settings

Grant: R305A080459

Pentimonti, J.M. and Justice, L.M. (2010). Teachers' Use of Scaffolding Strategies During Read-Alouds in the Preschool Classroom. *Early Childhood Education Journal*, 37: 241-248.

Education Leadership

FY 2004

Institution: MDRC

Principal Investigator: Janet Quint

Project Title: Learning From Efforts to Strengthen Educational Leadership in Urban School Districts

Grant: R305E040100

Quint, J.C., Akey, T.M., Rappaport, S., and Willner, C.J. (2007). *Instructional Leadership, Teaching Quality, and Student Achievement: Suggestive Evidence From Three Urban School Districts*. New York, NY: MDRC.

Institution: University of Pennsylvania

Principal Investigator: Jonathan Supovitz

Project Title: Assessing the Impact of Principals' Professional Development: An Evaluation of the National Institute for School Leadership

Grant: R305E040085

Barnes, C. A., Camburn, E., Sanders, B.R., and Sebastian, J. (2010). Developing Instructional Leaders: Using Mixed Methods to Explore the Black Box of Planned Change in Principals' Professional Practice. *Educational Administration Quarterly*, 46(2): 241-279.

Camburn, E.M., Spillane, J., and Sebastian, J. (2010). Assessing the Utility of a Daily Log for Evaluations Involving School Principals. *Educational Administration Quarterly*. *Educational Administration Quarterly*, 46(5): 707-737.

Camburn, E.M., Huff, J., Goldring, E., and May, H. (2010). Assessing the Validity of Annual Surveys for Measuring Principal Leadership Practice. *Elementary School Journal*, 111(2): 314-335.

Goldring, E., Huff, J., May, H., and Camburn, E. (2008). School Context and Individual Characteristics: What Influences Principal Practice? *Journal of Educational Administration*, 46(3): 332-352.

Goldring, E., Huff, J., Spillane, J. P., and Barnes, C. A. (2009). Measuring the Learning-centered Leadership Expertise of School Principals. *Leadership and Policy in Schools*, 8(2): 197-228.

May, H. and Supovitz, J.A. (2011). The Scope of Principal Efforts to Improve Instruction. *Educational Administration Quarterly*, 47(2): 332-352.

Spillane, J.P., Camburn, E.M., and Pareja, A.S. (2007). Taking a Distributed Perspective to the School Principal's Workday. *Leadership and Policy in Schools*, 6(1): 103-125.

Supovitz, J., Sirinides, P., and May, H. (2010). How Principals and Peers Influence Teaching and Learning. *Educational Administration Quarterly*, 46(1): 31-56.

Spillane, J.P., Pareja, A.S., Dorner, L., Barnes, C., May, H., Huff, J., and Camburn, E.M. (2010). Mixing Methods in Randomized Controlled Trials (RCTs): Validation, Contextualization, Triangulation, and Control. *Educational Assessment, Evaluation and Accountability*, 22:5-28.

FY 2005**Institution:** University of Wisconsin, Madison**Principal Investigator:** Anthony Milanowski**Project Title:** Study of Innovative School Leadership Performance Evaluation Systems**Grant:** R305E050135

Kimball, S.M., and Milanowski, A.T., and McKinney, S.A. (2009). Assessing the Promise of Standards-Based Performance Evaluation for Principals: Results From a Randomized Trial. *Leadership and Policy in Schools*, 8(3): 233-236.

Kimball, S.M., Heneman, H.G. III, and Milanowski, A. (2007). Performance Evaluation and Compensation for Public School Principals: Results From a National Survey. *ERS Spectrum*, 25:4-21.

FY 2008**Institution:** University of Pennsylvania**Principal Investigator:** Porter Andrew**Project Title:** The Development and Validation of the Vanderbilt Assessment of Leadership in Education**Grant:** R305A080370

Elliott, S.N., Murphy, J., Goldring, E., and Porter, A. (2008). *VAL-ED Handbook: Implementation and Interpretation of the Vanderbilt Assessment of Leadership in Education*. Nashville, TN: Discovery Education Assessments.

Elliott, S.N., Murphy, J., Goldring, E., and Porter, A. (2008). *VAL-ED Users' Guide*. Nashville, TN: Discovery Education Assessments.

Goldring, E. Porter, A. Polikoff, M (2008). *Report on the Study to Evaluate the Performance Level Descriptors for the VAL-ED*. New York, NY: Wallace Foundation.

Goldring, E., Cravens, X., Murphy, J. Porter, A., Elliott, S., and Carson, B. (2009). The Evaluation of Principals: What and How Do States and Urban Districts Assess Leadership? *Elementary School Journal*, 110(1): 19-39.

Goldring, E., Porter, A., Murphy, J., Elliott, S. N., and Cravens, X. (2009). Assessing Learning-Centered Leadership: Connections to Research, Professional Standards, and Current Practices. *Leadership and Policy in Schools*, 8: 1-36.

Goldring, E., Porter, A.C., Murphy, J., Elliott, S.N., and Cravens, X. (2007, March). *Assessing Learning-centered Leadership: Connections to Research, Professional Standards, and Current Practice*. New York, NY: Wallace Foundation.

Murphy, J., Elliott, S.N., Goldring, E., and Porter, A.C. (2007). Leadership for Learning: A Research-based Model and Taxonomy of Behaviors. *School Leadership and Management*, 27(2): 179-201.

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Murphy, J., Elliott, S.N., Goldring, E.B., and Porter, A.C. (2006). *Learning-Centered Leadership: A Conceptual Foundation*. New York, NY: Wallace Foundation

Murphy, J., Goldring, E., Cravens, X., Elliott, S.N., and Porter, A.C. (2011). The Vanderbilt Assessment of Leadership in Education: Measuring Learning-centered Leadership. *Journal of East China Normal University*, 29(1): 1-10.

Polikoff, M.S., May, H., Porter, A.C., Elliott, S.N., Goldring, E., and Murphy, J. (2009). An Examination of Differential Item Functioning in the Vanderbilt Assessment of Leadership in Education. *Journal of School Leadership*, 19(6): 661-679.

Porter, A. C., Polikoff, M., Goldring, E. B., Murphy, J., Elliott, S. N., and May, H. (2010). Developing a Psychometrically Sound Assessment of School Leadership: The VAL-ED as a Case Study. *Educational Administration Quarterly*, 46(2): 135-173

Porter, A.C., Goldring, E.B., Elliott, S.N., Murphy, J., Polikoff, M., and Cravens, X. (2008). *Setting Performance Standards for the VAL-ED Assessment of Principal Leadership*. New York, NY: Wallace Foundation.

Porter, A.C., Goldring, E.B., Murphy, J., Elliott, S.N., and Cravens, X. (2006). *A Framework for the Assessment of Learning-centered Leadership*. New York, NY: Wallace Foundation.

Porter, A.C., Murphy, J., Goldring, E.B., and Elliott, S.N. (2008). *VAL-ED: The Vanderbilt Assessment of Leadership in Education*. Nashville, TN: Discovery Education Assessments.

Porter, A.C., Murphy, J., Goldring, E.B., Elliott, S.N., Polikoff, M. S., and May, H. (2008). *VAL-ED: Technical Manual (Version 1.0)*. Nashville, TN: Discovery Education Assessments.

Porter, A.C., Polikoff, M.S., Goldring, E., Murphy, J.; Elliott, S.N.; and May, H. (2010) Investigating the validity and reliability of the Vanderbilt Assessment of Leadership in Education. *Elementary School Journal*, 111(2): 282-313

FY 2009

Institution: Syracuse University
Principal Investigator: Benjamin Dotger
Project Title: School Leader Communication Model
Grant: R305A090421

Dotger, B. (in press). The School Leader Communication Model: An Emerging Method for Bridging School Leader Preparation and Practice. *Journal of School Leadership*.

FY 2010

Institution: Stanford University
Principal Investigator: Sussana Loeb
Project Title: Assessing School Leaders' Development of Management Skills and Leadership: A Longitudinal Mixed-Methods Study
Grant: R305A100286

Grissom, J. and Loeb, S. (2011). Triangulating Principal Effectiveness: How Perspectives of Parents, Teachers, and Assistant Principals Identify the Central Importance of Managerial Skills. *American Education Research Journal*, 48 (5): 1091-1123.

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Loeb, S., Kalogrides, D., and Beteille, T. (in press). Effective Schools: Teacher Hiring, Assignment, Development, and Retention. *Education Finance and Policy*.

Loeb, S., Kalogrides, D. and Hornig, E. (2010). Principal Preferences and the Uneven Distribution of Principals Across Schools. *Education Evaluation and Policy Analysis*, 32(2): 205-229.

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Education Policy, Finance, and Systems

FY 2004

Institution: Empirical Education
Principal Investigator: Denis Newman
Project Title: Low Cost Experiments to Support Local School District Decisions
Grant: R305E040031

R305E040096

Institution: New York University
Principal Investigator: Leanna Stiefel
Project Title: How Should We Organize Primary Schooling? Grade Span, School Size, and Student Academic Achievement
Grant: R305E040096

Rubenstein, R., Schwartz, A.E., Stiefel, L., and Zabel, J. (2009). Spending, Size, and Grade Span in K-8 Schools, *Education Finance and Policy*, 4(1): 60-88.

Schwartz, A.E., Stiefel, L., Rubenstein, R. and Zabel, J. (2011). The Path Not Taken: How Does School Organization Affect 8th Grade Achievement? *Educational Evaluation and Policy Analysis*, 33 (3): 293-317.

Institution: Vanderbilt University
Principal Investigator: Ellen Goldring
Project Title: Public School Choice: Magnet Schools, Peer Effects, and Student Achievement
Grant: R305E040056

Ballou, D. (2009). Magnet School Outcomes. In M. Berends, M.G. Springer, D. Ballou, and H.J. Walberg (Eds.), *Handbook of Research on School Choice*. New York, NY: Taylor and Francis Group.

Goldring, E. (2009). Perspectives on Magnet Schools. In M. Berends, M.G. Springer, D. Ballou, and H.J. Walberg (Eds.), *Handbook of Research on School Choice*. New York, NY: Taylor and Francis Group.

FY 2005

Institution: National Bureau of Economic Research
Principal Investigator: Patrick Bayer
Project Title: The Unintended Consequences of a Major Education Policy Reform: California's Class Size Reduction, Student Achievement, and the 'Social Multiplier'
Grant: R305E050137

Bayer, P., Fernando, F., and Mcmillan, R. (2007). A Unified Framework for Measuring Preferences for Schools and Neighborhoods, *Journal of Political Economy*, 115(4):2001-2052.

Institution: National Bureau of Economic Research

Principal Investigator: Thomas Kane

Project Title: Implementing Public School Choice in Charlotte, NC: Impacts on Student Outcomes, Competitiveness and Racial Segregation

Grant: R305E050052

Hastings, J.S., Kane, T.J., and Staiger, D.O. (2005). Parental Preferences and School Competition: Evidence From a Public School Choice Program (NBER Working Paper #11805). Cambridge, MA: National Bureau of Economic Research, Inc.

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Institution: Pennsylvania State University

Principal Investigator: William Hartman

Project Title: Cost Accounting for Student-Level Resources

Grant: R305E050089

Denison, D., Hartman, W., Stiefel, L., and Moser Degan, M. A Model for School-Level Resource Reporting: Benefits and Challenges. *Public Performance and Management Review*, 35(1): 29-53.

FY 2007

Institution: Carnegie Mellon University

Principal Investigator: Dennis Epple

Project Title: Determinants of Student Outcomes in an Urban School District: Educational Interventions and Family Choices

Grant: R305A07117

Billie, D., Engberg, J., Epple, D., Sieg, H., and Zimmer, R. Evaluating the Gifted Program of an Urban School District using a Modified Regression Discontinuity Design NBER Working Paper 16414. National Bureau of Economic Research.

Engberg, J., Epple, D., Imbrogno, J., Sieg, H. and Zimmer, R. Identification and Estimation of Treatment Effects when Program Participation is Partially Determined by Lotteries: The Case of Magnet Programs NBER Working Paper, 14842 and NCSPE Working Paper 196. National Bureau of Economic Research.

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Institution: Western Michigan University

Principal Investigator: Gary Miron

Project Title: Evaluation of the Kalamazoo Promise

Grant: R305A07381

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- Jones, J., Miron, G., and Kelaher Young, A.J. (2008). *The Impact of the Kalamazoo Promise on Teachers' Expectations for Students*. Working Paper #5. Kalamazoo, MI: The Western Michigan University Evaluation Center. Kalamazoo, MI: The Western Michigan University Evaluation Center.
- Miron, G., and Cullen, A. (2008). *Trends and Patterns in Student Enrollment for Kalamazoo Public Schools*. Working Paper #4. Kalamazoo, MI: The Western Michigan University Evaluation Center.
- Miron, G., and Evergreen, S. (2008). *The Kalamazoo Promise as a Catalyst for Change in an Urban School District: a Theoretical Framework for the Evaluation of the Kalamazoo Promise*. Working Paper #1.
- Miron, G., Jones, J.N., and Kelaher-Young, A.J. (2010-2011) Kalamazoo Promise: Can a Universal College Scholarship Reform Urban Education? *Phi Delta Kappan*, 92(4): 50-56v.
- Miron, G., Jones, J.N., and Kelaher Young, A.J. (2009). *The Impact of the Kalamazoo Promise on School Climate*. Working Paper #7. Kalamazoo, MI: The Western Michigan University Evaluation Center.
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- Tornquist, E., Gallegos, K., and Miron, G. (2010). *Latinos and the Kalamazoo Promise: An Exploratory Study of the Factors Related to Utilization of the Kalamazoo's Universal Scholarship Program*. Working Paper #8. Kalamazoo, MI: The Western Michigan University Evaluation Center.

Institution: Stanford University

Principal Investigator: Sean Reardon

Project Title: The Effects of Racial School Segregation on the Black-White Achievement Gap

Grant: R305A070377

- Ho, A.D., and Reardon, S.F. (in press). Estimating Achievement Gaps from Test Scores Reported in Ordinal 'Proficiency' Categories. *Journal of Educational and Behavioral Statistics*.
- Reardon, S.F., and Rhodes, L. (in press). The Effects of Socioeconomic School Integration Plans on Racial School Desegregation. In E. Frankenberg and E. DeBray (Eds.), *Integrating Schools in a Changing Society: New Policies and Legal Options for a Multiracial Generation*. Chapel Hill, NC: University of North Carolina Press.
- Reardon, S.F., Yun, J.T., and Chmielewski, A.K. (in press). Suburbanization and School Segregation. In William F. Tate (Ed.), *Research on Schools, Neighborhoods, and Communities: Toward Civic Responsibility*. Washington, DC: American Educational Research Association.
- Reardon, S.F., Grewal, E., Kalogrides, D., and Greenberg, E. (2011). Brown Fades: The End of Court Ordered School Desegregation and the Resegregation of American Public Schools." Stanford Center for Education Policy Analysis Working Paper.
- Reardon, S.F. (2008) Thirteen Ways of Looking at the Black-White Test Score Gap. Working paper 2008-08. Institute for Research on Education Policy and Practice, Stanford University.
- Reardon, S.F. (2008) Differential Growth in the Black-White Achievement Gap During Elementary School Among Initially High- and Low-Scoring Students. Working paper 2008-07. Institute for Research on Education Policy and Practice, Stanford University.

FY 2008

Institution: National Bureau of Economic Research

Principal Investigator: Susan Dynarski

Project Title: Catholic School Prices, Private School Attendance, and Student Outcomes

Grant: R305A080202

Dynarski, S. , Gruber, J., and Li, D. (2009). Cheaper By the Dozen: Using Sibling Discounts at Catholic Schools to Estimate the Price Elasticity of Private School Attendance. NBER Working Paper No. 15461 National Bureau for Economic Research.

Institution: University of Pennsylvania

Principal Investigator: John Fantuzzo

Project Title: Kids Integrated Data System (KIDS): An Evidence-Based System for Enhancing Educational Proficiency and Social Adjustment

Grant: R305A080309

Fantuzzo, J., Perlman, S., and Dobbins, E., (2011). Types and Timing of Child Maltreatment and Early School Success: A population-based investigation. *Children and Youth Services Review*, 33, 1404-1411. Special Issue on the maltreatment of young children.

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Rouse, H.L., Fantuzzo, J.W., and LeBoeuf, W. (2011). Comprehensive Challenges for the Well Being of Young Children: A Population-based Study of Publicly Monitored Risks in a Large Urban Center. *Child and Youth Care Forum*, doi:10.1007/s10566-010-9138-y.

Education Technology

FY 2008

Institution: Carnegie Mellon University

Principal Investigator: David (Jack) Mostow

Project Title: Accelerating fluency development in an automated reading tutor

Grant: R305A080628

Duong, M., and Mostow, J. (2009). Detecting Prosody Improvement in Oral Rereading. Second ISCA Workshop on Speech and Language Technology in Education (SLaTE), Wroxall Abbey Estate, Warwickshire, England.

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González-Brenes, J. P., and Mostow, J. (2011). Classifying Dialogue in High-Dimensional Space. *ACM Transactions on Speech and Language Processing (Special Issue on Machine Learning for Adaptivity in Dialogue Systems)*, 7(3), 8:1-15.

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Korsah, G. A., Mostow, J., Dias, M. B., Sweet, T. M., Belousov, S. M., Dias, M. F., and Gong, H. (2010). Improving Child Literacy in Africa: Experiments with an Automated Reading Tutor. *Information Technologies and International Development*, 6(2), 1-19.

Mostow, J., Beck, J., Cuneo, A., Gouvea, E., Heiner, C., and Juarez, O. (2010). Lessons from Project LISTEN's Session Browser. In C. Romero, S. Ventura, S. R. Viola, M. Pechenizkiy, and R. S. J. d. Baker (Eds.), *Handbook of Educational Data Mining*, 389-416: Taylor and Francis Group.

Mostow, J., Chang, K.-m., and Nelson, J. (2011, June 28 - July 2). *Toward Exploiting EEG Input in a Reading Tutor*. Proceedings of the 15th International Conference on Artificial Intelligence in Education, Auckland, NZ, 230-237.

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Mostow, J., Xu, Y., and Munna, M. (2011, July 6-8). Desperately Seeking Subscripts: Towards Automated Model Parameterization. In M. Pechenizkiy, T. Calders, C. Conati, S. Ventura, C. Romero, and J. Stamper (Eds.), *Proceedings of the 4th International Conference on Educational Data Mining* (pp. 283-287). Eindhoven, Netherlands.

Xu, Y., and Mostow, J. (2011, July 6-8). Logistic Regression in a Dynamic Bayes Net Models Multiple Subskills Better! [Best Poster Nominee]. In M. Pechenizkiy, T. Calders, C. Conati, S. Ventura, C. Romero, and J. Stamper (Eds.), *Proceedings of the 4th International Conference on Educational Data Mining* (pp. 337-338). Eindhoven, Netherlands.

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Institution: Harvard University

Principal Investigator: Christopher Dede

Project Title: Virtual Performance Assessments for Measuring Student Achievement in Science

Grant: R305A080141

Clarke, J., and Dede, C. (2010). Assessment, Technology, and Change. *Journal of Research in Teacher Education*, 42(3): 309–328.

Institution: University of Massachusetts, Amherst

Principal Investigator: Beverly Woolf

Project Title: Teaching Every Student: Using Intelligent Tutoring And Universal Design to Customize the Mathematics Curriculum

Grant: R305A080664

Arroyo, I., Cooper, D., Bursleson, W., and Woolf, B.P. (2009). Bayesian Networks and Linear Regression Models of Students' Goals, Moods and Emotions. In Ryan S.J.D. Baker, Kalina Yacef, (Eds.), *Handbook of Educational Data Mining*. (Chapter 23). New York, NY: Routledge Press.

Arroyo, I., Mehranian, H., and Woolf, B. (2010). Effort-based Tutoring: An Empirical Approach to Intelligent Tutoring. *The Third International Conference on Educational Data Mining (EDM2010)*. (pp 1-10). Pittsburgh, PA.

Arroyo, I., Woolf, B.P., Royer, J.M., Tai, M., and English, S. (2010). Improving Learning Through Intelligent Tutoring and Basic Skills Training. In V. Aleven, J. Kay, and J. Mostow (Eds.) *International Conference on Intelligent Tutoring*. (pp. 423-432). Pittsburgh, PA.

Cooper, D., Muldner, K., Arroyo, I., Woolf, B.P., and Bursleson, W. (2010). Ranking Feature Sets for Emotion Models used in Classroom Based Intelligent Tutoring Systems, In the *International Conference on User Modeling and Adaptive Presentation*. (pp. 135-146). Honolulu, HI.

Shanabrook, D., Cooper, D., Woolf, B., and Arroyo, I. (2010) Identifying High-Level Student Behavior Using time-based Motif Discovery. *The Third International Conference on Educational Data Mining (EDM2010)*. (pp 191-200). Pittsburgh, PA.

Woolf, B. (2010). Social and Caring Tutors, KEYNOTE ADDRESS, Published in the Full Proceedings, V. Aleven, J. Kay, and J. Mostow (Eds.) *International Conference on Intelligent Tutoring Systems*. (pp 5-13). Pittsburg, PA.

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Woolf, B. P., Bursleson, W., Arroyo, I., Dragon, T., and Picard, R. (2009). Affect-Aware Tutors: Recognizing and Responding to Student Affect Emotional Intelligence for Computer Tutors, *Special Issue on Modeling and Scaffolding Affective Experiences to Impact Learning, International Journal of Learning Technology*, 4(3-4): 129 – 164.

Institution: The University of Memphis

Principal Investigator: Danielle McNamara

Project Title: The Writing Pal: An Intelligent Tutoring System that Provides Interactive Writing Strategy Training

Grant: R305A080589

Crossley, S. A., Greenfield, J., and McNamara, D. S. (in press). Assessing Text Readability Using Psycholinguistic Indices. *TESOL Quarterly*.

Crossley, S. A., Salsbury, T., and McNamara, D. S. (2009). Measuring L2 Lexical Proficiency Using Hypernymic Relationships. *Language Learning*, 59(2): 307-334.

Crossley, S.A., and McNamara, D.S. (in press). Predicting Second Language Writing Proficiency: The Role of Cohesion, Readability, and Lexical Difficulty. *Journal of Research in Reading*.

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Dempsey, K.B., McCarthy, P.M., Myers, J.C., Weston, J., and McNamara, D.S. (2009). Determining Paragraph Type From Paragraph Position. In C.H. Lane and H.W. Guesgen (Eds.), *Proceedings of the 22nd International Florida Artificial Intelligence Research Society (FLAIRS) Conference* (pp.33-38). Menlo Park, CA: The AAAI Press.

Duran, N. D., Hall, C., McCarthy, P. M., and McNamara, D. S. (in press). Pragmatic Deception and the Role of Lying. *Applied Psycholinguistics*.

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Graesser, A.C., Conley, M., and Olney, A. (in press). Intelligent Tutoring Systems. In S. Graham and K. Harris (Ed.), *APA Handbook of Educational Psychology*. Washington, DC: American Psychological Association.

Graesser, A.C., D'Mello, S.K., Cade, W. (in press). Instruction Based on Tutoring. In R.E. Mayer and P.A. Alexander (Eds.), *Handbook of Research on Learning and Instruction*. New York, NY: Routledge Press.

Graesser, A.C., Franceschetti, D., Gholson, B., and Craig, S. (in press). Learning Newtonian Physics with Conversational Agents and Interactive Simulation. N. Stein (Ed), *Developmental and Learning Sciences Go to School: Implications for Education and Public Policy*.

Graesser, A.C., and McNamara, D.S. (in press). Computational Analyses of Multilevel Discourse Comprehension. *Topics in Cognitive Science*.

Graesser, A.C. and McNamara, D.S. (in press). Use of Computers to Analyze and Score Essays and Open-Ended Verbal Responses. In H. Cooper, P. Camic, R. Gonzalez, D. Long, and A. Panter (Eds.), *APA Handbook of Research Methods in Psychology*. Washington, DC: American Psychological Association.

Graesser, A.C., McNamara, D.S., and Louwerse, M.M. (in press). Methods of Automated Text Analysis. In M.L. Kamil, P.D. Pearson, E.B. Moje, and P. Afflerbach (Eds.), *Handbook of Reading Research: Volume IV*. Mahwah, NJ: Erlbaum.

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Lintean, M., Moldovan, C., Rus, V., and McNamara, D.S. (2010). The Role of Local and Global Weighting in Assessing the Semantic Similarity of Texts Using Latent Semantic Analysis. In H.W. Guesgen and C. Murray (Eds.), *Proceedings of the 23rd International Florida Artificial Intelligence Research Society (FLAIRS) Conference*. Menlo Park, CA: The AAAI Press.

McCarthy, P.M. (in press). GPAT: A Genre Purity Assessment Tool. In H.W. Guesgen and C. Murray (Eds.), *Proceedings of the 23rd International Florida Artificial Intelligence Research Society (FLAIRS) Conference*. Menlo Park, CA: The AAAI Press.

McCarthy, P.M. and Jarvis, S. (in press). MTL, vocd-D, and HD-D: A Validation Study of Sophisticated Approaches to Lexical Diversity Assessment. *Behavior Research Methods*.

McCarthy, P. M., Cai, Z., and McNamara D. S., (in press). Computational Replication of Human Assessments of Paraphrase. In C. H. Lane and H. W. Guesgen (Eds.), *Proceedings of the 22nd International Florida Artificial Intelligence Research Society Conference*. Menlo Park, CA: The AAAI Press.

McCarthy, P. M., Guess, R., McNamara, D. S. (in press). The Components of Paraphrase. *Behavior Research Methods*.

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McNamara, D.S., Crossley, S.A., and McCarthy, P.M. (2010). Linguistic Features of Writing Quality. *Written Communication*, 27: 57-86.

McNamara, D.S., Graesser, A.C., McCarthy, P.M., and Cai, Z. (in press). *Coh-Metrix: Automated Evaluation of Text and Discourse*. Boston, MA: Cambridge University Press.

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Min, H.C. and McCarthy, P.M. (in press). Identifying Varietals in the Discourse of American and Korean Scientists: A Contrastive Corpus Analysis Using The Gramulator. In H.W. Guesgen and C. Murray (Eds.), *Proceedings of the 23rd International Florida Artificial Intelligence Research Society (FLAIRS) Conference*. Menlo Park, CA: The AAAI Press.

Renner, A. M., McCarthy, P. M., and McNamara D. S. (in press). Computational Considerations in Correcting User-Language in an ITS Environment. In C. H. Lane and H. W. Guesgen (Eds.), *Proceedings of the 22nd International Florida Artificial Intelligence Research Society Conference*. Menlo Park, CA: The AAAI Press.

Rus, V., McCarthy, P.M., Graesser, A.C., and McNamara, D.S. (2009). Identification of Sentence-to-Sentence Relations Using a Textual Entailer. *Research on Language and Computation*, 7: 1-21.

Weston, J., Crossley, S.A., and McNamara, D.S. (2010). Differences in Freewriting Quality: Perspectives, Approaches, and Applications. In P.M. McCarthy and C. Boonthum (Eds.), *Applied Natural Language Processing and Content Analysis: Identification, Investigation, and Resolution*. Hershey, PA: IGI Global.

Weston, J. Crossley, S.A., and McNamara, D.S. (2010). Towards A Computational Assessment of Freewriting Quality. In H.W. Guesgen and C. Murray (Eds.), *Proceedings of the 23rd International Florida Artificial Intelligence Research Society (FLAIRS) Conference*. Menlo Park, CA: The AAAI Press.

Institution: The University of Memphis

Principal Investigator: Andrew Olney

Project Title: Guru: A Computer Tutor that Models Expert Human Tutors

Grant: R305A080594

Baker, R.S., D'Mello, S.K., Rodrigo, M.T., and Graesser, A.C. (2010). Better to Be Frustrated than Bored: The Incidence, Persistence, and Impact of Learners' Cognitive-Affective States during Interactions with Three Different Computer-Based Learning Environments. *International Journal of Human-Computer Studies*, 68: 223-241.

D'Mello, S. K., Olney, A., and Person, N. (in press). Mining Collaborative Patterns in Tutorial Dialogues. *Journal of Educational Data Mining*.

D'Mello, S., Craig, S., and Graesser, A. (2009). Multi-Method Assessment of Affective Experience and Expression during Deep Learning. *International Journal of Learning Technology*, 4(3/4):165-187.

D'Mello, S. K. and Graesser, A. C. (2009). Automatic Detection of Learners' Emotions from Gross Body Language. *Applied Artificial Intelligence*, 23(2): 123-150.

- D'Mello, S., and Graesser, A.C. (2010). Multimodal Semi-Automated Affect Detection from Conversational Cues, Gross Body Language, and Facial Features. *User Modeling and User-adapted Interaction*, 20 (2): 147-187.
- D'Mello, S., King, B., Chipman, P., and Graesser, A.C. (in press). Towards Spoken Human-Computer Tutorial Dialogues. *Human Computer Interaction*.
- D'Mello, S. K., and Graesser, A. C. (2009). Automatic Detection of Learner's Affect from Gross Body Language. *Applied Artificial Intelligence*, 23: 123–150.
- Gholson, B., Witherspoon, A., Morgan, B., Brittingham, J. K., Coles, R., Graesser, A. C., Sullins, J., and Craig, S. D. (2009). Exploring the Deep-Level Reasoning Questions Effect during Vicarious Learning among Eighth to Eleventh Graders in the Domains of Computer Literacy and Newtonian Physics. *Instructional Science*, 37: 487-493.
- Graesser, A.C. (2009). Cognitive Scientists Prefer Theories and Testable Principles with Teeth. *Educational Psychologist*, 44: 193-197.
- Louwerse, M. M., Graesser, A. C., McNamara, D. S., and Lu, S. (2009). Embodied Conversational Agents as Conversational Partners. *Applied Cognitive Psychology*, 23: 1244-1255.
- Graesser, A.C., and McNamara, D.S. (in press). Computational Analyses of Multilevel Discourse Comprehension. *Topics in Cognitive Science*.
- Rus, V., McCarthy, P.M., McNamara, D.S., and Graesser, A.C. (in press). Identification of Sentence-to-Sentence Relations Using a Text Entailer. *Research on Language and Computation*.
- Wiley, J., Goldman, S. R., Graesser, A. C., Sanchez, C. A., Ash, I. K., and Hemmerich, J. A. (2009). Source Evaluation, Comprehension, and Learning in Internet Science Inquiry Tasks. *American Educational Research Journal*. 46 (4): 1060-1106.

Interventions for Struggling Adolescent and Adult Readers and Writers

FY 2007

Principal Investigator: Daryl Mellard

Institution: University of Kansas

Project Title: Improving Adults' Reading Outcomes with Strategic Tutoring and Content Enhancement Routines

Grant: R305B070129

Mellard, D.F., and Woods, K.L. (2011, accepted). Literacy and numeracy among Job Corps students: Opportunities for targeted academic infusion in CTE. *Career and Technical Education Research Journal*.

FY 2008

Principal Investigator: Sharon Vaughn

Institution: University of Texas, Austin

Project Title: Project Collaborative Strategic Reading (CSR): Interventions for Struggling Adolescent and Adult Readers and Writers

Grant: R305A080608

Vaughn, S., Klingner, J. K., Boardman, A. G., Swanson, E. A., Roberts, G., Mohammed, S. S., and Stillman, S.J. (2011). Efficacy of Collaborative Strategic Reading with middle school students. *American Educational Research Journal*, 48(3), 938-964, first published on May 31, 2011 doi:10.3102/0002831211410305.

Mathematics and Science Education

FY 2003

Institution: Carnegie Mellon University

Principal Investigator: Kenneth Koedinger

Project Title: Using Web-Based Cognitive Assessment Systems for Predicting Student Performance on State Exams

Grant: R305K030140

Ayers, E., and Junker, B. (2008). IRT Modeling of Tutor Performance to Predict End-Of-Year Exam Scores. *Educational and Psychological Measurement*, 68(6): 972-987.

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Anozie, N.O., and Junker, B.W. (2006). Predicting End-Of-Year Accountability Assessment Scores From Monthly Student Records in an Online Tutoring System. In J. Beck, E. Aimeur and T. Barnes (Eds.), *Educational Data Mining: Papers From the 2006 AAAI Workshop* (pp.1-6). Menlo Park, CA: AAAI Press.

Baker, R., Walonoski, J., Heffernan, T., Roll, I., Corbett, A., and Koedinger, K. (2007). Why Students Engage in Gaming the System Behavior in Interactive Learning Environments. *Journal of Interactive Learning Research*, 19(2): 185-224.

Cen, H., Koedinger, K., and Junker, B. (2005). Automating Cognitive Model Improvement by A*Search and Logistic Regression. In J.E. Beck (Ed.), *Educational Data Mining: Papers From the 2005 AAAI Workshop* (pp. 47-53). Menlo Park, CA: AAAI Press.

Cen, H., Koedinger, K.R., and Junker, B. (2006). Learning Factors Analysis: A General Method for Cognitive Model Evaluation and Improvement. In M. Ikeda, K.D. Ashley and T.W. Chan (Eds.), *Proceedings of the 8th International Conference on Intelligent Tutoring Systems* (pp. 164-175). Berlin, Germany: Springer-Verlag.

Cen, H., Koedinger, K., and Junker, B.W. (2007). Is Over Practice Necessary? - Improving Learning Efficiency With the Cognitive Tutor through Educational Data Mining. In R. Luckin, K. Koedinger and J. Greer (Eds.), *Artificial Intelligence in Education - Building Technology Rich Learning Contexts that Work* (pp. 511-518). Amsterdam, Netherlands: IOS Press.

Feng, M., Heffernan, N.T. (2006). Informing Teachers Live About Student Learning: Reporting in the Assistent System. *Technology, Instruction, Cognition, and Learning*, 3(1/2): 115-128.

Feng, M., Heffernan, N.T. (2007). Towards Live Informing and Automatic Analyzing of Student Learning: Reporting in Assistent System. *Journal of Interactive Learning Research*, 18(2): 207-230.

Feng, M., Beck, J., Heffernan, N., Beck, J., and Koedinger, K. (2008). Can We Predict Which Groups of Questions Students Will Learn From? In Baker and Beck (Eds.), *Proceedings of the 1st International Conference on Education Data Mining* (pp. 218-225). Montreal, Canada.

Feng, M., Heffernan, N.T., and Koedinger, K.R. (2005). Looking for Sources of Error in Predicting Students' Knowledge. In J.E. Beck (Ed.), *Educational Data Mining: Papers From the 2005 AAAI Workshop* (pp. 54-61). Menlo Park, CA: AAAI Press.

Feng, M., Heffernan, N.T., and Koedinger, K.R. (2006). Predicting State Test Scores Better With Intelligent Tutoring Systems: Developing Metrics to Measure Assistance Required. In M. Ikeda, K.D. Ashley and T.W. Chan (Eds.), *Proceedings of the 8th International Conference on Intelligent Tutoring Systems* (pp. 31-40). Berlin, Germany: Springer-Verlag.

- Feng, M., Heffernan, N.T., and Koedinger, K.R. (2006). Addressing the Testing Challenge With a Web-Based E-Assessment System that Tutors as It Assesses. In *Proceedings of the 15th International World Wide Web Conference* (pp. 307-316). New York, NY: ACM Press.
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- Mendicini, M., Heffernan, N., and Razzaq, L. (2008). Comparing Classroom Problem-Solving With No Feedback to Web-Based Homework Assistance. In Woolf, Aimeur, Nkambou, and Lajoie (Eds.), *Proceedings of the 9th International Conference on Intelligent Tutoring Systems* (pp. 426-437). Berlin, Germany: Springer-Verlag.
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Turner, T.E., Macasek, M.A., Nuzzo-Jones, G., Heffernan, N.T, Koedinger, K. (2005). The Assessment Builder: a Rapid Development Tool for ITS. In C.K. Looi, G. Mccalla, B. Bredeweg, and J. Breuker (Eds.), *Artificial Intelligence in Education - Supporting Learning through Intelligent and Socially Informed Technology* (pp. 929-931). Amsterdam, Netherlands: IOS Press.

Walonoski, J., and Heffernan, N.T. (2006). Detection and Analysis of Off-Task Gaming Behavior in Intelligent Tutoring Systems. In M. Ikeda, K.D. Ashley and T.-W. Chan (Eds.), *Proceedings of the 8th International Conference on Intelligent Tutoring Systems* (pp. 382-391). Berlin, Germany: Springer-Verlag.

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FY 2004

Institution: Education Development Center

Principal Investigator: Margaret Clements

Project Title: Examination of the Impact of Big Math for Little Kids (BMLK) on Pre-K and Kindergarten Students' Learning of Math

Grant: R305K040001

Ertle, B. B., Ginsburg, H. P., Cordero, M. I., Curran, T. M., Manlapig, L., and Morgenlander, M. (2008). The Essence of Early Childhood Mathematics Education and the Professional Development Needed to Support It. In A. Dowker (Ed.), *Mathematical Difficulties: Psychology, Neuroscience and Interventions* (pp. 60-84). Oxford, UK: Elsevier Science Publishers.

Ginsburg, H.P., Lee, J.S., and Boyd, J.S. (2008) Mathematics Education for Young Children: What It is and How to Promote It. *SRCD Social Policy Report*, 22(1): 3-22.

Institution: Educational Testing Service

Principal Investigator: Caroline Wiley

Project Title: Developing and Using Diagnostic Items in Math and Science

Grant: R305K040051

Ciofalo, J.F., and Wylie, E.C. (2006). Using Diagnostic Classroom Assessment: One Item at a Time. *Teachers College Record*. <http://www.tcrecord.org/library> ID Number: 12285

Wylie, E.C., and Ciofalo, J.F. (2008). Supporting Teachers' Use of Individual Diagnostic Items. *Teachers College Record*. <http://www.tcrecord.org/library> ID Number: 15363

Institution: University of Oregon
Principal Investigator: David Chard
Project Title: Early Learning in Mathematics: a Prevention Approach
Grant: R305K040081

Chard, D.J., Baker, S.K., Clarke, B., Jungjohann, K., Davis, K., and Smolkowski, K. (2008). Preventing Early Mathematics Difficulties: The Feasibility of a Rigorous Kindergarten Mathematics Curriculum. *Learning Disabilities Quarterly*, 31(1): 11-20.

Chard, D.J., Clarke, B., Baker, S., Otterstedt, J., Braun, D., and Katz, R. (2005). Using Measures of Number Sense to Screen for Difficulties in Mathematics: Preliminary Findings. *Assessment for Effective Intervention*, 30(2): 3-14.

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Clarke, B., Baker, S., and Chard, D.J. (2008). Best Practices in Mathematics Intervention and Assessment. In A. Thomas and J. Grimes (Eds.), *Best Practices in School Psychology* (pp. 465-476). Bethesda, MD: National Association of School Psychologists.

Clarke, B., Baker, S., and Chard, D.J. (2007). Measuring Number Sense Development in Young Children: A Summary of Early Research. *Leadership to Math Success for All*, 5: 1-11.

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FY 2005

Institution: Ohio State University Research Foundation
Principal Investigator: Douglas Owens
Project Title: Classroom Connectivity in Promoting Mathematics and Science Achievement
Grant: R305K050045

Irving, K.E., Sanalan, V.A, and Shirley, M.L. (2009). Physical Science Connected Classrooms: Case Studies. *Journal of Computers in Mathematics and Science Teaching*, 28(3): 247-275.

Morton, B.L. and Owens, D.T. (2010). An Investigation of Developing Representations of Linear Functions in the Presence of Connected Classroom Technology. In P. Brosnan, D.B. Erchick, and L. Flevaris (Eds.). *Proceedings of the 32nd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (p. 1562). Columbus, OH: The Ohio State University.

Owens, S.K. (2010). Professional development: A Case Study of Mrs. G. In P. Brosnan, D.B. Erchick, and L. Flevaris (Eds.). *Proceedings of the 32nd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 1428-1436). Columbus, OH: The Ohio State University.

Owens, S.K. (2010). When Professional Development Produces Teacher Change: A Case Study of Mrs. G. In P. Brosnan, D.B. Erchick, and L. Flevaris, L. (Eds.). *Proceedings of the 32nd Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (p. 1399). Columbus, OH: The Ohio State University.

Owens, D.T., Irving, K.E, Pape, S.J., Abrahamson, L., Sanalan, V., and Boscardin, C.K. (2007). The Connected Classroom: Implementation and Research Trial. In C. Montgomerie and J. Seale (Eds.), *Proceedings of the ED-MEDIA World Conference on Educational Multimedia, Hypermedia and Telecommunications* (pp. 3710-3716). Chesapeake, VA: Association for the Advancement of Computing in Education.

Owens, D.T., Irving, K.E, Pape, S.J., Sanalan, V.A., Owens, S.K., and Abrahamson, L. (2009). Professional development for teaching in connected classrooms. In S.L. Swars, D.W. Stinson, and S. Lemons-Smith. (Eds.).

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Owens, D.T., Pape, S.L., Irving, K.E., Sanalan, V.A., Boscardin, C.K., and Abrahamson, L. (2008). The Connected Algebra Classroom: A Randomized Control Trial. In C. Laborde and C. Knigos (Eds.), *Proceedings for Topic Study Group 22, Eleventh International Congress on Mathematics Education*, Monterrey, Mexico. Retrieved July 2, 2009 from <http://tsq.icme11.org/document/get/249>

Pape, S.J., Irving, K.E., Bell, C.V., Shirley, M., Owens, D.T., Owens, S., Bostic, J.D., and Lee, S.C. (2011). Principles of Effective Pedagogy Within the Context of Connected Classroom Technology: Implications for Teacher Knowledge. In R.N. Ronau, C.R. Rakes, and M.L. Niess (Eds.), *Educational technology, teacher knowledge, and classroom impact: A research handbook on frameworks and approaches* (pp. 176-199). Hershey, PA: IGI Global.

Pape, S.J., Irving, K.E., Owens, D.T., and Abrahamson, L. (2005). Classroom Connectivity in Promoting Algebra I and Physical Science Achievement and Self-Regulated Learning. In K. Steffens, R. Carneiro, and J. Underwood (Eds.), *Proceedings of the TACONET Conference: Self-Regulated Learning in Technology Enhanced Learning Environments* (pp. 143-158). Herzogenrath, Germany: Shaker Verlag.

Shirley, M.L., Irving, K.E., Sanalan, V.A., Pape, S.J. and Owens, D.T. (2011). The practicality of implementing connected classroom technology in secondary mathematics and science classrooms. *International Journal of Science and Mathematics Education*, 9(2): 459-481.

Institution: New York University

Principal Investigator: Jan Plass

Project Title: Molecules and Minds: Simulations for Chemistry Education

Grant: R305K050140

Brünken, R., Plass, J.L., and Moreno, R. (2010). Current Issues and Open Questions in Cognitive Load Research. In J. L. Plass, R. Moreno, and R. Brünken (Eds.), *Cognitive Load Theory* (pp.253-272). New York, NY: Cambridge.

Homer, B.D., and Nelson, K.N. (2010). Symbols, Signs and Models: Language and the Development of Dual Representation. *Journal of Cognition and Development*, 10: 115-134.

Homer, B.D. and Plass, J.L. (2010). Expertise Reversal for Iconic Representations in Science Simulations. *Instructional Science*, 38(3): 259-276.

Homer, B.D., Plass, J.L., and Blake, L. (2008). The Effects of Video on Cognitive Load and Social Presence in Computer-Based Multimedia-Learning. *Computers in Human Behavior*, 24(3): 786-797.

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Kalyuga, S., and Plass, J.L. (2007). Managing Cognitive Load in Instructional Simulations. In *Proceedings of the IADIS International Conference E-Learning* (pp. 198-219). IADIS Press: <http://www.iadisportal.org>.

Lee, H., Plass, J.L., and Homer, B.D. (2006). Optimizing Cognitive Load for Learning from Computer-Based Science Simulations. *Journal of Educational Psychology*, 98: 902-913.

Milne, C. (2007). Power, Status and the Whole Shebang: a Personal Perspective of Collaborative Research. In S. Ritchie (Ed.), *Research Collaboration: Relations and Praxis* (pp. 107-122). Rotterdam, Netherlands: Sense Publishers.

Plass, J.L. (2009). Using Cognitive Load Theory to Improve Teaching and Learning of Surgery. *American College of Surgeons Residency Assistance Page*, July 2009. <http://www.facs.org/education/rap/plass0609.html>

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Plass, J.L., Homer, B.D., Milne, C., Jordan, T., Kalyuga, S., Kim, M., and Lee, H.J. (2009). Design Factors for Effective Science Simulations: Representation of Information. *International Journal of Gaming and Computer-Mediated Simulations*, 1(1): 16–35.

Plass, J.L. and Kalyuga, S., and Leutner, D. (2010). Individual Differences and Cognitive Load Theory. In J. L. Plass, R. Moreno, and R. Brünken (Eds.), *Cognitive Load Theory* (pp. 65-90). New York, NY: Cambridge.

Institution: Purdue University

Principal Investigator: Panayota Mantzicopolous

Project Title: The Scientific Literacy Project: Enhancing Young Children’s Scientific Literacy through Reading and Inquiry-Centered Adult-Child Dialog

Grant: R305K050038

Mantzicopoulos, P., Patrick, H., and Samarapungavan, A. (2008). Young Children’s Motivational Beliefs about Learning Science. *Early Childhood Research Quarterly*, 23: 378-394.

Mantzicopoulos, P., Samarapungavan, A., and Patrick, H. (2009). “We Learn How to Predict and Be a Scientist:” Early Science Experiences and Kindergarten Children’s Social Meanings about Science. *Cognition and Instruction*, 27: 312-369.

Patrick, H., Mantzicopoulos, P., and Samarapungavan, A. (2009). Reading, Writing, and Conducting Inquiry about Science in Kindergarten. *Young Children*, 64(6): 32-38.

Patrick, H., Mantzicopoulos, P., and Samarapungavan, A. (2009). Motivation for Learning Science in Kindergarten: Is There a Gender Gap and Does Integrated Inquiry and Literacy Instruction Make a Difference? *Journal of Research in Science Teaching*, 46: 166-191.

Patrick, H., Mantzicopoulos, P., Samarapungavan, A., and French, B.F. (2008). Patterns of Young Children’s Motivation for Science and Teacher-Child Relationships. *Journal of Experimental Education*, 76: 121-144.

Samarapungavan, A., Mantzicopoulos, P., and Patrick, H. (2008). Learning Science through Inquiry in Kindergarten. *Science Education*, 92: 868-908.

Samarapungavan, A., Mantzicopoulos, P., Patrick, H., and French, B.F. (2009). The Development and Validation of the Science Learning Assessment (SLA): A Measure of Kindergarten Science Learning. *Journal of Advanced Academics*, 20: 502-535.

Samarapungavan, A., Mantzicopoulos, P., and Patrick, H. (2011). What Kindergarten Students Learn in Inquiry-Based Science Classrooms. *Cognition and Instruction*, 29(4): 416-470.

Institution: State University of New York at Buffalo

Principal Investigator: Douglas Clements

Project Title: Scaling up TRIAD: Teaching Early Mathematics for Understanding With Trajectories and Technologies

Grant: R305K050157

Brown, C.S., Sarama, J., and Clements, D.H. (2007). Thinking About Learning Trajectories in Preschool. *Teaching Children Mathematics*, 14: 178-181.

Clements, D. H. (2010). Tools, Technologies, and Trajectories. In Z. Usiskin, K. Andersen and N. Zotto (Eds.), *Future curricular trends in school algebra and geometry* (pp. 259-266). Charlotte, NC: Information Age.

Clements, D. H. (2008). Linking Research and Curriculum Development. In L.D. English (Ed.), *Handbook of International Research in Mathematics Education*. (Second ed., pp. 589-625). New York, NY: Taylor and Francis.

Clements, D.H. (2007). Curriculum Research: Toward a Framework for ‘Research-Based Curricula’. *Journal for Research in Mathematics Education*, 38: 35–70.

- Clements, D. H. and Sarama, J. (2010). Technology. In V. Washington and J. D. Andrews (Eds.), *Children of 2020: Creating a Better Tomorrow* (pp. 119-123). Washington, DC: Council for Professional Recognition/National Association for the Education of Young Children.
- Clements, D.H. and Sarama, J. (2009). *Learning and Teaching Early Math: The Learning Trajectories Approach*. New York, NY: Routledge.
- Clements, D.H., and Sarama, J. (2008). Experimental Evaluation of the Effects of a Research-Based Preschool Mathematics Curriculum. *American Educational Research Journal*, 45: 443-494.
- Clements, D.H., and Sarama, J. (2008). Mathematics and Technology: Supporting Learning for Students and Teachers. In O.N. Saracho and B. Spodek (Eds.), *Contemporary Perspectives on Science and Technology in Early Childhood Education* (pp. 127-147). Charlotte, NC: Information Age Publishing, Inc.
- Clements, D.H., and Sarama, J. (2007). Early Childhood Mathematics Learning. In F.K. Lester, Jr. (Ed.), *Second Handbook of Research on Mathematics Teaching and Learning* (pp. 461-555). New York, NY: Information Age Publishing.
- Clements, D.H., and Sarama, J. (2007). Einsatz Von Computern in Amerikanischen Vor- Und Grundschulen — Ein Zwischenbericht [Using Computers in American Kindergartens and Primary Schools: An Interim Report]. In H. Mitzlaff (Ed.), *Internationales Handbuch: Computer (ICT), Grundschule, Kindeergarten und Neue Lernkultur* (Vol. 1, pp. 251-259). Baltmannsweiler, Germany: Schneider Verlag Hohengehren.
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- Clements, D.H., and Sarama, J. (2007). Gold Der Narren?—Fools’s Gold?—Kritische Bemerkungen Zur Kritik Der Alliance for Childhood Et Al. [Fool’s Gold? Critical Remarks About the Critics From the Alliance for Childhood]. In H. Mitzlaff (Ed.), *Internationales Handbuch: Computer (ICT), Grundschule, Kindeergarten und Neue Lernkultur* (Vol. 2, pp. 740-748). Baltmannsweiler, Germany: Schneider Verlag Hohengehren.
- Clements, D.H., and Sarama, J. (2007). Mathematics. In R.S. New and M. Cochran (Eds.), *Early Childhood Education: An International Encyclopedia* (Vol. 2, pp. 502-509). Westport, CN: Praeger.
- Clements, D.H., and Sarama, J. (2007). Curriculum, Technology. In R.S. New and M. Cochran (Eds.), *Early Childhood Education: An International Encyclopedia* (Vol. 1, pp. 221-225). Westport, CN: Praeger.
- Clements, D.H., and Sarama, J. (2007). Effects of a Preschool Mathematics Curriculum: Summative Research on the Building Blocks Project. *Journal for Research in Mathematics Education*, 38: 136-163.
- Clements, D.H., Sarama, J., and Liu, X. (2008). Development of a Measure of Early Mathematics Achievement Using the Rasch Model: The Research-Based Early Maths Assessment. *Educational Psychology*, 28(4): 457-482.
- Clements, D. H., Sarama, J., Spitler, M. E., Lange, A. A., and Wolfe, C. B. (2011). Mathematics Learned by Young Children in an Intervention Based on Learning Trajectories: A Large-Scale Cluster Randomized Trial. *Journal for Research in Mathematics Education*, 38, 136-163.
- Clements, D. H., Sarama, J., and Wolfe, C. B. (2011). TEAM—Tools for early assessment in mathematics. Columbus, OH: McGraw-Hill Education.
- Clements, D.H., Sarama, J., Yelland, N.J., and Glass, B. (2008). Learning and Teaching Geometry With Computers in the Elementary and Middle School. In M.K. Heid and G.W. Blume (Eds.), *Research on Technology and the Teaching and Learning of Mathematics: Volume 1: Research Syntheses* (pp. 109-154). New York, NY: Information Age Publishing, Inc.
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Fuson, K. C., Clements, D. H., and Beckmann, S. (2010). *Focus in Prekindergarten: Teaching with the Curriculum Focal Points*. Reston, VA: National Council of Teachers of Mathematics/Washington, DC: National Association for the Education of Young Children.

Fuson, K. C., Clements, D. H., and Beckmann, S. (2010). *Focus in Kindergarten: Teaching with the Curriculum Focal Points*. Reston, VA: National Council of Teachers of Mathematics/Washington, DC: National Association for the Education of Young Children.

Sarama, J. (in press). An evaluation of research-based software design principles. *International Journal of Computers for Mathematical Learning*.

Sarama, J. and Clements, D. H. (2010). Preschool Mathematics Curricula. In B. J. Reys, R.E. Reys and R. N. Rubenstein (Eds.), *Mathematics curriculum: Issues, Trends, and Future Directions* (pp. 115-126). Reston, VA: National Council of Teachers of Mathematics.

Sarama, J. and Clements, D. H. (2010). The Mathematical Lives of Young Children. In V. Washington and J. D. Andrews (Eds.), *Children of 2020: Creating a Better Tomorrow* (pp. 81-84). Washington, DC: Council for Professional Recognition/National Association for the Education of Young Children.

Sarama, J., and Clements, D. H. (in press). Early Childhood Teacher Education: The Case of Geometry. *Journal of Mathematics Teacher Education*.

Institution: University of Illinois

Principal Investigator: Arthur Baroody

Project Title: Developing an Intervention to Foster Early Number Sense and Skill

Grant: R305K050082

Baroody, A.J. (in press). Chapter 2--Learning: A Framework . In F. Fennell (Ed.), *Special Education and Mathematics: Helping Children with Learning Difficulties Achieve Mathematical Proficiency*. Reston, VA: National Council of Teachers of Mathematics.

Baroody, A.J. (2008). Fostering Early Numeracy in Preschool and Kindergarten. In J. Balayeva (Ed.), *The Encyclopedia of Language and Literacy Development*.
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Baroody, A.J., Bajwa, N.P., and Eiland, M. (2009). Why Can't Johnny Remember the Basic Facts? *Developmental Disabilities Research Reviews*, 15(1): 69-79.

Baroody, A.J., Eiland, M., and Thompson, B. (2009). Fostering At-Risk Preschoolers' Number Sense. *Early Education and Development*, 20: 80-120.

Baroody, A.J., Feil, Y., and Johnson, A.R. (2007). An Alternative Reconceptualization of Procedural and Conceptual Knowledge. *Journal for Research in Mathematics Education*, 38: 115-131.

Baroody, A.J., and Li, X. (2009). Mathematics Instruction that Makes Sense for 2 to 5 Year Olds. In E. L. Essa and M. M. Burnham (Eds.), *Informing Our Practice: Useful Research on Young Children's Development* (pp. 119–135). Washington, DC: The National Association for the Education of Young Children.

Baroody, A.J., and Varma, S. (in press). The Active Construction View of Basic Number Fact Knowledge: New Directions for Cognitive Neuroscience. In J. Baek, A. E. Kelly, and L. Kalbfleisch (Eds.), *Neuropsychology and Mathematics Education*.

Institution: University of Southern California

Principal Investigator: Carole Beal

Project Title: Animal Watch: An Intelligent Tutoring System for Grade 6 Mathematics

Grant: R305K050086

Arroyo, I., Woolf, B. P., and Beal, C.R. (2006). Addressing Cognitive Differences and Gender During Problem Solving. *International Journal of Technology, Instruction, Cognition and Learning*, 4: 31-63.

Beal, C.R., Adams, N., and Cohen, P. R. (2010). Reading Proficiency and Mathematics Problem Solving by English Language Learners. *Urban Education*, 45(1): 58-74.

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Beal, C.R., and Cohen, P. (2005). Computational Methods for Evaluating Student and Group Learning Histories in Intelligent Tutoring Systems. In C. K. Looi, G. McCalla, B. Bredeweg, and J. Breuker (Eds.), *Artificial intelligence in education: Supporting learning through intelligent and socially informed technology*, pp. 80-88. Amsterdam, Netherlands: IOS Press.

Beal, C.R., Shaw, E., and Birch, M. (2007). Intelligent Tutoring and Human Tutoring in Small Groups: An Empirical Comparison. In R. Luckin, K. R. Koedinger and J. Greer (Eds.), *Artificial Intelligence in Education: Building Technology Rich Learning Contexts that Work* (pp. 536-538). Amsterdam, Netherlands: IOS Press.

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Cohen, P.R., Beal, C.R., and Adams, N. (2008). The Design, Deployment and Evaluation of the Animalwatch Intelligent Tutoring System. *Proceedings of the 5th Prestigious Applications of Intelligent Systems Conference*, 178: 663-667.

Woolf, B.P., Arroyo, I., Beal, C.R., and Murray, T. (2006). Gender and Cognitive Differences in Help Effectiveness During Problem Solving. *International Journal of Technology, Instruction, Cognition and Learning*, 3: 89-95.

FY 2006

Institution: SRI International

Principal Investigator: Jeremy Roschelle

Project Title: Getting Fractions Right with Technology-Mediated Peer-Assisted Learning (Techpals)

Grant: R305K060011

Rafanan, K., Roschelle, J., Bhanot, R., Gorges, T., and Penuel, W. (2008). Measuring Mathematics Discourse in Technology-Supported Collaborative Activities. *Proceedings of the International Conference of the Learning Sciences*, 3: 117-118.

Roschelle, J., Rafanan, K., Bhanot, R., Estrella, G., Penuel, W.R., Nussbaum, M., Claro, S. (2010). Scaffolding Group Explanation and Feedback with Handheld Technology: Impact on Students' Mathematics Learning. *Educational Technology Research and Development*, 58: 399-419.

Roschelle, J., Rafanan, K., Estrella, G., Nussbaum, M., and Claro, S. (2010). From Handheld Collaborative Tool to Effect Classroom Module: Embedding CSCL in a Broader Design Framework. *Computers and Education*, 55: 1018-1026.

Institution: University of Minnesota

Principal Investigator: Asha Jitendra

Project Title: Enhancing the Mathematical Problem Solving Performance of Sixth Grade Students Using Schema-based Instruction

Grant: R305K060002

Jitendra, A.K., Star, J.R., Starosta, K., Leh, J.M., Sood, S., Caskie, G., Hughes, C.L., and Mack, T.R. (2009). Improving Seventh Grade Students' Learning of Ratio and Proportion: The Role of Schema-Based Instruction. *Contemporary Educational Psychology*, 34(3): 250-264.

Jitendra, A.K., Woodward, J., and Star, J.R. (in press). Middle School Students' Thinking about Ratios and Proportions. In R. Gersten and R. Newman-Gonchar (Eds.), *RTI in mathematics*.

Jitendra, A.K., and Star, J.R. (2011). Meeting the Needs of Students with Learning Disabilities in Inclusive Mathematics Classrooms: The Role of Schema-Based Instruction. *Theory into Practice*, 50(1): 12-19.

Jitendra, A.K., Star, J.R., Rodriguez, M., Lindell, M., and Fumio, S., (in press). Improving Students' Proportional Thinking Using Schema-Based Instruction. *Learning and Instruction*.

Institution: Vanderbilt University

Principal Investigator: Richard Lehrer

Project Title: Assessing Data Modeling and Statistical Reasoning

Grant: R305K060091

Lehrer, R., and Schauble, L (in press). Invention in the Classroom: Structuring Natural Variability as Distribution. In T. Koschmann (Ed.), *Theorizing Practice*, Mahwah, NJ: Erlbaum.

FY 2007

Institution: Teachers College, Columbia University

Principal Investigator: Herbert Ginsburg

Project Title: mCLASS: Math: Development and Analysis of an Integrated Screening, Progress Monitoring, and Cognitive Assessment System for K-3 Mathematics

Grant: R305B070325

Ginsburg, H.P., Pappas, S., Lee, Y.S., and Chiong, C. (in press). mCLASS:Math: Insights into Children's Mathematical Minds and Performance. In P. Noyce, and D.T. Hickey, *Formative Assessment in Learning Contexts, the Next Generation*. Harvard Education Press.

Hampton, D.D., Lembke, E.S., Lee, Y.-S., Pappas, S., Chiong, C., and Ginsburg, H. (in press). Technical Adequacy of Early Numeracy Curriculum-Based Progress Monitoring Measures for Kindergarten and First-Grade Students. Assessment for Effective Intervention.

Institution: University of Alaska

Principal Investigator: Jerry Lipka

Project Title: Determining the Potential Efficacy of 6th Grade Math in a Cultural Context

Grant: R305A070218

Kisker, E., Lipka, J., Adams, B.L., Rickard, A., Andrew-Ihrke, D., and Yanez, E.E. (in press) The Potential of a Culturally-Based Supplemental Math Curriculum to Reduce the Math Performance Gap Between Alaska Native and Other Students. *Journal for Research in Mathematics Education*.

Lipka, J., Andrew-Ihrke, D., and Yanez, E. (in press). Symmetry and More: Contributions of Yup'ik Elders to Mathematics Education. In C. Nicols (Ed.), *Living culturally responsive mathematics curriculum and pedagogy: Making a difference with/in indigenous communities*: Sense Publications.

Lipka, J., Andrew-Ihrke, D., and Yanez, E.E. (2011).Yup'ik Cosmology to School Mathematics: The Power of Symmetry and Proportional Measuring. *Interchange*, 42(2): 157-183

Lipka, J. Wong, M., Andrew-Ihrke, D., and Yanez, E. (in press). Developing an Alternative Learning Trajectory for Rational Number Reasoning, Geometry, and Measuring based on Indigenous Knowledge. S. Mukhopadhyay and W.M. Roth (eds.), *Alternative Forms of Knowing (in) Mathematics*. Sense Publications.

Institution: University of California, Berkeley

Principal Investigator: Geoffrey Saxe

Project Title: Teaching Fractions and Integers: The Development of a Research-Based Instructional Practice

Grant: R305B070299

Saxe, G.B., Gearhart, M., Shaughnessy, M., Earnest, D., Cremer, S., Sitabkhan, Y., Platas, L., and Young, A. (2009). A Methodological Framework and Empirical Techniques for Studying the Travel of Ideas in Classroom Communities. In Schwartz, T., Dreyfus, R. Herskovitz (Eds.), *Transformation of Knowledge in Classroom Interaction* (pp. 203-222). New York, NY: Routledge.

Saxe, G.B., Earnest, D., Sitabkhan, Y., Haldar, L., Lewis, K., and Zheng, Y. (in press). Supporting Generative Thinking on the Integer Number Line. *Cognition and Instruction*, 28(4).

Institution: University of Massachusetts, Dartmouth

Principal Investigator: Stephen Hegedus

Project Title: Democratizing Access to Core Mathematics Grades 9-12

Grant: R305B070430

Hegedus, S. (2007). Classroom Connectivity. *Educational Technology Special Issue on Mobile Computing*, 47(3): 21-25.

Hegedus, S., and Moreno-Armella, L. (2008). Analyzing the Impact of Dynamic Representations and Classroom Connectivity on Participation, Speech and Learning. In L. Radford, G. Schubring, and F. Seeger (Eds.), *Semiotics Education: Epistemology, Historicity and Culture* (pp. 175-194). Rotterdam, Netherlands: Sense Publishers.

Hegedus, S., and Penuel, W. (2008). Studying New Forms of Participation and Classroom Identity in Mathematics Classrooms With Integrated Communication and Representational Infrastructures. *Special Issue of Educational Studies in Mathematics: Democratizing Access to Mathematics through Technology—Issues of Design and Implementation*, 68(2): 171-184.

Moreno-Armella, L., and Hegedus, S., and Kaput J. (2008). Constitution of Symbols and the Evolution of the Reference Field With Digital Technologies. *Special Issue of Educational Studies in Mathematics: Democratizing Access to Mathematics through Technology—Issues of Design and Implementation*, 68(2): 99-112.

Institution: University of Virginia

Principal Investigator: Mable Kinzie

Project Title: Pre-K Mathematics and Science for At-Risk Children: Outcomes-Focused Curricula and Support for Teaching Quality

Grant: R305A07068

Kilday, C.R., and Kinzie, M.B. (2009). An Analysis of Instruments that Measure the Quality of Mathematics Teaching in Early Childhood. *Early Childhood Education Journal*, 36(4): 1082-3301.

Kilday, C. R. K., Kinzie, M. B., Mashburn, A. J. and Vick Whittaker, J. (in press). Accuracy of Teacher Judgments of Preschoolers' Math Skills. *Journal of Psychoeducational Assessment*.

Kinzie, M.B., Vick Whittaker, J. E., Kilday, C. R. K., and Williford, A. (in press). Designing Effective Curricula and Teacher Professional Development for Early Childhood Mathematics and Science. In *Effective Professional Development in Early Childhood Education*. National Center for Research in Early Childhood Education (NCRECE). Baltimore, MD: Brookes.

Sackes, M., Trundle, K. C., and Flevares, L. (2009a). Using Children's Books to Teach Inquiry Skills. *Young Children*, 64 (6): 24-26.

Sackes, M., Trundle, K. C., and Flevares, L. (2009b). Using Children's Literature to Teach Standard-Based Science Concepts in Early Years. *Early Childhood Education Journal*, 36 (5): 415-422.

Sackes, M., Flevares, L., and Trundle, K. C. (in press). Four- to Six-Year Old Children's Conceptions of the Mechanism of Rainfall. *Early Childhood Research Quarterly*.

Trundle, K. C. and Sackes, M. (2008). Sky Observations by the Book: Lessons for Teaching Young Children Astronomy Concepts with Picture Books. *Science and Children*, 46 (1): 36-39.

Trundle, K. C., and Sackes, M. (2010). Look! It is Going to Rain: Using Books and Observations to Promote Young Children's Understanding of Clouds. *Science and Children*, 47 (8): 29-31.

Wang, F., Kinzie, M.B., McGuire, P., and Pan, E. (2010). Applying Technology to Inquiry-Based Learning in Early Childhood Education. *Early Childhood Education Journal*, 37(5): 381-389.

Institution: Worcester Polytechnic Institute

Principal Investigator: Neil Heffernan

Project Title: Making Longitudinal Web-Based Assessments Give Cognitively Diagnostic Reports to Teachers, Parents and Students While Employing Masterly Learning

Grant: R305A070440

Feng, M., Beck, J., Heffernan, N., and Koedinger, K. (2008). Can an Intelligent Tutoring System Predict Math Proficiency as Well as a Standardized Test? In E. Baker and Beck (Eds.), *Proceedings of the 1st International Conference on Education Data Mining* (pp. 107-116). Montreal, Canada: UQAM.

FY 2008

Institution: Pacific Institutes for Research

Principal Investigator: Scott Baker

Project Title: Early Learning in Mathematics: Efficacy in Kindergarten Classrooms

Grant: R305A080114

Clarke, B., Smolkowski, K., Baker, S., Fien, H., and Chard, D. (in press). The Impact of a Comprehensive Tier I Kindergarten Curriculum on the Achievement of Students At-Risk in Mathematics. *Elementary School Journal*.

Institution: University of Illinois, Urbana-Champaign
Principal Investigator: Arthur Baroody
Project Title: Fostering Fluency With Basic Addition and Subtraction
Grant: R305A080479

Baroody, A.J. (2011). Learning: A Framework. In F. Fennell (Ed.), *Special Education and Mathematics: Helping Children with Learning Difficulties Achieve Mathematical Proficiency*. Reston, VA: National Council of Teachers of Mathematics.

Baroody, A.J., Bajwa, N.P., and Eiland, M. (2009). Why Can't Johnny Remember the Basic Facts? *Developmental Disabilities Research Reviews*, 15(1): 69-79.

Baroody, A.J., Purpura, D.J., and Reid, E.E. (in press). Comments on Learning and Teaching Early and Elementary Mathematics. In J. Carlson and J. Levin (Eds.), *Psychological Perspectives on Contemporary Educational Issues*, Charlotte, NC: Information Age Publishing.

Baroody, A.J., and Varma, S. (in press). The Active Construction View of Basic Number Fact Knowledge: New directions for cognitive neuroscience. In J. Baek, A. E. Kelly, and L. Kalbfleisch (Eds.), *Neuropsychology and mathematics education*.

Palmer, A., and Baroody, A. J. (2011). Blake's Development of the Number Words "One," "Two," and "Three." *Cognition and Instruction*, 29(3): 265-296.

Institution: University of Illinois, Urbana-Champaign
Principal Investigator: Sarah Lubienski
Project Title: A Longitudinal Study of Gender and Mathematics Using ECLS Data
Grant: R305A080147

Robinson, J.P., and Lubienski, S.T. (2011). The Development of Gender Gaps in Mathematics and Reading Achievement Gaps: Exploring Direct Cognitive Assessments and Teacher Ratings. *American Educational Research Journal*, 48(2): 268-302..

Institution: University of Oregon
Principal Investigator: Scott Baker
Project Title: Early Learning in Mathematics: Efficacy in Kindergarten Classrooms
Grant: R305A080699

Clarke, B., Smolkowski, Baker, S.K., Fien, H., Doabler, C.T., and Chard, D.J. (2011). The Impact of a Comprehensive Tier I Core Kindergarten Program on the Achievement of Students at risk in Mathematics. *Elementary School Journal*, 111(4): 561-584.

Doabler, C.T, Cary, M.S., Jungjohann, K., Clarke, B., Fien, H., Baker, S., Smolkowski, K., and Chard, D. (in press). Enhancing Core Mathematics Instruction of Students with or At-Risk For Math Disabilities. *Teaching Exceptional Children*.

FY 2009

Institution: Rutgers University

Principal Investigator: Cindy Hmelo-Silver

Project Title: Systems and Cycles: Using Structure-Behavior-Function Thinking as a Conceptual Tool for Understanding Complex Natural Systems in Middle School Science

Grant: R305A090210

Vattam, S.S., Goel, A.K., Rugaber, S., Hmelo-Silver, C. E., Jordan, R., Gray, S., and Sinha, S. (2011). Understanding Complex Natural Systems by Articulating Structure-Behavior Function Models. *Educational Technology and Society*, 14, 66-81.

Middle School and High School Reform

FY 2008

Institution: MDRC

Principal Investigator: Julie Edmunds

Project Title: Dual Enrollment—Early College

Grant: R305R060022

Edmunds, J. A., Bernstein, L., Glennie, E., Willse, J., Arshavsky, N., Unlu, F., Bartz, D., Silberman, T., Scales, W.D. and Dallas, A. (2010). Preparing Students for College: The Implementation and Impact of the Early College High School Model. *Peabody Journal of Education*, 85:3, 348-364.

Institution: Consortium of Chicago Public Schools

Principal Investigator: Elaine Allensworth

Project Title: Chicago Public School Reform

Grant: R305R060059

Allensworth, E., Nomi, T., Nicholas, N., and Valerie, L. (2009). College Preparatory Curriculum for All: Academic Consequences of Requiring Algebra and English I for Ninth Graders in Chicago. *Educational Evaluation and Policy Analysis*, 31 (4): 367-391.

Coca, V., Johnson, D.W., Kelly-Kemple, t., Williams, N. O, Roderick, M. R., and Moragne, K. (in press). *Working to My Potential: The Secondary and Postsecondary Experiences of CPS Students in the International Baccalaureate Diploma Programme*. Chicago, IL: Consortium on Chicago School Research at the University of Chicago.

Durwood, C., Krone, E. and Mazzeo, C. (2009.) *Are Two Algebra Classes Better Than One? The Effects of Double-Dose Instruction in Chicago*. Policy Brief of the Consortium on Chicago School Research, Chicago, IL.

Lee, V. E., and Ready, D. D. (2009). U.S. High School Curriculum: Three Phases of Contemporary Research and Reform. *The Future of Children*, 19(1), 135-156

Mazzeo, C. (2010.) *College Prep for All? What We've Learned from Chicago's Efforts*. Policy Brief of the Consortium on Chicago School Research, Chicago, IL.

Mazzeo, C., Allensworth, E. and Lee, V. (2010). College Prep for All? What We've Learned in Chicago. *Education Week*, 29 (30), 25-26.

Montgomery, N. and Allensworth, E. (2010). *Passing Through Science: The Effects of Raising Graduation Requirements in Science on Course-Taking and Academic Achievement in Chicago*. Consortium on Chicago School Research, Chicago, Illinois.

Nagaoka, J., Proger, A. R., and Roderick, M. (in press) *Evaluating the Expansion of Advanced Placement Course-Taking in Chicago: Does AP Pay Off?* Chicago: Consortium on Chicago School Research.

Nomi, T. and Allensworth, E. (2009). "Double-Dose" Algebra as an Alternative Strategy to Remediation: Effects on Students' Academic Outcomes, *Journal of Research on Educational Effectiveness*, 2, 111-148.

Nomi, T. and Allensworth, E. (2011). Double-Dose Algebra as a Strategy for Improving Mathematics Achievement of Struggling Students: Evidence from Chicago Public Schools. In R. Gersten and R. Newman-Gonchar (Ed.) *Understanding RTI in Mathematics: Proven Methods and Applications* (pp 169-186). Baltimore, MD: Brookes Publishing Co.

Roderick, M. and Stoker, G. (2010). Bringing Rigor to the Study of Rigor: Are Advanced Placement Courses a Useful Approach to Increasing College Access and Success for Urban and Minority Youths? *Handbook of Research on Schools, Schooling, and Human Development*, Chapter 14: 216-237.

Roderick, M.R., Coca, V., and Kelly-Kemple, T. (in press). *The Postsecondary Transitions of CPS Students in the International Baccalaureate Diploma Programme*.

Institution: Harvard University

Principal Investigator: Richard Murnane

Project Title: The Consequences for High School Students of Failing State Exit Exams: Evidence from Massachusetts

Grant: R305A080127

Papay, J., Murnane, R.J. and Willett, J.B. (2010). The Consequences of High School Exit Examinations for Low-Performing Urban Students: Evidence from Massachusetts. *Education Evaluation and Policy Analysis*, 32(1): 5-23.

National Research and Development Centers

FY 2004

Institution: Johns Hopkins University
Principal Investigator: Bob Slavin
Project Title: Center for Data-Driven Reform in Education (CDDRE)
Grant: R305A040082

Journal Articles

- Cheung, A., and Slavin, R. (2005). Effective Reading Programs for English Language Learners and Other Language Minority Students. *Bilingual Research Journal*, 29(2): 241-267.
- Slavin, R. (2008). Evidence-Based Reform in Education: What Will It Take? *European Educational Research Journal*, 7(1): 124-128.
- Slavin, R. (2008). Evidence-Based Reform in Education: Which Evidence Matters? *Educational Researcher*, 37(1): 47-50.
- Slavin, R. (2008). What Works? Issues in Synthesizing Education Program Evaluations. *Educational Researcher*, 37(1): 5-14.
- Slavin, R. (2006). Research and Effectiveness: A '10 Percent Solution' That Can Make Evidence-Based Reform a Reality. *Education Week*.
- Slavin, R. (2005). Evidence-Based Reform in Education: Promise and Pitfalls. *Mid-Western Educational Researcher*, 18(1): 8-13.
- Slavin, R., Chamberlain, A., and Daniels, C. (2007). Preventing Reading Failure. *Educational Leadership*, 65(2): 22-27.
- Slavin, R., and Cheung, A. (2005). A Synthesis of Research on Language of Reading Instruction for English Language Learners. *Review of Educational Research*, 75 (2): 247-284.
- Slavin, R., Cheung, A., Groff, C., and Lake, C. (2008). Effective Reading Programs for Middle and High Schools: a Best Evidence Synthesis. *Reading Research Quarterly*, 43(3): 290-322.
- Slavin, R., and Lake, C. (2008). Effective Programs in Elementary Mathematics; A Best-Evidence Synthesis. *Review of Educational Research*, 78(3): 427-515.
- Slavin, R., Lake, C., and Groff, C. (2009). Effective Programs in Middle and High School Mathematics. *Review of Educational Research*, 79(2), 839-911.

Books

- Slavin, R., Lake, C., Chambers, B., Cheung, C., and Davis, S. (2009). *Effective Beginning Reading Programs: A Best-Evidence Synthesis*. Baltimore, MD: Center for Research and Reform in Education, Johns Hopkins University.
- Slavin, R., Lake, C., Cheung, A., and Davis, S. (2008). *Beyond the Basics: Effective Reading Programs for the Upper Elementary Grades*. Baltimore, MD: Center for Research and Reform in Education, Johns Hopkins University.

Book Chapters

- Chambers, B., Cheung, A., and Slavin, R. (2006). A Review of Research on Alternative Early Childhood Program. In Spodek, B. and Saracho, O (Eds.), *Handbook of Research on the Education of Young Children* (pp. 347-360). Mahwah, NJ: Lawrence Erlbaum.

Chambers, B., Cheung, A., and Slavin, R. (2006). Effective Preschool Programs for Children at Risk of School Failure: a Best-Evidence Synthesis. In B. Spodek (Ed.), *Handbook of Research on the Education of Young Children* (pp. 347-360). New York, NY: Lawrence Erlbaum.

Center Website: <http://www.cddre.org/>

Institution: University of North Carolina-Chapel Hill

Principal Investigator: Thomas Farmer

Project Title: National Research Center on Rural Education Support (NRCRES)

Grant: R305A004056

Journal Articles

Amendum, S., Vernon-Feagans, L., and Ginsberg, M. C. (in press). The Effectiveness of a Classroom Teacher Webcam-Coaching Program for Struggling Readers: The Targeted Reading Intervention. *Elementary School Journal*.

Carver, R., King, R., Hannum, W. H., and Fowler, B. (2007). Toward A Model of Experiential Elearning. *Journal of Online Learning and Teaching*, 3(3). Retrieved From <http://Jolt.Merlot.Org/Vol3no3/Hannum.Htm>.

Dexter, D.D., Hughes, C.A., and Farmer, T.W. (2008). Responsiveness to Intervention: A Review of Field Studies and Implications for Rural Special Education. *Rural Special Education Quarterly*, 37: 3-9.

Estell, D. B., Farmer, T. W., Irvin, M. J., Crowther, A., Akos, P., and Boudah, D. J. (2009). Students with Exceptionalities and the Peer Group Context of Bullying and Victimization in Late Elementary School. *Journal of Child and Family Studies*, 18: 136-150.

Estell, D. B., Farmer, T. W., Irvin, M. J., Hutchins, B. C., Mcdonough, E. (2007). Patterns of Middle School Adjustment and Ninth Grade Adaptation of Rural African American Youth: Grades and Substance Use. *Journal of Youth and Adolescence*, 36: 477-487.

Estell, D. B., Farmer, T. W., Irvin, M. J., Thompson, J. H., Hutchins, B. C., and Mcdonough, E. M. (2007). Patterns of Middle School Adjustment and Ninth Grade Adaptation of Rural African American Youth: Grades and Substance Use. *Journal of Youth and Adolescence*, 36: 477-487.

Estell, D. B., Farmer, T. W., and Cairns, B. D. (2007). Bullies and Victims in Rural African American Youth: Individual Characteristics and Social Network Placement. *Aggressive Behavior*, 33: 145-159.

Farmer, T. W., Dadisman, K., Latendresse, S. J., Thompson, J., Irvin, M. J., Zhang, L. (2006). Educating Out and Giving Back: Adults' Conceptions of Successful Outcomes of African American High School Students from Impoverished Rural Communities. *Journal of Research in Rural Education*, 21(10):1-12.

Farmer, T. W., Farmer, E. M. Z., Estell, D. and Hutchins, B.C. (2007). The Developmental Dynamics of Aggression and the Prevention of School Violence. *Journal of Emotional and Behavioral Disorders*, 15: 197-208.

Farmer, T. W., Hall, C. M., Weiss, M. P., Petrin, R. A., Meece, J. L., and Moohr, M. (2010). The School Adjustment of Rural Adolescents with and Without Disabilities: Variable and Person-Centered Approaches. *Journal of Child and Family Studies*. Advance Online Publication. Doi: 10.1007/S10826-010-9379-2

Farmer, T. W., Irvin, M. J., Thompson, J. H., Hutchins, B. C., and Leung, M.-C. (2006). School Adjustment and The Academic Success of Rural African American Early Adolescents In The Deep South. *Journal of Research in Rural Education*, 21: 1 – 14.

Farmer, T.W. and Mcauliffe, M. (in press). Revealing The Invisible Hand: The Role of Teachers in Children's Peer Experiences. *Journal of Applied Developmental Psychology*.

Farmer, T.W. and Xie, H.L. (2007). Aggression and School Social Dynamics: The Good, The Bad, And The Ordinary. *Journal of School Psychology*, 45: 461-478.

Farmer, T.W. (2007). Studying the Individual Within The Peer Context: Are We on Target? *New Directions in Child and Adolescent Development*, 118: 101-108.

- Farmer, T.W., Dadisman, K., Latendresse, S.J., Thomson, J., Irvin, M.J., and Zhang, L. (2006). Educating Out and Giving Back: Adults' Conceptions of Successful Outcomes of African American High School Students from Impoverished Rural Communities. *Journal of Research in Rural Education*, 21(10): 1-12.
- Farmer, T.W., Farmer, E.M.Z., and Brooks, (2010). Recasting the Ecological And Developmental Roots of Intervention for Students with Emotional and Behavioral Problems: The Promise of Strength-Based Perspectives. *Exceptionality*, 18: 53-57.
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Center Website: <http://www.cse.ucla.edu/>

Institution: University of Houston

Principal Investigator: David Francis

Project Title: Center for Research on the Educational Achievement and Teaching of English Language Learners (CREATE)

Grant: R305A050056

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Institution: Columbia University, Teacher College

Principal Investigator: Thomas Bailey

Project Title: National Center for Postsecondary Research

Grant: R305A060010

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Institution: Urban Institute

Principal Investigator: Jane Hannaway

Project Title: Center for Applied Data Analysis in Education Research (CALDER)

Grant: R305A06018

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Institution: University of Virginia

Principal Investigator: Robert Pianta

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Center Website: <http://www.ncrece.org/>.

Institution: Vanderbilt University

Principal Investigator: Jim Guthrie

Project Title: National Center for Performance Incentives (NCPI)

Grant: R305A06034

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- Koppich, J. (2008). *Toward a More Comprehensive Model of Teacher Pay*. NCPI Working Paper Series No. 2008-06. Nashville, TN.
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- Lockwood, J., and McCaffrey, D. (2008). *Exploring Student Teacher Interactions in Longitudinal Data Sets*. NCPI Working Paper Series No. 2008-24. Nashville, TN.
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Taylor, L. (2008). *Lessons Learned: Evaluating the First Year of the GEEG and TEEG Programs*. Available at http://www.performanceincentives.org/lectures/2008conference.asp?video_id=5

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Forman, J. (2009). *Comments on Session V: Legal Framework and Governance*. 2009 conference rejoinder.

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McCaffrey, D. (2008). *From Data to Bonuses: A Case Study of the Issues Related to Awarding Teachers Pay on the Basis of Their Students' Progress*. PowerPoint presentation available at <http://www.performanceincentives.org/lectures/slides/McCaffrey.pdf>

National Center on Performance Incentives. (2008). *State-By-State-Resources: An Interactive Map of National, State, and Local Performance Incentive Programs*. http://www.performanceincentives.org/statebystate_resources/state%20initiatives%20overview.pdf

Neal, D. (2008). *Designing Incentive Systems for Schools*. PowerPoint presentation available at <http://www.performanceincentives.org/lectures/slides/Neal.pdf>

Nelson, F. H. (2009). *Transform or Tweak: Concerns About the Financial Sustainability and Labor Market Effects of Teacher Retirement Systems*. 2009 conference rejoinder.

Podgursky, M. (2008). *Market-Based Pay Reform for Public School Teachers*. PowerPoint presentation available at <http://www.performanceincentives.org/lectures/slides/Podgursky.pdf>

Quinn, J. (2009). *Comments on Session IV: Labor Market Effects*. 2009 conference rejoinder.

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Center Website: <http://www.performanceincentives.org/>

FY 2008

Institution: Harvard University

Principal Investigator: Thomas Kane

Project Title: National Center for Teacher Effectiveness: Validating Measures of Effective Math Teaching

Grant: R305C090023

Journal Articles:

Staiger, D. O. and Rockoff, J. E. (in press). Searching for Effective Teachers with Imperfect Information. *Journal of Economic Perspectives*.

Center Website: <http://www.gse.harvard.edu/~pfpie/index.php/ncte/>

Institution: 21st Century Partnership for STEM Education
Principal Investigator: Joseph F. Merlino
Project Title: National Center on Cognition and Science Instruction
Grant: R305C080009

Center Website: <http://www.cogscied.org/>

FY 2009

Institution: University of Nebraska, Lincoln
Principal Investigator: Susan Sheridan
Project Title: National Center for Research on Rural Education
Grant: R305C090022

Center Website: <http://www.nrcres.org/>

FY 2010

Institution: Vanderbilt University
Principal Investigator: Thomas Smith
Project Title: National Center on Scaling Up Effective Schools
Grant: R305C100023

Center Website: <http://www.scalingupcenter.org>

Preschool Curriculum Evaluation Research

Preschool Curriculum Evaluation Research Consortium (2008). *Effects of Preschool Curriculum Programs on School Readiness* (NCER 2008-2009). U.S. Department of Education, National Center for Education Research. Washington, DC: U.S. Government Printing Office.

FY 2002

Institution: Purdue University

Principal Investigator: Douglas Powell

Project Title: Impact of the Project Approach on Children's School Readiness and School Achievement

Grant: R305J020027

Powell, D.R., Burchinal, M.R., File, N., and Kontos, S.J. (2008). An Eco-Behavioral Analysis of Children's Engagement in Public School Preschool. *Early Childhood Research Quarterly*, 23: 108-123.

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Institution: University of California at Berkeley

Principal Investigator: Prentice Starkey

Project Title: A Longitudinal Study of the Effects of a Pre-Kindergarten Mathematics Curriculum on Low-Income Children's Mathematical Knowledge

Grant: R305J020026

Klein, A., Starkey, P., Sarama, J., Clements, D.H., and Iyer, R. (2008). Effects of a Pre-Kindergarten Mathematics Intervention: A Randomized Experiment. *Journal of Research on Educational Effectiveness*, 1: 155-178.

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Starkey, P. (2007). Fostering the Learning of Mathematics in Low-Income Children. *Dialog Briefs*, 10(2): 1-7. Alexandria, VA: National Head Start Association.

Starkey, P., and Klein, A. (Eds.). (in press). *Curricular Intervention in Public Preschool Programs*. New York, NY: Teachers College Press.

Starkey, P., and Klein, A. (2008). Sociocultural Influences on Young Children's Mathematical Knowledge. In O.N. Saracho and B. Spodek (Eds.), *Contemporary Perspectives on Mathematics in Early Childhood Education* (pp. 253-276). Charlotte, NC: Information Age Publishing.

Starkey, P., Klein, A., and Nishida, T. (in press). Effects of a Pre-Kindergarten Mathematics Curriculum on Classroom Quality and Children's Development. In P. Starkey and A. Klein (Eds.), *Curricular Intervention in Public Preschool Programs*.

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Institution: University of New Hampshire

Principal Investigator: Jeff Priest

Project Title: Granite Ladders: An Experimental Evaluation of an Early Literacy Curriculum for New Hampshire's Preschoolers

Grant: R305J020027

Preschool Curriculum Evaluation Research Consortium (2008). *Effects of Preschool Curriculum Programs on School Readiness* (NCER 2008-2009). U.S. Department of Education, National Center for Education Research. Washington, DC: U.S. Government Printing Office.

Institution: University of North Carolina at Charlotte

Principal Investigator: Richard Lambert

Project Title: Evaluation of the Effects of Creative Curriculum on Classroom Quality and Child Outcomes in Head Start

Grant: R305J020039

Preschool Curriculum Evaluation Research Consortium (2008). *Effects of Preschool Curriculum Programs on School Readiness* (NCER 2008-2009). U.S. Department of Education, National Center for Education Research. Washington, DC: U.S. Government Printing Office.

Institution: University of North Florida

Principal Investigator: Cheryl Fountain

Project Title: Evaluation of the Early Literacy and Learning Model (ELLM): A Curriculum and Instructional Support System

Grant: R305J020040

Preschool Curriculum Evaluation Research Consortium (2008). *Effects of Preschool Curriculum Programs on School Readiness* (NCER 2008-2009). U.S. Department of Education, National Center for Education Research. Washington, DC: U.S. Government Printing Office.

Institution: University of Texas Health Science Center

Principal Investigator: Susan Landry

Project Title: Evaluation of Pre-Kindergarten Curricula in Head Start and Public School Settings

Grant: R305J020014

Assel, M.A., Landry, S.H., Swank, P.R., and Gunnewig, S. (2007). An Evaluation of Curriculum, Setting, and Mentoring on the Performance of Children Enrolled in Pre-Kindergarten. *Reading and Writing: An Interdisciplinary Journal*, 20: 463-494.

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Institution: Vanderbilt University

Principal Investigator: Dale Farran

Project Title: Focus in Early Childhood Curricula: Helping Children Transition to School

Grant: R305J020020

Dickinson, D., Watson, B., and Farran, D. (2008). It's in the Details: Approaches to Describing and Improving Preschool Classrooms. In C. Vukelich and L. Justice (Eds.), *Achieving Excellence in Preschool Literacy Instruction* (pp. 136-162). New York, NY: Guilford Press.

Farran, D.C. (2007). *Is Education the Way Out of Poverty? A Reflection on the 40th Anniversary of Head Start* (With Commentaries by James King and Bernard L. Charles), Center for Research on Child Development and Learning, No. 3.

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Varol, F., and Farran, D. (2006). Early Mathematical Growth: How to Support Young Children's Mathematical Development, *Early Childhood Education Journal*, 33(6): 1082-3301.

FY 2003

Institution: Florida State University

Principal Investigator: Christopher Lonigan

Project Title: Evaluating the Effectiveness of Preschool Literacy Curriculum for Children At-Risk

Grant: R305J030093

Preschool Curriculum Evaluation Research Consortium. (2008). *Effects of Preschool Curriculum Programs on School Readiness* (NCER 2008-2009). U.S. Department of Education, National Center for Education Research. Washington, DC: U.S. Government Printing Office.

Institution: Success for All Foundation

Principal Investigator: Bette Chambers

Project Title: Randomized Evaluation of Curiosity Corner with Follow-Up into SFA and Control Elementary Programs

Grant: R305J030138

Chambers, B. (2009). Curiosity Corner: Getting All Children Ready for School. *Early Childhood Services*, 3(3): 227-243.

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Institution: University of California at Berkeley

Principal Investigator: Anne Cunningham

Project Title: A Longitudinal Study of the Effectiveness of a Pre-K Multisensory Literacy Curriculum

Grant: R305J030037

Cunningham, A.E. (2009). Children Literature. *Encyclopedia of Cross-Cultural School Psychology*. New York, NY: Springer-Verlag.

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Institution: University of Missouri
Principal Investigator: Kathy Thornburg
Project Title: Project Construct: A Catalyst for Early Achievement
Grant: R305J030103

Preschool Curriculum Evaluation Research Consortium. (2008). *Effects of Preschool Curriculum Programs on School Readiness* (NCER 2008-2009). U.S. Department of Education, National Center for Education Research. Washington, DC: U.S. Government Printing Office.

Institution: University of Virginia
Principal Investigator: Laura Justice
Project Title: Evaluation of the Language-Focused Curriculum
Grant: R305J030084

Justice, L.M., Cottone, E.A., Mashburn, A., and Rimm-Kaufman, S.E. (2008). Relationships Between Teachers and Preschoolers Who are at Risk: Contribution of Children's Language Skills, Temperamentally-Based Attributes, and Gender. *Early Education and Development*, 19: 1-22.

Justice, L.M., Mashburn, A., Pence, K., and Wiggins, A. (2008). Experimental Evaluation of a Comprehensive Language-Rich Curriculum in At-Risk Preschools. *Journal of Speech, Language, and Hearing Research*, 51: 1-19.

Justice, L. M., Pence, K., and Wiggins, A. (2008). Training teachers to Use the Language-Focused Curriculum. In B. Bunce, *The Language-Focused Curriculum*, 2nd edition. Baltimore, MD: Paul H Brookes.

Justice, L.M., Pence, K., Bowles, R., and Wiggins, A.K. (2006). An Investigation of Four Hypotheses Concerning the Order by Which 4-Year-Old Children Learn the Alphabet Letters. *Early Childhood Research Quarterly*, 21: 374-389.

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McGinty, A., Justice, L.M., and Rimm-Kaufman, S.E. (2008). Sense of School Community for Preschool Teachers Serving At-Risk Pupils. *Early Education and Development*, 19: 361-384.

Pence, K., Beckman, A., Justice, L.M., and Bowles, R. (2009). Preschoolers' Exposure to Language Stimulation in Classrooms Serving At-Risk Children: The Contribution of Group Size and Activity Context. *Early Education and Development*, 20(1) 53-79.

Pence, K., Justice, L.M., and Wiggins, A. (2008). Preschool Teachers' Fidelity of Implementation for a Language-Rich Preschool Curriculum. *Language, Speech, and Hearing Services in Schools*, 39: 1-14.

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Turnbull Pence, K., Beckman, A., Justice, L. M., and Bowles, R. (2009). Preschoolers' Exposure to Language Stimulation in Classrooms Serving At-Risk Children: The Contribution of Group Size and Activity Context. *Early Education and Development*, 20: 53-79.

Postsecondary Education

FY 2006

Institution: Florida State University

Principle Investigator: Shouping Hu

Title: State Merit Aid Program and Student College Choice and Success: Evaluating the Efficacy of Florida's Bright Futures program

Award number: R305A110609

Hu, S., Trengove, M., and Zhang, L. (in press). Toward a Greater Understanding of the Effects of State Merit Aid Programs: Examining Existing Evidence and Exploring Future Research Direction. In J. Smart and M. Paulsen (eds.), *Higher Education: Handbook of Theory and Research*. New York, NY: Springer.

FY 2007

Institution: Correctional Education Association

Principal Investigator: Stephen Steurer

Project Title: Developing a Program of Postsecondary Academic Instruction Over the Corrections Learning Network

Grant: R305B070077

Meyer, S.J., Fredericks, L., Borden, C.M., and Richardson, P.L. (2010). Implementing Postsecondary Academic Programs in State Prisons: Challenges and Opportunities. *Journal of Correctional Education*, 61(2), 148-183.

Meyer, S. J. (2011). Factors Affecting Student Success in Postsecondary Academic Correctional Education programs. *Journal of Correctional Education*, 62(2), 132-164.

Institution: University of California, Davis

Principal Investigator: Michal Kurlaender

Project Title: The Effects of Institutional Practices on Postsecondary Trajectories – Matriculation, Persistence and Time to Degree

Grant: R305B07377

Howell, J.S., Kurlaender, M., and Grodsky, E. (2010). Postsecondary Preparation and Remediation: Examining the Effect of the Early Assessment Program at California State University. *Journal of Policy Analysis and Management*, 29(4), 726-748.

Institution: The University of Texas at Dallas

Principal Investigator: Isaac McFarlin Jr.

Project Title: The Effects of College Remediation on Students Academic and Labor Market Outcomes

Grant: R305B070581

Martorell, P. and Isaac McFarlin Jr., I. (2011). Help or Hindrance? The Effects of College Remediation on Academic and Labor Market Outcomes. *Review of Economics and Statistics*, 93(2): 436-454

Reading and Writing

FY 2002

Institution: Ohio State University

Principal Investigator: Ian Wilkinson

Project Title: Group Discussions as a Mechanism for Promoting High-Level Comprehension of Text

Grant: R305G02075

Murphy, P.K., Wilkinson, I.A.G., Soter, A.O., Hennessey, M.N., and Alexander, J.F. (2009). Examining the Effects of Classroom Discussion on Students' High-Level Comprehension of Text: a Meta-Analysis. *Journal of Educational Psychology*, 101(3): 740-764.

Murphy, P.K. (2007). The Eye of the Beholder: The Interplay of Social and Cognitive Components in Change. *Educational Psychologist*, 42: 41-53.

Soter, A.O. (2007). The Use of Discussion as a Pedagogical Tool in the University Context. In Donnermeyer, J. (Ed.), *Talking About Teaching: Essays by Members of the Ohio State University Academy of Teaching* (pp. 30-43). Columbus, Ohio.

Soter, A.O. (2008). Engaging Readers: Variations on Reader Response. In Soter, A.O., Faust, M., and Rogers, T (Eds.), *Interpretive Play: Using Critical Perspectives to Teach Young Adult Literature* (pp.33-36). Norwood, MA: Christopher-Gordon Publishers.

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Wilkinson, I.A.G. (2009). Discussion Methods. In E.M., Anderman and L.H., Anderman (Eds.), *Psychology of Classroom Learning: An Encyclopedia* (pp. 330-336). Detroit, MI: Gale/Cengage.

Wilkinson, I.A.G., and Hye Son, E. (2009). Questioning. In E.M., Anderman and L.H., Anderman (Eds.), *Psychology of Classroom Learning: An Encyclopedia* (pp. 723-728). Detroit, MI: Gale/Cengage.

Wilkinson, I.A.G., Soter, A.O., and Murphy, P.K. (2010). Developing a Model of Quality Talk About Literary Text. In M.G. McKeown and L. Kucan (Eds.), *Bringing Reading Research to Life: Essays in Honor of Isabel L. Beck* (pgs. 142-169). New York, NY: Guilford Press.

Institution: Pacific Institutes for Research

Principal Investigator: Scott Baker

Project Title: The Story Read Aloud Project: The Development of an Innovative Instructional Approach to Promote Comprehension and Vocabulary in First Grade Classrooms

Grant: R305G020057

Santoro, L.E., Chard, D.J., Howard, L., and Baker, S.K. (2008). Making the Very Most of Classroom Read-Alouds to Promote Comprehension and Vocabulary. *Reading Teacher*, 61(5): 396-408.

Institution: University of Colorado

Principal Investigator: Thomas Landauer

Project Title: Research on and With Novel Educational Technologies for Comprehension

Grant: R305G02027

Dennis, S. (2005). An Exemplar-Based Approach to Unsupervised Parsing. In B.G. Bara, L. Barsalou and M. Bucciarelli (Eds.), *Proceedings of the 27th Annual Conference of the Cognitive Science Society* (pp. 583-588). Hillsdale, NJ: Erlbaum.

Dennis, S. (2007). Introducing Word Order in an LSA Framework. In T. Landauer, D. McNamara, S. Dennis and W. Kintsch (Eds.), *Handbook of Latent Semantic Analysis* (pp. 449-466). Mahwah, NJ: Erlbaum.

Doxas, I., Dennis, S., and Oliver, W. (2007). The Dimensionality of Language. In D.S. McNamara and J.G. Trafton (Eds.), *Proceedings of the 29th Annual Conference of the Cognitive Science Society* (pp. 227-232). New York, NY: Erlbaum.

Kintsch, W., McNamara, D.S., Dennis, S., and Landauer, T.K. (2007). LSA and Meaning: in Theory and Application. In T. Landauer, D. McNamara, S. Dennis and W. Kintsch (Eds.), *Handbook of Latent Semantic Analysis* (pp. 467-480). Mahwah, NJ: Erlbaum.

Landauer, T.K. (2007). LSA as a Theory of Meaning. In T. Landauer, D. McNamara, S. Dennis and W. Kintsch (Eds.), *Handbook of Latent Semantic Analysis* (pp. 3-35). Mahwah, NJ: Erlbaum.

Steyvers, M., Griffiths, T.L., and Dennis, S. (2006). Probabilistic Inference in Human Semantic Memory. *Trends in Cognitive Sciences*, 10(7): 327-334.

Institution: University of Memphis

Principal Investigator: Danielle McNamara

Project Title: Coh-Metrix: Automated Cohesion and Coherence Scores to Predict Text Readability and Facilitate Comprehension

Grant: R305G020018

Best, R.M., Floyd, R.G., and McNamara, D.S. (2008). Differential Competencies Contributing to Children's Comprehension of Narrative and Expository Texts. *Reading Psychology*, 29: 137-164.

Bruss, M., Albers, M., and McNamara, D.S. (2004). Changes in Scientific Articles Over Two Hundred Years: A Coh-Metrix Analysis. *Proceedings of the 22nd Annual International Conference on Computer Documentation*. (pp. 104-109). Memphis, TN: ACM Press.

Cai, Z., McNamara, D.S., Louwerse, M., Hu, X., Rowe, M., and Graesser, A.C. (2004). NLS: Non-Latent Similarity Algorithm. In K. Forbus, D. Gentner, T. Regier (Eds.), *Proceedings of the 26th Annual Meeting of the Cognitive Science Society* (pp. 180-185). Mahwah, NJ: Erlbaum.

Crossley, S.A., McCarthy, P.M., Louwerse, M., and McNamara, D.S. (2007). Linguistic Analysis of Simplified and Authentic Texts. *Modern Language Journal*, 91: 15-30.

Dufty, D.F., McNamara, D., Louwerse, M., Cai, Z., Graesser, A.C. (2004). Automated Evaluation of Aspects of Document Quality. *Proceedings of the 22nd Annual International Conference on Documentation*. Memphis, TN: ACM Press.

Hempelmann, C.F., Dufty, D., McCarthy, P.M., Graesser, A.C., Cai, Z., and McNamara, D.S. (2005). Using LSA to Automatically Identify Givenness and Newness of Noun Phrases in Written Discourse. *Proceedings of the 27th Annual Meeting of the Cognitive Science Society*. (pp. 941-946). Mahwah, NJ: Erlbaum.

Hempelmann, C.F., Rus, V., Graesser, A.C., and McNamara, D.S. (2006). Evaluating State-Of-The-Art Treebank-Style Parsers for Coh-Metrix and Other Learning Technology Environments. *Natural Language Engineering Special Issue: Building Educational Applications Using Natural Language Processing* 12(2): 131-144.

Graesser, A.C., Hu, X., and McNamara, D.S. (2005). Computerized Learning Environments that Incorporate Research in Discourse Psychology, Cognitive Science, and Computational Linguistics. In A.F. Healy (Ed.),

Experimental Cognitive Psychology and Its Applications: Festschrift in Honor of Lyle Bourne, Walter Kintsch, and Thomas Landauer (pp. 183-194). Washington, D.C.: American Psychological Association.

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Graesser, A., Louwerse, M., McNamara, D., Olney, A., Cai, Z., and Mitchell, H. (2007). Inference Generation and Cohesion in the Construction of Situation Models: Some Connections With Computational Linguistics. In F. Schmalhofer and C.A. Perfetti (Eds.), *Higher Level Language Processes in the Brain: Inference and Comprehension Processes* (pp. 289 - 310). Mahwah, NJ: Erlbaum.

Graesser, A.C., McNamara, D.S., Louwerse, M.M., and Cai, Z. (2004). Coh-Metrix: Analysis of Text on Cohesion and Language. *Behavioral Research Methods, Instruments and Computers*, 36: 193-202.

Graesser, A.C., Jeon, M., Yan, Y., and Cai, Z. (2007). Discourse Cohesion in Text and Tutorial Dialogue. *Information Design Journal Special Issue: Discourse, Cognition and Communication*, 15: 199-213.

Duran, N.D.; McCarthy, P.M.; Graesser, A.C., and McNamara, D. (2007). Using Temporal Cohesion to Predict Temporal Coherence in Narrative and Expository Texts. *Behavior Research Methods*, 39: 212-223.

Louwerse, M.M., McCarthy, P.M., McNamara, D.S., and Graesser, A.C. (2004). Variation in Language and Cohesion Across Written and Spoken Registers. In K. Forbus, D. Gentner, T. Regier (Eds.), *Proceedings of the 26th Annual Meeting of the Cognitive Science Society* (pp. 843-848). Mahwah, NJ: Erlbaum.

McNamara, D.S., Ozuru, Y., Graesser, A.C., and Louwerse, M. (2006). Validating Coh-Metrix. In R. Sun and N. Miyake (Eds.), *Proceedings of the 28th Annual Conference of the Cognitive Science Society* (p. 573). Mahwah, NJ: Erlbaum.

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McNamara, D.S., Floyd, R.G., Best, R., and Louwerse, M. (2004). World Knowledge Driving Young Readers' Comprehension Difficulties. In Y.B. Yasmin, W.A., Sandoval, N. Enyedy, A.S. Nixon, and F. Herrera (Eds.), *Proceedings of the Sixth International Conference of the Learning Sciences: Embracing Diversity in the Learning Sciences* (pp. 326-333). Mahwah, NJ: Erlbaum.

O'Reilly, T., and McNamara, D.S. (2007). Reversing the Reverse Cohesion Effect: Good Texts Can Be Better for Strategic, High Knowledge Readers. *Discourse Processes*, 47(2): 121-152.

Ozuru, Y., Dempsey, K., Sayroo, J., and McNamara, D.S. (2005). Effect of Text Cohesion on Comprehension of Biology Texts. *Proceedings of the 27th Annual Meeting of the Cognitive Science Society* (pp. 1696-1701). Hillsdale, NJ: Erlbaum.

Rus, V., Hempelmann, C., Graesser, A.C., McNamara, D.S. (2006). Evaluating State-Of-The-Art Treebank-Style Parsers for Coh-Metrix and Other Learning Technology Environments. *Natural Language Engineering* 12: 1-14.

Institution: University of Pittsburgh

Principal Investigator: Charles Perfetti

Project Title: Word Learning and Comprehension: New Laboratory Approaches and Classroom Studies

Grant: R305G02006

Beck, I.L, and McKeown, M.G. (2007). Increasing Young Low-Income Children's Oral Vocabulary Repertoires through Rich and Focused Instructions. *The Elementary School Journal*, 107(3): 251-271.

Landi, N., Perfetti, C.A., Bolger, D.J., Dunlap, S., and Foorman, B.R. (2006). The Role of Discourse Context in Developing Word Form Representations: a Paradoxical Relationship Between Reading and Learning. *Journal of Experimental Child Psychology* 94 (2): 114-133.

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- Nelson, J., Balass, M., and Perfetti, C.A. (2005). Differences Between Written and Spoken Input in Learning New Words. *Written Language and Literacy. Special Issue: Literacy Processes and Literacy Development* 8(2): 101-120.
- Perfetti, C.A., Landi, N., and Oakhill, J. (2005). The Acquisition of Reading Comprehension Skill. In M.J. Snowling and C. Hulme (Eds.), *The Science of Reading: a Handbook*. (pp. 227-247). Malden, MA: Blackwell.
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- Reichle, E.D., and Perfetti, C.A. (2003). Morphology in Word Identification: a Word-Experience Model that Accounts for Morpheme Frequency Effects. *Scientific Studies of Reading*, 7(3): 219-237.
- Reichle, E.D., Pollatsek, A., and Rayner, K. (2006). E-Z Reader: a Cognitive-Control, Serial-Attention Model of Eye-Movement Behavior During Reading. *Cognitive Systems Research Special Issue: Cognitive Systems Research on Models of Eye-Movement Control in Reading*, 7(1): 4-22.
- Yang, C.L., Perfetti, C.A., and Schmalhofer, F. (2007). Event-Related Potential Indicators of Text Integration Across Sentence Boundaries. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 33(1): 55-89.
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FY 2003

Institution: Carnegie Mellon University

Principal Investigator: James Callan

Project Title: Reader-Specific Lexical Practice for Improved Reading Comprehension

Grant: R305G030123

Brown, J. Frishkoff, G., and Eskenazi, M. (2005). Automatic Question Generation for Vocabulary Assessment. In *Proceedings of HLT/EMNLP 2005*. (pp. 819-826). Vancouver, Canada: Association for Computational Linguistics

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Brown, J., and Eskenazi, M. (2004). Retrieval of Authentic Documents for Reader-Specific Lexical Practice. In *Proceedings of Instil/ICALL Symposium 2004*. Venice, Italy. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.68.6223&rep=rep1&type=pdf>

Collins-Thompson, K., and Callan, J. (2005). Query Expansion Using Random Walk Models. In *Proceedings of the 14th ACM International Conference on Information and Knowledge Management* (pp. 704-711). New York, NY: ACM Press.

Collins-Thompson, K., and Callan, J. (2005). Predicting Reading Difficulty With Statistical Language Models. *Journal of the American Society for Information Science and Technology*, 56(13): 1448-1462.

Collins-Thompson, K., and Callan, J. (2004). Information Retrieval for Language Tutoring: An Overview of the REAP Project (Poster Description). In *Proceedings of the Twenty Seventh Annual International ACM SIGIR Conference on Research and Development in Information Retrieval*. Sheffield, UK. http://www-2.cs.cmu.edu/~kct/pubs/sigir04_reap_poster.pdf

Collins-Thompson, K., and Callan, J. (2004). A Language Modeling Approach to Predicting Reading Difficulty. In *Proceedings of the HLT/NAACL 2004 Conference*. Boston, MA. <http://acl.ldc.upenn.edu/N/N04/N04-1025.pdf>

Institution: Florida State University

Principal Investigator: Richard Wagner

Project Title: Origins of Individual and Developmental Differences in Reading Comprehension

Grant: R305G03104

McBride-Chang, C., Cho, J.R., Lie, H., Wagner, R.K., Shu, H., Zhou, A., Cheuk, C., and Muse, A. (2005). Changing Models Across Cultures: Associations of Phonological Awareness and Morphological Structure Awareness With Vocabulary and Word Recognition in Second Graders From Beijing, Hong Kong, Korea, and the United States. *Journal of Experimental Child Psychology*, 92(2): 140-160.

McBride-Chang, C., Wagner, R.K., Muse, A., Chow, B.W.Y., and Shu, H. (2005). Morphological Awareness in Children's Vocabulary Acquisition in English. *Journal of Applied Psycholinguistics*, 26(3): 415-435.

Priya, K., and Wagner, R. K. (2009). The Roles of Fluent Decoding and Vocabulary in the Development of Reading Comprehension. In Wagner, R.K., Schatschneider, C., and Phythian-Sence, C. (Eds.), *Beyond Decoding: The Behavioral and Biological Foundations of Reading Comprehension* (pgs. 124-139). New York, NY: Guilford Press.

Tannenbaum, K.R., Torgesen, J.K., and Wagner, R.K. (2006). Relationships Between Word Knowledge and Reading Comprehension in Third-Grade Children. *Scientific Studies of Reading*, 10(4): 381-398.

Wagner, R.K., Muse, A., and Tannenbaum, K. (Eds.). (2006). *Vocabulary Acquisition: Implications for Reading Comprehension*. New York, NY: Guilford Press.

Wagner, R.K., Muse, A., and Tannenbaum, K. (2006). Promising Avenues for Better Understanding Implications of Vocabulary Development for Reading Comprehension. In R.K. Wagner, A. Muse, and K. Tannenbaum, (Eds.), *Vocabulary Acquisition: Implications for Reading Comprehension* (pp. 276-292). New York, NY: Guilford Press.

Wagner, R.K., Phythian-Sence, C., and Tannenbaum, K. (2006). Vocabulary Acquisition: a Primer. In R.K. Wagner, A. Muse, and K. Tannenbaum, (Eds.), *Vocabulary Acquisition: Implications for Reading Comprehension* (pp. 1-14). New York, NY: Guilford Press.

Institution: Pennsylvania State University

Principal Investigator: Bonnie Meyer

Project Title: Intelligent Tutoring Using the Structure Strategy to Improve Reading Comprehension of Middle School Students

Grant: R305G030072

Meyer, B.J.F., and Wijekumar, K. (2007). A Web-Based Tutoring System for the Structure Strategy: Theoretical Background, Design, and Findings. In D.S. McNamara (Ed.), *Reading Comprehension Strategies: Theories, Interventions, and Technologies* (pp. 347-374). Mahwah, NJ: Erlbaum.

Meyer, B.J.F., Wijekumar, K., Middlemiss, W., Higley, K., Lei, P., Meier, C., and Spielvogel, J. (2010). Web-Based Tutoring of the Structure Strategy With or Without Elaborated Feedback or Choice for Fifth- and Seventh-Grade Readers. *Reading Research Quarterly*, 45 (1): 62-92.

Wijekumar, K., and Meyer, B.J.F. (2006). Design and Pilot of a Web-Based Intelligent Tutoring System to Improve Reading Comprehension in Middle School Students. *International Journal of Technology in Teaching and Learning*, 2(1): 36-49.

Wijekumar, K., Meyer, B., and Spielvogel, J. (2005). Web-Based Intelligent Tutoring to Improve Reading Comprehension in Elementary and Middle Schools: Design, Research, and Preliminary Findings. In G. Richards (Ed.), *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2005* (pp. 3206-3211). Chesapeake, VA: American Association for the Advancement of Computing Education.

Wijekumar, K., Meyer, B.J.F., Ferguson, L., and Wagoner, D. (2006). Technology Affordances: The Real Story in Research With K-12 and Undergraduate Learners. *British Journal of Educational Technology: Special Issue on Technology Effects*, 37: 191-209.

Institution: Teachers College, Columbia University

Principal Investigator: Joanna Williams

Project Title: Teaching Elementary Students to Comprehend Expository Text

Grant: R305G03283

Williams, J.P., Nubla-Kung, A.M., Pollini, S., Stafford, K.B., Garcia, A., Snyder, A.E. (2007). Teaching Cause-Effect Text Structure through Social Studies Content to At-Risk Second Graders. *Journal of Learning Disabilities*, 40(2): 111-120.

Williams, J.P. (2007). Literacy in the Curriculum: Integrating Text Structure and Content Area Instruction. In D.S. McNamara (Ed.), *Reading Comprehension Strategies: Theories, Interventions, and Technologies* (pp. 199-219). Mahwah, N.J.: Erlbaum.

Institution: University of Connecticut

Principal Investigator: Michael Coyne

Project Title: Project VITAL: Vocabulary Intervention Targeting At-Risk Learners

Grant: R305G030250

Coyne, M.D., McCoach, B., and Kapp, S. (2007). Vocabulary Intervention for Kindergarten Students: Comparing Extended Instruction to Embedded Instruction and Incidental Exposure. *Learning Disabilities Quarterly*, 30(2): 74-88.

Institution: University of Illinois, Champaign-Urbana

Principal Investigator: Richard Anderson

Project Title: Improving Comprehension and Writing through Reasoned Argumentation

Grant: R305G030070

Li, Y., Anderson, R.C., Nguyen-Jahiel, K., Dong, T., Archodidou, A., Kim, I., Kuo, L.J., Clark, A.M., Wu, X., Jadallah, M., and Miller, B. (2007). Emergent Leadership in Children's Discussion Groups. *Cognition and Instruction*, 25(1): 75-111.

Nguyen-Jahiel, K., Anderson, R., Waggoner, M., and Rowell, B. (2007). Using Literature Discussions to Reason through Real Life Dilemmas: A Journey Taken by One Teacher and Her Fourth-Grade Students. In R. Horowitz (Ed.), *Talking Texts: How Speech and Writing Interact in School Learning*. Hillsdale, NJ: Erlbaum.

Reznitskaya, A., and Anderson, R.C. (2007). Assessing Argumentation in Rich, Natural Contexts. *Informal Logic*, 26: 175-198.

Reznitskaya, A., Anderson, R.C., and Kuo, L.J. (2007). Teaching and Learning Argumentation. *Elementary School Journal*, 107: 449-472.

Dong, T., Anderson, R.C., Kim, I., and Li, Y. (2008). Collaborative Reasoning in China and Korea. *Reading Research Quarterly*, 43: 400-424.

Lin, T.J., and Anderson, R.C. (2008). Reflections on Collaborative Discourse, Argumentation, and Learning. *Contemporary Educational Psychology*, 33: 443-448.

Reznitskaya, A., Anderson, R.C., Dong, T., Li, Y., Kim, I.H., and Kim, S.Y. (2008). Learning to Think Well: Applications of Argument Schema Theory. In C.C. Block and S. Parris (Eds.), *Comprehension Instruction: Research-Based Best Practices* (Vol. 2, pp. 196-213). New York, NY: Guilford Publishing.

Jadallah, M., Miller, B., Anderson, R.C., Nguyen-Jahiel, K., Archodidou, A., Zhang, J., and Grabow, K. (2009). Collaborative Reasoning About a Science and Public Policy Issue. In M. McKeown and L. Kucan (Eds.), *Bringing Reading Researchers to Life: Essays in Honor of Isabel L. Beck*. New York, NY: Guilford Press.

Reznitskaya, A., Kuo, L.J., Clark, A.M., Miller, B., Jadallah, M., Anderson, R.C., and Nguyen-Jahiel, K. (2009). Collaborative Reasoning: A Dialogic Approach to Group Discussions. *Cambridge Journal of Education*, 39(1): 29-48.

Reznitskaya, A., Kuo, L.J., Glina, M., and Anderson, R.C. (2009). Measuring Argumentation: What's Behind the Numbers? *Learning and Individual Differences*, 19(2): 219-224.

Institution: University of Illinois, Champaign-Urbana

Principal Investigator: Georgia Garcia

Project Title: Instruction of Reading Comprehension: Cognitive Strategies or Cognitive Engagement

Grant: R305G03140

Stahl, K.A.D., Garcia, G.E., Bauer, E.B., Pearson, P.D., and Taylor, B.A. (2006). Making the Invisible Visible: The Development of a Comprehension Assessment System. In K.A.D. Stahl and McKenna (Eds.), *Reading Research at Work: Foundations of Effective Practice* (pp. 425-436). New York, NY: Guilford Press.

Taylor, B.M., Pearson, P.D., Garcia, G.E., Stahl, K.A.D., Bauer, E.B. (2006). Improving Students Reading Comprehension. In K.A.D. Stahl and McKenna (Eds.), *Reading Research at Work: Foundations of Effective Practice* (pp. 303-315). New York, NY: Guilford Press.

FY 2004

Institution: Northern Illinois University

Principal Investigators: Joseph Magliano and Keith Millis

Project Title: Assessing Reading Comprehension With Verbal Protocols and Latent Semantic Analysis

Grant: R305G04055

Britt, M.A., Wiemer, K., Millis, K.K., Magliano, J.P., Wallace, P., and Hastings, P. (in press). Understanding and Reasoning with Text. To appear in P. McCarthy and C. Boonthum (Eds.), *Applied Natural Language Processing and Content Analysis: Identification, Investigation, and Resolution*. IGI Global Publisher.

Gilliam, S., Magliano, J.P., Millis, K.K., Levinstein, I., and Boonthum, C. (2007). Assessing the Format of the Presentation of Text in Developing a Reading Strategy Assessment Tool (R-SAT). *Behavior Research Methods, Instruments, and Computers*, 39: 199-204.

Magliano, J. P., Millis, K.K., The RSAT Development Team, Levinstein, I., and Boonthum, C (in press). Assessing Comprehension During Reading with the Reading Strategy Assessment Tool (RSAT). *Metacognition and Learning*.

Magliano, J.P., Millis, K.K., Ozurur, Y., and McNamara, D.S. (2007). A Multidimensional Framework to Evaluate Assessment Tools. In D.S. McNamara (Ed.), *Reading Comprehension Strategies: Theories, Interventions, and Technologies* (pp. 107-136). Mahwah, NJ: Erlbaum.

Magliano, J.P. and Perry, P.J. (2008). Individual Differences in Reading Proficiencies and Comprehension. In N.J. Salkind (Ed.), *Encyclopedia of Educational Psychology, Vol. 2.* (pp. 511-517). Thousand Oaks, CA: Sage Publications, Inc.

Malladi, R. Levinstein, I.B., Boonthum, C., and Magliano, J. P. (2010). Summarization: Constructing an Ideal Summary and Evaluating a Student's Summary using LSA. In the *Proceedings of the 23rd International Florida Artificial Intelligence Research Society (FLAIRS) Conference* (pp. 295-296). Menlo Park, CA: The AAAI Press.

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Institution: State University of New York, Buffalo

Principal Investigator: James Collins

Project Title: Writing Intensive Reading Comprehension: Effects of Comprehension Instruction With and Without Integrated Writing Instruction on Fourth and Fifth Grade Students' Reading Comprehension and Writing Performance

Grant: R305G04153

Srihari, S., Collins, J., Srihari, R., Srinivasan, H., Shetty, S, and Brutt-Griffler, J. (2008). Automatic Scoring of Short Handwritten Essays in Reading Comprehension Tests. *Artificial Intelligence, 172* : 2-3.

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Institution: University of Colorado

Principal Investigator: Barbara Wise

Project Title: ICARE: Independent Comprehensive Adaptive Reading Evaluation System

Grant: R305G04097

Olson, R., and Wise, B. (2006). Computer-Based Remediation for Reading and Related Phonological Disabilities. In M. McKenna, L. Labbo, R. Kieffer, and D. Reinking (Eds.), *Handbook of Literacy and Technology* (Vol. 2). Mahwah, NJ: Erlbaum.

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Institution: University of Kansas

Principal Investigator: Michael Hock

Project Title: Improving Adolescent Reading Comprehension: a Multi-Strategy Reading Intervention

Grant: R305G04011

Hock, M.F., Brasseur, I.F., Deshler, D.D., Catts, H.W., Marques, J., Mark, C.A., and Wu Stribling, J. (2009). What Is the Nature of Struggling Adolescent Readers in Urban High Schools? *Learning Disability Quarterly*, 32(1): 21-38.

Institution: University of Memphis

Principal Investigator: Danielle McNamara

Project Title: iSTART: Interactive Strategy Trainer for Active Reading and Thinking

Grant: R305G040046

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Boonthum, C., Levinstein, I., and McNamara, D.S. (2007). Evaluating Self-Explanations in iSTART: Word Matching, Latent Semantic Analysis, and Topic Models. In A. Kao and S. Poteet (Eds.), *Natural Language Processing and Text Mining* (pp. 91-106). London, UK: Springer-Verlag UK.

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Graesser, A.C., Hu, X., and McNamara, D.S. (2005). Computerized Learning Environments that Incorporate Research in Discourse Psychology, Cognitive Science, and Computational Linguistics. In A.F. Healy (Ed.), *Experimental Cognitive Psychology and Its Applications: Festschrift in Honor of Lyle Bourne, Walter Kintsch, and Thomas Landauer* (pp. 183-194). Washington, DC: American Psychological Association.

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- McNamara, D.S., De Vega, M., and O'Reilly, T. (2007). Comprehension Skill, Inference Making, and the Role of Knowledge. In F. Schmalhofer and C.A. Perfetti (Eds.), *Higher Level Language Processes in the Brain: Inference and Comprehension Processes* (pp.233-254). Mahwah, NJ: Erlbaum.
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Institution: University of Minnesota

Principal Investigator: Paul van den Broek

Project Title: Improving Comprehension of Struggling Readers: Connecting Cognitive Science and Educational Practice

Grant: R305G04021

van den Broek, P., White, M.J., Kendeou, P., and Carlson, S. (2009). Reading Between the Lines: Developmental and Individual Differences in Cognitive Processes in Reading Comprehension. In R. Wagner (Ed.), *Biological and Behavioral Bases of Reading Comprehension* (pp. 107-123). Mahwah, NJ: Erlbaum.

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Rapp, D.N., van den Broek, P., McMaster, K.L., Kendeou, P., and Espin, C.A. (2007). Higher-Order Comprehension Processes in Struggling Readers: a Perspective for Research and Intervention. *Scientific Studies of Reading*, 11: 289-312.

Rapp, D.R., and van den Broek, P. (2005). Dynamic Text Comprehension: An Integrative View of Reading. *Current Directions in Psychological Sciences*, 14 (5): 276-279.

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Institution: University of Pittsburgh

Principal Investigator: Margaret McKeown

Project Title: Toward More Meaningful Decisions About Comprehension Instruction

Grant: R305G040049

McKeown, M.G., and Beck, I.L., (in press). The Role of Metacognition in Understanding and Supporting Reading Comprehension. In D. J. Hacker, J. Dunlosky, and A. C. Graesser, (Eds.), *Handbook of Metacognition in Education*. Mahwah, NJ: Lawrence Erlbaum Associates.

McKeown, M.G., Beck, I.L., and Blake, R.G.K. (2009a). Rethinking Reading Comprehension Instruction: A Comparison of Instruction for Strategies and Content Approaches. *Reading Research Quarterly*, 44(3): 218-253.

McKeown, M.G., Beck, I.L., and Blake, R.G.K. (2009b, Spring). Reading Comprehension Instruction: Focus on Content or Strategies? *Perspectives on Language and Literacy*, 28-32.

Institution: Vanderbilt University

Principal Investigator: Douglas Fuchs

Project Title: Scaling Up Peer Assisted Learning Strategies to Strengthen Reading Achievement

Grant: R305G04104

Stein, M.L., Berends, M., Fuchs, D., McMaster, K., Sáenz, L., Loulee Y., Fuchs, L.S., and Compton, D.L. (2008). Scaling up an Early Reading Program: Relationships Among Teacher Support, Fidelity of Implementation, and Student Performance Across Different Sites and Years. *Educational Evaluation and Policy Analysis*, 30: 368-388.

McMaster, K.L., Kung, H., Han, I., and Cao, M. (2008). Peer-Assisted Learning Strategies: A Tier 1 Approach to Promoting Responsiveness to Beginning Reading Instruction for English Learners. *Exceptional Children*, 74 (3): 194-214.

Petursdottir, A.-L., McMaster, K., McComas, J.J., Bradfield, T., Braganza, V., Koch-McDonald, J., Rodriguez, R., and Scharf, H. (2009). Brief Experimental Analysis of Early Reading Interventions. *Journal of School Psychology*, 47(4): 215-243.

Saenz, L., McMaster, K., Fuchs, D., Fuchs, L.S. (2007). Peer-Assisted Learning Strategies in Reading for Students With Different Learning Needs. *Journal of Cognitive Education and Psychology*, 6(3): 395-410.

Institution: Washington Research Institute

Principal Investigator: Patricia Vadasy

Project Title: Quick Reads Supplementary Tutoring Efficacy and Replication Trials

Grant: R305G04103

Vadasy, P.F., and Sanders, E.A. (2008). Benefits of Repeated Reading Intervention for Low-Achieving Fourth- and Fifth-Grade Students. *Remedial and Special Education*, 29: 235-249.

Vadasy, P.F., and Sanders, E.A. (2008). Repeated Reading Intervention: Outcomes and Interactions With Readers' Skills and Classroom Instruction. *Journal of Educational Psychology*, 100: 272-290.

Vadasy, P.F., and Sanders, E.A. (2009). Supplemental Fluency Intervention and Determinants of Reading Outcomes. *Scientific Studies of Reading*, 13(5): 383-425.

FY 2005

Institution: CAST, Inc.

Principal Investigator: Bridget Dalton

Project Title: Improving Reading Comprehension for Struggling Readers: Understanding the Roles of Vocabulary Development, Guided Strategy Use, and Spanish Language Supports in a Digital Reading Environment

Grant: R305G050029

Dalton, B., and Proctor, C.P. (2007). Reading as Thinking: Integrating Strategy Instruction in a Universally Designed Digital Literacy Environment. In D.S. McNamara (Ed.), *Reading Comprehension Strategies: Theories, Interventions, and Technologies* (pp. 421-440). Mahwah, NJ: Erlbaum Publishers.

Proctor, C.P., Uccelli, P., Dalton, B., and Snow, C.E. (2009). Understanding Depth of Vocabulary Online With Bilingual and Monolingual Children. *Reading and Writing Quarterly*, 25(4): 311-333.

Institution: Ohio State University (original award to University of Virginia)

Principal Investigator: Laura Justice

Project Title: Print Referencing Efficacy

Grant: R305G050005 (original award number R305G050057)

Cabell, S., Justice, L.M., Konold, T., and McGinty, A. (2010). Profiles of Emergent Literacy Skills Among Preschool Children who are at Risk for Academic Difficulties. *Early Childhood Research Quarterly*.

Glenn-Applegate, K., Breit-Smith, A., Justice, L. M., and Piasta, S. (2010). Artfulness in Young Children's Spoken Narratives. *Early Education and Development*, 21(3): 468-493.

Guo, Y., Justice, L.M., Piasta, S., and Kaderavek, J. (2010). Relations Among Preschool Teachers' Self-Efficacy, Classroom Quality, and Children's Language and Literacy Gains. *Teaching and Teacher Education*, 26: 1094-1103.

Guo, Y., Kaderavek, J., Piasta, S., Justice, L.M., and McGinty, A. (in press). Preschool Teachers' Sense of Community, Instructional Practices, and Children's Language and Literacy Gains. *Early Education and Development*.

Justice, L.M., Bowles, R., Pence, K., and Gosse, C. (2010). A Scalable Tool for Assessing Children's Language Abilities Within a Narrative Context: The NAP (Narrative Assessment Protocol). *Early Childhood Research Quarterly*. 25(2): 218-234.

Justice, L.M., Kaderavek, J.N., Xitao F., Sofka, A., and Hunt, A. (2009). Accelerating Preschoolers' Early Literacy Development through Classroom-Based Teacher-Child Storybook Reading and Explicit Print Referencing. *Language, Speech, and Hearing Services in Schools*, 40: 67-85.

Justice, L. M., McGinty, A., Piasta, S., Kaderavek, J., and Fan, X. (2010). Print-Focused Read-Alouds in Preschool Classrooms: Intervention Effectiveness and Moderators of Child Outcomes. *Language, Speech, and Hearing Services in Schools*. doi:10.1044/0161-1461

Justice, L.M., and Sofka, A. (2010). *Calling Attention to Print: Building Young Children's Knowledge of Print*. New York, NY: Guilford Press.

Kaderavek, J., and Justice, L.M. (in press). Fidelity in Educational and Clinical Interventions: An Essential Component of Empirically Supported Treatment and Evidence-Based Practice. *American Journal of Speech-Language Pathology*.

McGinty, A., Justice, L.J., and Rimm-Kaufman, S.E. (2008). Sense of School Community for Preschool Teachers Serving At-Risk Children. *Early Education and Development*, 19(2): 361-384.

McGinty, A., Justice, L.M., Piasta, S., and Kaderavek, J. (in press). Is Explicit Print Instruction Related to Children's Print Knowledge Development? *Early Childhood Research Quarterly*.

Pence Turnbull, K., Bowles, R., Skibbe, L., Justice, L.M., and Wiggins, A. (2010). Theoretical Explanations for Preschoolers' Lowercase Alphabet Knowledge. *Journal of Speech, Language, and Hearing Research*.

Pentimonti, J., Zucker, T., and Justice, L.M. (2010). Informational Text Use in Preschool Classroom Read-Alouds. *The Reading Teacher*, 63(8): 656-665.

Piasta, S., Dynia, J., Justice, L.M., Pentimonti, J., and Schatschneider, C. (in press). Impact of Professional Development on Preschool Teachers' Print References During Shared Read-Alouds: A Latent Growth Curve Analysis. *Journal of Research on Educational Effectiveness*.

Zucker, T., Justice, L.M., Piasta, S., and Kaderavek, J. (in press). Preschool Teachers' Reference to Print During Classroom-Based Large-Group Shared Reading. *Language, Speech, and Hearing Services in Schools*.

Zucker, T., Justice, L. M., Piasta, S., and Kaderavek, J. (2010). Preschool Teachers' Literal and Inferential Questions and Children's Responses During Whole-Class Shared Reading. *Early Childhood Research Quarterly*, 25: 65-83.

Zucker, T., Ward, A., and Justice, L.M. (2009). Print-Referencing During Read-Alouds: Examining a Technique for Increasing Emergent Readers' Print Knowledge. *Reading Teacher*, 63(1): 62-72.

Institution: Texas A and M University
Principal Investigator: Jorge Gonzalez
Project Title: Project Words of Oral Reading and Language Development (Project WORLD)
Grant: R305G050121

Gonzalez, J. E., Rivera, V., Davis, M., and Taylor, A. (in press). Foundations of Young Children's Vocabulary Development: The Role of the Home Literacy Environment (HLE). *Early Childhood Services: An Interdisciplinary Journal of Effectiveness*.

Simmons, D. C., Pollard-Durodola, S. D., Gonzalez, J. E., Davis, M. and Simmons, L. (2007). Shared Book Reading Interventions. In S. B. Neuman (Ed.), *Literacy achievement for young children from poverty*. (pp. 187-211). Baltimore, MD: Brooks Publishing.

Institution: University of California, Riverside
Principal Investigator: Robert Calfee
Project Title: The Read-Write Cycle: An Integrated Model for Instruction and Assessment of Reading Comprehension through Reading and Writing in the Disciplines
Grant: R305G050069

Calfee, R.C., and Miller, R.G. (2007). Best Practices in Writing Assessment. In S. Graham, C. Macarthur and J. Fitzgerald (Eds.), *Best Practices in Writing Instruction* (pp. 265-286). New York, NY: Guilford Press.

Calfee, R.C., and Miller, R.G. (2005). Breaking Ground: Constructing Authentic Reading-Writing Assessments for Middle and Secondary Students. In R. Indrisano and J. Paratore, (Eds.), *Learning to Write, Writing to Learn: Theory and Research in Practice* (pp. 203-219). Newark, DE: IRA.

Calfee, R.C., and Miller, R.G. (2005). Comprehending through Composing: Reflections on Reading Assessment Strategies. In S. Paris and S. Stahl (Eds.), *Children's Reading Comprehension and Assessment* (pp. 215-233). Mahwah, NJ: Erlbaum.

Calfee, R.C., Miller, R.G., Norman, K.A., Wilson, K.M., and Trainin, G. (2006). Learning to Do Educational Research. In R.J. Sternberg and M. Constat, (Eds.), *Translating Theory and Research Into Educational Practice* (pp. 77-104). Mahwah, NJ: Erlbaum.

Institution: University of California, Riverside
Principal Investigator: Rollanda O'Connor
Project Title: Variations in Procedures to Improve Reading Fluency and Comprehension
Grant: R305G050122

O'Connor, R.E., White, A., and Swanson, H.L. (2007). Repeated Reading Versus Continuous Reading: Influences on Reading Fluency and Comprehension. *Exceptional Children*, 74(1): 31-46.

O'Connor, R.E., Swanson, H.L., and Geraghty, C. (2010). Improvement in Reading Rate Under Independent and Difficult Text Levels: Influences on Word and Comprehension Skills. *Journal of Educational Psychology*, 102: 1-19.

Swanson, H.L., and O'Connor, R.E. (2009). The Role of Working Memory and Fluency Training on Reading Comprehension in Children who are Dysfluent Readers. *Journal of Learning Disabilities*, 42: 548-575.

Institution: University of Connecticut
Principal Investigator: Donald Leu
Project Title: Developing Internet Comprehension Strategies Among Adolescent Students at Risk to Become Dropouts
Grant: R305G050154

Boling, E., Castek, J., Zawilinski, L, Barton, K., and Nierlich, T. (2008). Collaborative Literacy: Blogs and Internet Projects. *The Reading Teacher*, 61: 504-506.

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- Coiro, J., Knobel, M., Lankshear, C., and Leu, D.J. (Eds.), (2008). *Handbook of Research on New Literacies*. Mahwah, NJ: Erlbaum.
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Institution: University of Houston

Principal Investigator: David Francis

Project Title: Diagnostic Assessment of Reading Comprehension: Development and Validation

Grant: R305G050201

August, D., Francis, D., Hsu, H-Y.A., and Snow, C. (2006). Assessing Reading Comprehension in Bilinguals. In R. Gersten (Ed.), *Instructional Research on English Learners. Special Issue of Elementary School Journal*, 107(2): 221-238.

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Institution: University of Illinois at Chicago

Principal Investigators: Kimberly Lawless

Project Title: Assessing Readers Struggling to Comprehend Multiple Sources of Information

Grant: R305G050091

Braasch, J. L. G., Lawless, K. A., Goldman, S. R., Manning, F. H., Gomez, K. W., and MacLeod, S. (2009). Evaluating Search Results: An Empirical Analysis of Middle School Students' Use of Source Attributes to Select Useful Sources. *Journal of Educational Computing Research*, 41(1), 63-82.

Goldman, S.G., Ozuru, Y., Braasch, J.G., Manning, F.H., Lawless, K.A., Gomez, K.W., & Slanovits, M.J. (2011). Literacies for Learning: A Multiple Source Comprehension Illustration. To appear in N. Stein (Ed.), *Development Science Goes to School*. Taylor & Francis.

Goldman, S. R., Lawless, K. A., Gomez, K. W., Braasch, J. B., MacLeod, S., & Manning, F. (2010). Literacy in the Digital World: Comprehending and Learning from Multiple Sources. In M G. McKeown and L. Kucan (Eds.), *Threads of Coherence in Research on the Development of Reading Ability or Bringing Reading Researchers to Life*. NY: Guilford.

Goldman, S. R., Lawless, K. A., Pellegrino, J. P., Braasch, J. L., Manning, F., and Gomez, K. (in press). A Technology for Assessing Multiple Source Comprehension: An Essential Skill of the 21st Century. In J. Clarke-Midura, M. Mayrath, and D. Robinson (Eds.), *Technology-Based Assessments for 21st Century Skills: Theoretical and Practical Implications from Modern Research*.

Hastings, P., Hughes, S., Magliano, J., , Goldman, S., & Lawless, K. (2011). Text Categorization for Assessing Multiple Documents Integration, or John Henry Visits a Data Mine. In Proceedings of the 15th International Conference on Artificial Intelligence in Education, Lecture Notes in Artificial Intelligence 6738. G. Biswas, S. Bull, J. Kay, and A. Mitrovic, Eds. pp. 115-122. Springer-Verlag, Berlin.

Lawless, K., Braasch, J., Manning, F., Goldman, S., Ozuru, Y. & Gomez, K. (2008). Assessment of Digital Literacies: Initial Task Design and Piloting of a Source Selection Module. In G. Richards (Ed.), *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2008* (pp. 2880-2885). Chesapeake, VA: AACE.

Lawless, K. A., Goldman, S., Gomez, K., & Bertenthal, M. (2006). Initial development of an assessment of digital literacy skills. *Proceedings of the Cognition and Exploratory Learning in Digital Age Annual Conference*, Barcelona, Spain.

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FY 2006

Institution: University of California, Santa Cruz

Principal Investigator: Judith Scott

Project Title: Vocabulary Development through Writing: A Key to Academic Success

Grant: R305G060140

Finspach, S.L., Scott, J.A., and Vevea, J.L. (2010). Rare Words in Students' Writing as a Measure Of Vocabulary. In R.T. Jimenez, V.J. Risko, D.W. Rowe, and M. Hundley (Eds.) *59th Annual Yearbook of the National Reading Conference*. Oak Creek, WI: National Reading Conference.

Jimenez, K. Leander, D. Rowe (Eds.), *57th Annual Yearbook of the National Reading Conference* (pp. 325-340). Oak Creek, WI: National Reading Conference.

Lubliner, S., and Scott, J. (2008). *Nourishing Vocabulary*. Thousand Oaks, CA: Corwin. Samway, K. Davies, and Taylor, D. (2008). *Teaching English Language Learners, 6-12: Strategies that Work*. New York, NY: Scholastic.

Miller, T.F., Gage-Serio, O., and Scott, J.A. (2010). Word Consciousness in Practice: Illustrations From a Fourth Grade Teacher's Classroom. In R.T. Jimenez, V.J. Risko, D.W. Rowe, and M. Hundley (Eds.) *59th Annual Yearbook of the National Reading Conference*. Oak Creek, WI: National Reading Conference.

Scott, J., Hoover, M., Flinspach, S., and Vevea, J. (2008). A Multiple-Level Vocabulary Assessment Tool: Measuring Word Knowledge Based on Grade-Level Materials. In Y. Kim, V. Risko, D. Compton, D. Dickinson, M. Hundley, R.

Scott, J., Nagy, B., and Flinspach, S. (2008). More than Merely Words: Redefining Vocabulary Learning in a Culturally and Linguistically Diverse Society. In A. Farstrup and J. Samuels (Eds.), *What Research Has to Say About Vocabulary Instruction* (pp. 182-210). Newark, DE: International Reading Association.

Scott, J., Skobel, B., and Wells, J. (2008). *The Word Conscious Classroom: Building the Vocabulary Readers and Writers Need*. New York, NY: Scholastic.

FY 2007

Institution: University of Colorado

Principal Investigator: Barbara Wise

Project Title: Early ICARE: Early Independent Comprehensive Adaptive Reading Evaluation System

Grant: R305A070231

Brojde, C. and Wise, B. (2008). An Evaluation of the Testing Effect with Third Grade Students. In B.C. Love, K. McRaie and V.M. Sloutsky (Eds.), *Proceedings of the 30th Annual Conference of the Cognitive Science Society* (pp. 1362-1367). Washington, DC: Cognitive Science Society.

Wise, B. and Van Vuuren, S. (2007). Choosing Software Gems to Improve Your Child's Reading. *Perspectives*, 33(3): 34-38

Institution: Florida State University

Principal Investigator: Carol Connor

Project Title: Child-Instruction Interactions in Reading: Examining Causal Effects of Individualized Instruction in Second and Third Grade

Grant: R305B070074

Al Otaiba, S., Connor, C.M., Foorman, B.R., Greulich, L., and Folsom, J.S. (2009). Implementing Response to Intervention: The Synergy of Beginning Reading Instruction And Early Intervening Services. In T.E. Scuggs and M.A. Mastropieri (Eds.), *Advances in Learning and Behavioral Difficulties, Volume 22, Policy and Practice*.

Al Otaiba, S., Connor, C.M., Folsom, J.S., Greulich, L., Meadows, J., and Zhi, L. (2011, in press). Assessment Data-Informed Guidance to Individualize Kindergarten Reading Instruction: Findings From a Cluster-Randomized Control Field Trial. *Elementary School Journal*.

Connor, C.M. (2009). Individualized Reading Instruction in Early Elementary Classrooms. *Perspectives on Language and Literacy, Special Edition*, 33-38.

Connor, C.M., Morrison, F.J., Fishman, B., Giuliani, S., Luck, M., Underwood, P., Bayraktar, A., Crowe, E.C., and Schatschneider, C. (2011). Testing the Impact of Child Characteristics X Instruction Interactions on Third Graders' Reading Comprehension by Differentiating Literacy Instruction. *Reading Research Quarterly*, 46, 189–221. doi: 10.1598/RRQ.46.3.1

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Connor, C.M., Morrison, F.J., Schatschneider, C., Toste, J., Lundblom, E.G., Crowe, E., and Fishman, B. (2011). Effective Classroom Instruction: Implications Of Child Characteristics by Reading Instruction Interactions on First Graders' Word Reading Achievement. *Journal of Research on Educational Effectiveness*, 4(3), 173-207.

Connor, C.M., Ponitz, C.C., Phillips, B.M., Travis, Q.M., Glasney, S., Morrison, F.J. (2010). First Graders' Literacy and Self-Regulation Gains: The Effect of Individualizing Student Instruction. *Journal of School Psychology*, 48, 433-455.

Morrison, F.J., and Connor, C.M. (2009). The Transition to School: Child-Instruction Transactions in Learning to Read. In A. Sameroff (Ed.), *The Transactional Model of Development: How Children and Contexts Shape Each Other* (pp. 183-201). Washington, DC: American Psychological Association.

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Terry, N. P., Connor, C. M., and Petscher, Y. (2011, in press). Dialect Variation And Reading: Is Change In Nonmainstream American English use Related to Reading Achievement in First and Second Grade? *Journal of Speech, Language, and Hearing Research*.

Terry, N., Connor, C., Thomas-Tate, S., and Love, M. (2010). Examining Relationships Among Dialect Variation, Literacy Skills, and School Context in First Grade. *Journal of Speech, Language and Hearing Research*, 53(1): 126-145.

Principal Investigator: Patricia Vadasy
Institution: Washington Reading Institute
Project Title: Efficacy of Sound Partners Supplemental Tutoring for ELL Students, Grades K-1
Grant Award Number: R305A070324

Vadasy, P.F., and Sanders, E.A. (2010). Efficacy of Supplemental Phonics Instruction for Low-Skilled Kindergarteners in the Context of Language-Minority Status and Classroom Phonics Instruction. *Journal of Educational Psychology*, 102, 786–803.

FY 2008

Institution: Carnegie Mellon University
Principal Investigator: David (Jack) Mostow
Project Title: Developing Vocabulary in an Automated Reading Tutor
Grant: R305A080157

Duan, W., and Yates, A. (2010). Extracting Glosses to Disambiguate Word Senses. *Human Language Technologies: The 2010 Annual Conference of the North American Chapter of the Association for Computational Linguistics, Los Angeles, CA*: 627–635.

Mostow, J., and Duan, W. (2011, June 24). *Generating Example Contexts to Illustrate a Target Word Sense*. Proceedings of the 6th Workshop on Innovative Use of NLP for Building Educational Applications, Portland, OR, 105-110.

2009

Institution: University of Maryland, College Park
Principal Investigator: Rebecca Silverman
Project Title: Investigating Vocabulary Breadth and Depth and Comprehension in English Monolingual and Spanish-English Bilingual Elementary School Students
Grant: R305A090152

Proctor, C.P. (2011). "Getting Started in English": Teaching for Vocabulary Depth with Bilingual Learners. In J.R. Paratore and R.L. McCormack (Eds.), *After Early Intervention, Then What? Teaching Struggling Readers in Grades 3 and Beyond* (2nd ed.) (pp. 42-65). Newark DE: International Reading Association.

Proctor, C.P., and Silverman, R.D. (2011). Confounds in Assessing the Associations Between Biliteracy and English Language Proficiency. *Educational Researcher*, 40(62): 62-64.

Proctor, C.P., Silverman, R.D., Haring, J.R., and Montecillo, J.R. (in press). The Role of Vocabulary Depth in Predicting Reading Comprehension Among English Monolingual and Spanish-English Bilingual Children in Elementary School. *Reading and Writing*.

2010

Institution: Ohio State University

Principal Investigator: George Newell

Project Title: Teaching and Learning Argumentative Writing in High School English Language Arts Classrooms

Grant: R305A100786

Newell, G.E., Beach, R.W., Smith, J. and Van Der Heide, J. (2011). Teaching and Learning Argumentative Reading and Writing: A Review of Research. *Reading Research Quarterly*, 46(3), 273-304. [dx.doi.org/10.1598/RRQ.46.3.4](https://doi.org/10.1598/RRQ.46.3.4)

Social and Behavioral Context to Support Academic Learning

FY 2009

Institution: Johns Hopkins University

Principal Investigator: Catherine Bradshaw

Project Title: Examining Variation in the Impact of School-Wide Positive Behavioral Interventions and Supports (PBIS)

Grant: R305A090307

Bradshaw, C. P., Mitchell, M. M., O'Brennan, L. M., and Leaf, P. J. (2010). Multilevel Exploration of Factors Contributing to the Overrepresentation of Black Students in Office Disciplinary Referrals. *Journal of Educational Psychology, 102* (2): 508-520.

Domitrovich, C. E., Bradshaw, C. P., Greenberg, M. T., Embry, D., Poduska, J. M., and Jalongo, N. S. (2010). Integrated Models of School-Based Prevention: Logic and Theory. *Psychology in the Schools, 47* (1): 71-88.

Pas, E. T., Bradshaw, C. P., Hershfeldt, P. A., and Leaf, P. J. (2010). A Multilevel Exploration of the Influence of Teacher Efficacy and Burnout on Response to Student Problem Behavior and School-Based Service Use. *School Psychology Quarterly, 25*: 13-27.

Social and Character Development

Social and Character Development Research Consortium (2010). *Efficacy of Schoolwide Programs to Promote Social and Character Development and Reduce Problem Behavior in Elementary School Children* (NCER 2011-2001). U.S. Department of Education, National Center for Education Research. Washington, DC: U.S. Government Printing Office.

FY 2003

Institution: New York University

Principal Investigator: Lawrence Aber

Project Title: Reading, Writing, Respect and Resolution: The Impact of a Social and Character Development and Literacy Program on Teachers and Children

Grant: R305L030003

Brown, J.L., Jones, S.M., LaRusso, M.D., and Aber, J.L. (2010). Improving Classroom Quality: Teacher Influences and Experimental Impacts of the 4Rs Program. *Journal of Educational Psychology*, 102(1): 153-167.

Gershoff, E.T., and Aber, J.L. (2006). Neighborhoods and Schools: Contexts and Consequences for the Mental Health and Risk Behaviors of Children and Youth. In L. Balter and C. Tamis-Lemonda (Eds.), *Child Psychology: A Handbook of Contemporary Issues* (2nd Edition). (pp. 611-645). New York, NY: Psychology Press/Taylor and Francis.

Jones, S.M., Brown, J.L., and Aber, J.L. (2009). Two-Year Impacts of a Universal School-Based Social-Emotional and Literacy Intervention: An Experiment in Translational Developmental Research. *Child Development (Special Issue on Raising Healthy Children: Translating Child Development Research into Practice)*, 81(5): 1632-1636.

Jones, S.M., Brown, J.L., and Aber J.L. (2008). Classroom Settings as Targets of Intervention and Research. In M. Shinn and H. Yoshikawa (Eds.), *Towards Positive Youth Development: Transforming Schools and Community Programs*. New York, NY: Oxford University Press.

Larusso, M.D., Brown, J.L., Jones, S.M., and Aber, J.L. (2009). School Context and Micro-Contexts: The Complexity of Studying School Settings. In L.M. Dinella (Ed.), *Conducting Psychology Research in School-Based Settings: A Practical Guide for Researchers Conducting High Quality Science Within School Environments*. Washington, D.C.: APA Books.

Institution: Oregon State University

Principal Investigator: Brian Flay

Project Title: Positive Action for Social and Character Development

Grant: R305L030072

Flay, B. R., and Allred, C. G. (2010). The Positive Action Program: Improving Academics, Behavior and Character by Teaching Comprehensive Skills for Successful Learning and Living. In Lovat, T. and Toomey, R. (Eds). *International Research Handbook on Values Education and Student Wellbeing, Part 2* (pp 471-501). Dordrecht: Springer.

Flay, B.R., Berkowitz, M., Bier, M.C., and the Social and Character Development Research Consortium (in press). Elementary School-Based Programs Theorized to Support Social Development, Prevent Violence, and Promote Positive School Climate: Description and Hypothesized Mechanisms of Change. *Journal of Research on Character Education*.

Ji, P., Dubois, D.L., Flay, B.R., and Brechling, V. (2008). Congratulations, You Have Been Randomized into the Control Group!(!?): Issues to Consider When Recruiting Schools for Matched-Pair Randomized Control Trials of Prevention Programs. *Journal of School Health*, 78(3): 131-139.

Ji, P., Flay, B., Dubois, D.L., Patton, V., Day, J., and Cantillon, D. (2006). Consent Form Return Rates for Third Grade Urban Elementary Students. *American Journal of Health Behavior*, 30(5): 467-474.

Li, K., Washburn, I., DuBois, D. L., Vuchinich, S., Ji, P., Brechling, V., Day, J., Beets, M. W., Acock, A. C., Berbaum, M., Snyder, F., and Flay, B. R. (2011). Effects of the *Positive Action* Programme on Problem Behaviours in Elementary School Students: A Matched-Pairs Randomised Control Trial in Chicago. *Psychology and Health*, 26, 187-204.

Snyder, F., Vuchinich, S., Acock, A. C., Beets, M. W., Li, K., Burns, K., et al. (2010). Impact of the Positive Action Program on School-Level Indicators of Academic Achievement, Absenteeism, and Disciplinary Outcomes: A Matchedpair, Cluster Randomized, Controlled Trial. *Journal of Research on Educational Effectiveness*, 3(1): 26-55.

Institution: University of North Carolina at Chapel Hill

Principal Investigators: Thomas Farmer, Mark Fraser

Project Title: Social and Character Development in Rural Youth: The Competence Support Program.

Grant: R305L030162

Farmer, T. W., Petrin, R. A., Robertson, D. L., Fraser, M. W., Hall, C. M., Day, S. H., and Dadisman, K. (in press). Peer Relations of Bullies, Bully-Victims, and Victims: The Two Social Worlds of Bullying in Second Grade Classrooms. *The Elementary School Journal*, 110 (3).

Fraser, M. W., Richman, J. M., Galinsky, M. J., and Day, S. H. (2009). *Intervention Research: Developing Social Programs*. New York, NY: Oxford University Press.

Guo, S., and Fraser, M. W. (2010). *Propensity Score Analysis: Statistical Methods and Applications*. Thousand Oaks, CA: Sage Press.

Robertson, D.L., Farmer, T.W., Fraser, M.W., Day, S.H., Duncan, T., Crowther, A., and Dadisman, K.A. (2010). Interpersonal Competence Configurations and Peer Relations in Early Elementary Classrooms: Perceived Popular and Unpopular Aggressive Subtypes. *International Journal of Behavioral Development*, 34(1): 73-87.

Wike, T. L., and Fraser, M. W. (2009). School Shootings: Making Sense of the Senseless. *Aggression and Violent Behavior*, 14(3), 162-169.

State and Local Programs and Policies

2010

Institution: Harvard University

Principal Investigator: Richard Murnane

Project Title: Intended and Unintended Consequences of State High-Stakes Testing: Evidence from Standards-Based Reform in Massachusetts

Grant: R305E100013

Papay, J.P., Willett, J.B., and Murnane, R.J. (2011). Extending the Regression-Discontinuity Approach to Multiple Assignment Variables. *Journal of Econometrics*, 161(2): 203-207.

Papay, J.P., Murnane, R.J., and Willett, J.B. (2011). High-School Exit Examinations and the Schooling Decisions of Teenagers: A Multi-Dimensional Regression-Discontinuity Analysis. National Bureau of Economic Research Working Paper w17112.

Papay, J.P., Murnane, R.J., and Willett, J.B. (2011). How Performance Information Affects Human-Capital Investment Decisions: The Impact of Test-Score Labels on Educational Outcomes. National Bureau of Economic Research Working Paper w17120.

Statistical and Research Methodology in Education

FY 2009

Institution: MDRC

Principal Investigator: Howard Bloom

Project Title: Statistical Properties of Regression Discontinuity Analysis and Comparative Interrupted Time Series Analysis for Estimating Impacts

Grant: R305D090008

Bloom, H. S. (in press). Modern Regression Discontinuity Analysis. *Journal of Research on Educational Effectiveness*.

Institution: Rand Corporation

Principal Investigator: Howard Bloom

Project Title: Statistical Properties of Regression Discontinuity Analysis and Comparative Interrupted Time Series Analysis for Estimating Impacts

Grant: R305D090011

McCaffrey D.F., and Lockwood, J.R. (2011). Missing Data in Value-Added Modeling of Teacher Effects. *Annals of Applied Statistics*, 5(2A), 773-797.

Institution: RAND Corporation

Principal Investigator: John Engberg

Project Title: Estimation and Inference in Education Research When Actions by Participants Impact Validity and Availability of Data

Grant: R305D090016

Davis, B., Engberg, J., Epple, D.N., Sieg, H., Zimmer, R. (2010). *Evaluating The Gifted Program Of An Urban School District Using A Modified Regression Discontinuity Design*. National Bureau of Economic Research, Working Paper 16414: <http://www.Nber.Org/Papers/W16414>

Institution: NORC

Principal Investigator: Stephen Raudenbush

Project Title: Development of Accessible Methodologies and Software in Hierarchical Models with Missing Data

Grant: R305D090022

Shin, Y. and Raudenbush, S.W. (2010). A Latent Cluster-Mean Approach to the Contextual Effects Model With Missing Data. *Journal of Educational and Behavioral Statistics*, 35(1): 26-53.

Shin, Y. and Raudenbush, S. W. (in press). The Causal Effect of Class Size on Academic Performance: Multivariate Instrumental Variable Estimators With Tennessee Class Size Data Missing at Random. *Journal of Educational and Behavioral Statistics*.

FY 2010

Institution: MDRC

Principal Investigator: Howard Bloom

Project Title: Regression Discontinuity Designs with Assignment Based on Multiple Rating Scores: Statistical Properties and Issues in the Context of Educational Evaluation

Grant: R305D100027

Reardon, S., and Robinson, J. (in press). Regression Discontinuity Designs with Multiple Rating Scores in the Context of Educational Evaluation. *Journal of Research on Educational Effectiveness*.

Institution: Northwestern University

Principal Investigator: Thomas Cook

Project Title: Better Warranted Quasi-Experimental Practice for Evidence Based Practical Research

Grant: R305D100033

Cook, T.D., Pohl, S., and Steiner, P.M. (in press). Die Relative Bedeutung der Kovariatenwahl, Reliabilität und Art der Datenanalyse zur Schätzung Kausaler Effekte aus Beobachtungsdaten. *Zeitschrift Fuer Evaluation*.

Cook, T.D., Wong, M., and Steiner, P.M. (in press). Evaluating National Programs: A Case Study of the No Child Left Behind Program in the United States. In T. Bliesener, A. Beelmann and M. Stemmler (Eds.), *Antisocial Behavior and Crime: Contributions of Developmental and Evaluation Research to Prevention and Intervention*. Cambridge, MA: Hogrefe Publishing.

Shadish, W., and Sullivan, K. (in press). Characteristics of Single-Case Designs Used to Assess Intervention Effects in 2008. *Behavior Research Methods*.

Shadish, W., and Sullivan, K. (in press). Theories of Causation in Psychological Science. In H. Cooper (Ed.-in-Chief), P. Camic, D. Long, A. Panter, D. Rindskopf, and K.J. Sher (Assoc. Eds.), *APA Handbooks in Psychology: Vol. 1. APA Handbook of Research Methods in Psychology: Psychological Research: Foundations, Planning, Methods, and Psychometrics*. Washington, DC: American Psychological Association.

Shadish, W.R. (2011). The Truth About Validity. *New Directions for Evaluation*, 2011(130), 107-117.

Shadish, W.R. (2011). Randomized Controlled Studies and Alternative Designs in Outcome Studies. *Research on Social Work Practice*, 21(6), 636-643.

Shadish, W.R., Galindo, R., Wong, V.C., Steiner, P.M., and Cook, T.D. (2011). A Randomized Experiment Comparing Random and Cutoff-Based Assignment. *Psychological Methods*, 16(2), 179.

Steiner, P.M., Cook, T.D., and Shadish, W.R. (2011). On the Importance of Reliable Covariate Measurement in Selection Bias Adjustments Using Propensity Scores. *Journal of Educational and Behavioral Statistics*, 36(2), 213.

Cook, T.D. (2010). An Alien Parachutes Into Economic Research on Low-Income Populations. *Focus*, 27(2), 27-32.

Cook, T.D., and Steiner, P.M. (2010). Case Matching and the Reduction of Selection Bias in Quasi-Experiments: The Relative Importance of Covariate Choice, Unreliable Measurement and Mode of Data Analysis. *Psychological Methods*, 15(1), 56-68.

Cook, T.D., Wong, M., and Wong, V.C. (2010) The Evolution of Head Start: Why the Combination of Politics and Science Changed Program Management More Than Program Design. In N. L. Stein and S. Raudenbush (Eds.), *Developmental Science Goes to School*. New York, NY: Taylor and Francis, Inc.

Diamond, S. S., Bowman, L. E., Wong, M., and Patton, M. M. (2010). Efficiency and Cost: The Impact of Videoconferenced Hearings on Bail Decisions. *Journal of Criminal Law and Criminology*, 100(3), 869-902.

Steiner, P.M., Cook, T.D., Shadish, W.R., and Clark M. H. (2010). The Importance of Covariate Selection in Controlling for Selection Bias in Observational Studies. *Psychological Methods*, 15(3), 250-267.

Cook, T.D., Scriven, M., Coryn, C.L.S., and Evergreen, S.D.H. (2009). Contemporary Thinking About Causation in Evaluation: A Dialogue With Tom Cook and Michael Scriven. *American Journal of Evaluation*, 31(1), 105-117.

Cook, T.D., and Steiner, P.M. (2009). Some Empirically Viable Alternatives to the Randomized Experiment. *Journal of Policy Analysis and Management*, 28(1), 165-166.

Cook, T.D., Steiner, P.M., and Pohl, S. (2009). Assessing How Bias Reduction Is Influenced by Covariate Choice, Unreliability and Data Analytic Mode: An Analysis of Different Kinds of Within-Study Comparisons in Different Substantive Domains. *Multivariate Behavioral Research*, 44, 828-847.

Pohl, S., Steiner, P.M., Eisermann, J., Soellner, R., and Cook, T.D. (2009). Unbiased Causal Inference From an Observational Study: Results of a Within-Study Comparison. *Educational Evaluation and Policy Analysis*, 31(4), 463-479.

Shadish, W.J., and Cook, T.D. (2009). The Renaissance of Experiments. *Annual Review of Psychology*, 60, 607-629.

Steiner, P.M., Wroblewski, A., and Cook, T.D. (2009) Randomized Experiments and Quasi-Experimental Designs in Educational Research. In K. Ryan and B.J. Cousins (Eds.), *The Sage Handbook of Educational Evaluation*. London: Sage Publications.

Institution: University of California – Los Angeles

Principal Investigator: Li Cai

Project Title: Non-linear Multilevel Latent Variable Modeling with a Metropolis-Hastings Robbins-Monro Algorithm

Grant: R305D100039

Cole, D.A., Cai, L., Martin, N.C., Findling, R.L., Youngstrom, E.A., Garber, J., et al. (in press). Structure and Measurement of Depression in Youth: Applying Item Response Theory to Clinical Data. *Psychological Assessment*.

Yang, J. S., Hansen, M., and Cai, L. (in press). Characterizing Sources of Uncertainty in IRT Scale Scores. *Educational and Psychological Measurement*.

Cai, L., Yang, J.S., and Hansen, M. (2011). Generalized Full-Information Item Bifactor Analysis. *Psychological Methods*, 16, 221-248.

Preston, K., Reise, S., Cai, L., and Hays, R. D. (2011). Using the Nominal Response Model to Evaluate Response Category Discrimination in the PROMIS Emotional Distress Item Pools. *Educational and Psychological Measurement*, 71, 523-550.

Swartz, R.J., Schwartz, C., Basch, E., Cai, L., Fairclough, D.L., McLeod, L., Mendoza, T., and Rapkin, B. (2011). The King's Foot of Patient-Reported Outcomes: Current Practices and New Developments for the Measurement of Change. *Quality of Life Research*, 20, 1159-1167.

Cai, L. (2010). A Two-Tier Full-Information Item Factor Analysis Model With Applications. *Psychometrika*, 75, 581-612.

Institution: University of California – Merced

Principal Investigator: William Shadish

Project Title: A d-Estimator for Single Case Designs

Grant: R305D100046

Shadish, W.R., and Sullivan, K.J. (in press). Characteristics of Single-Case Designs Used to Assess Intervention Effects in 2008. *Behavior Research Methods*.

FY 2011

Institution: University of Wisconsin – Madison

Principal Investigator: David Kaplan

Project Title: Bayesian Inference for Experimental and Observational Studies in Education

Grant: R305D110001

Kaplan, D., and Chen, J. (in press). A Two-Step Bayesian Approach for Propensity Score Analysis: Simulations and Case Study. *Psychometrika*.

Kaplan, D., and Depaoli, S. (in press). Bayesian Structural Equation Modeling. In R. Hoyle (ed.), *Handbook of Structural Equation Modeling*. New York: Guilford Publications, Inc.

Kaplan, D., and Depaoli, S. (in press). Bayesian Statistical Methods. In T. D. Little (ed.), *Oxford Handbook of Quantitative Methods*. Oxford: Oxford University Press.

Institution: Stanford University

Principal Investigator: Sean Reardon

Project Title: Addressing Practical Problems in Achievement Gap Estimation: Nonparametric Methods for Censored Data

Grant: R305D110018

Ho, A.D., and Reardon, S.F. (in press). Estimating Achievement Gaps From Test Scores Reported in Ordinal “Proficiency” Categories. *Journal of Educational and Behavioral Statistics*.

Teacher Quality – Mathematics and Science

FY 2003

Institution: LessonLab Research Institute

Principal Investigator: James Stigler

Project Title: Algebra Learning for All

Grant: R305M030154

Santagata, R. (2009). Designing Video-Based Professional Development for Mathematics Teachers in Low-Performing Schools. *Journal of Teacher Education, Theme Issue: Innovative Uses of Technology in Teacher Education*, 60(1): 38-51.

Santagata, R., Kersting, K., Givvin, K., and Stigler, J.W. (2011). Problem Implementation as a Lever for Change: An Experimental Study of the Effects of a Professional Development Program on Students' Mathematics Learning. *Journal for Research Educational Effectiveness*, 4: 1-24

Spencer, J., Park, J., and Santagata, R. (2010). Keeping the mathematics on the table in urban, mathematics professional development: A model that integrates dispositions toward students. In M.Q. Foote (Ed.). *Mathematics Teaching and Learning in K-12: Equity and Professional Development*. (pp 199-218). New York, NY: Palgrave/Macmillan.

FY 2005

Institution: SRI International

Principal Investigator: William R. Penuel

Project Title: Comparing the Efficacy of Three Approaches to Improving Teaching Quality in Science Education: Curriculum Implementation, Design, and Adaptation

Grant: R305M050226

Penuel, W. R., Benbow, A., Mably, C., McWilliams, H., McAuliffe, C., and Hayden, M. M. (2009). Teaching for Understanding in Earth Science: Comparing Impacts on Planning and Instruction in Three Professional Development Designs for Middle School Science Teachers. *Journal of Science Teacher Education*, 20(5): 415-436.

Penuel, W. R., and Gallagher, L. P. (2009). Comparing Three Approaches to Preparing Teachers to Teach for Deep Understanding in Earth Science: Short-Term Impacts on Teachers and Teaching Practice. *The Journal of the Learning Sciences*, 18(4): 461-508.

Shear, L., and Penuel, W. R. (in press). The Benefits (and Costs) of a Florida District's Content-Specific Professional Development Programs in Earth Science. *Journal of Staff Development*.

Institution: South Carolina Department of Education

Principal Investigator: Christina Schneider

Project Title: Investigating the Efficacy of a Professional Development Program in Classroom Assessment for Middle School Reading and Mathematics

Grant: R305M050270

Schneider, M.C. & Meyer, J.P. (in press). Investigating the Efficacy of a Professional Development Program in Formative Classroom Assessment in Middle School English Language Arts and Mathematics. *Journal of Multidisciplinary Evaluation*.

Institution: University of Cincinnati
Principal Investigator: Carla Johnson
Project Title: Utah's Improving Science Teacher Quality Initiative
Grant: R305M050005

Johnson, C. C., and Sherry Marx (2009). Transformative Professional Development: a Model for Urban Science Education Reform. *Journal of Science Teacher Education*. 20(2): 113-134.

Johnson, C.C. (2010). Transformative Professional Development for In-Service Teachers: Enabling Change in Science Teaching to Better Meet the Needs of Hispanic ELL Students. In Sunal, D.W., Sunal, D.S., Mantero, M., and Wright, E. (Eds.), *Teaching Science with Hispanic ELLs in K-16 Classrooms*. (pp 233-252). Charlotte, NC: Information Age Publishing.

Johnson, C.C., and Fargo, J.D. (2010). Urban School Reform through Transformative Professional Development: Impact on Teacher Change and Student Learning of Science. *Urban Education*, 45 (1): 4-29.

Jennings-Bolshakova, V. L., Johnson, C.C., and Czerniak, C.M. (in press). Urban Science Self-Efficacy: Teacher and Student Voices. *Cultural Studies of Science Education*.

Johnson, C.C. (2011). The Road to Culturally Relevant Science: Exploring How Teachers Navigate Change in Pedagogy. *Journal of Research in Science Teaching*.

FY 2006

Institution: University of California.
Principal Investigator: Roland Tharp
Project Title: Integrating Science and Diversity Education: A model of Pre-Service Elementary Teacher Preparation
Grant: R305M060065

Bravo, M. A. (2011). Leveraging Spanish-Speaking ELs Native Language to Access Science. *National Clearinghouse for English Language Acquisition* 3, 21-23.

Stoddart, T., Solís, J. L., Tolbert, S., and Bravo, M. A. (2010). A framework for the effective science teaching of English Language Learners in elementary schools. In D. W. Sunal, C. S. Sunal and E. L. Wright (Eds.), *Teaching science with Hispanic ELLs in K-16 classrooms* (Vol. Research in Science Education, pp. 151-182). Charlotte, NC.: Information Age Publishing.

Solís, J. L., Bravo, M. A. and Stoddart, T. (2009). Integrating Science and Diversity Education: A Model for Pre-service Elementary Teacher Preparation Programs. Proceedings from the National Association of Research In Science Teaching Annual Meeting. Garden Grove CA

Bravo, M. A. and Cervetti, G. N. (2009). Teaching Vocabulary Through Text and Experience. In A. E., Farstrup and S. Samuels (Eds.), *What Research Has to Say About Vocabulary Instruction* (pp. 130-149). Newark, DE: International Reading Association Inc.

Institution: LessonLab, Inc.

Principal Investigator: Nicole Kersting

Project Title: Using Video Clips of Classroom Instruction as Item Prompts to Measure Teacher Knowledge of Teaching Mathematics: Instrument Development and Validation

Grant: R305M060057

Kersting, N. (2008). Using Video Clips as Item Prompts to Measure Teachers' Knowledge of Teaching Mathematics. *Educational and Psychological Measurement*, 68:845-886.

Kersting, N. B., Givvin, K., Sotelo, F., and Stigler, James (2010). Teacher's Analysis of Classroom Video Predicts Student Learning of Mathematics: Further Explorations of a Novel Measure of Teacher Knowledge. *Journal of Teacher Education*, 61 (1-2): 172-181.

FY 2009

Institution: University of Cincinnati

Principal Investigator: Carla Johnson

Project Title: INSPIRE: Urban Teaching Fellows Program

Grant: R305A090145

Johnson, C.C.,(2011). Targeting turbulence: Lessons learned – potential solutions to challenges, in Johnson, C.C. (Ed.) *Secondary STEM Educational Reform*, Palgrave MacMillan

Johnson, C.C.(2011). Defining Turbulence in STEM Educational Reform, in Johnson, C.C. (Ed.) *Secondary STEM Educational Reform*, Palgrave MacMillan.

Teacher Quality – Reading and Writing

FY 2003

Institution: Haskins Laboratories

Principal Investigator: Susan Brady

Project Title: Mastering Reading Instruction: A Professional Development Project for First Grade Teachers

Grant: R305M030099

Brady, S., Gillis, M., Smith, T., Lavalette, M., Liss-Bronstein, L., Lowe, E., North, W., Russo, E., and Wilder, T.D. (2009). First Grade Teachers' Knowledge of Phonological Awareness and Code Concepts: Examining Gains From an Intensive Form of Professional Development. *Reading and Writing: An Interdisciplinary Journal*, 22(4): 425-455.

Institution: Instructional Research Group

Principal Investigator: Russell Gersten

Project Title: Teacher Quality Study: An Investigation of the Impact of Teacher Study Groups as a Means to Enhance the Quality of Reading Instruction for First Graders in High Poverty Schools in Two States

Grant: R305M030052

Dimino, J., and Taylor, M.J. (2009). *Learning How to Improve Vocabulary Instruction Through Teacher Study Groups*. Baltimore, MD: Paul H. Brookes.

Gersten, R., Dimino, J., and Jayanthi, M. (2007). Towards the Development of a Nuanced Classroom Observational System for Studying Comprehension and Vocabulary Instruction. In B. Taylor and J. Ysseldyke (Eds.), *Educational Interventions for Struggling Readers* (pp. 381-425). New York, NY: Teachers College Press.

Gersten, R., Dimino, J., Jayanthi, M., Kim, J., and Santoro, L. (in press). Teacher Study Group: Impact of the Professional Development Model on Reading Instruction and Student Outcomes in First Grade Classrooms. *American Educational Research Journal*.

Institution: University of Michigan

Principal Investigator: Joanne Carlisle

Project Title: Identifying Key Components of Effective Professional Development in Reading for First-Grade Teachers and Their Students

Grant: R305M030090

Carlisle, J.F., Cortina, K.S., and Katz, L.A. (2011). First-Grade Teachers Response to Three Models of Professional Development in Reading. *Reading and Writing Quarterly*, 27, 212-238.

Carlisle, J. F., and Berebitsky, D. (2010). Literacy Coaching as a Component of Professional Development. *Reading and Writing: An Interdisciplinary Journal* (in press). Springer On-line First, [DOI: 10.1007/s11145-009-9224-4](https://doi.org/10.1007/s11145-009-9224-4)

Carlisle, J. F., Kelcey, B., Berebitsky, D., and Phelps, G. (in press). Embracing the Complexity of Instruction: A Study of the Effects of Teachers' Instruction on Students' Reading Comprehension. *Scientific Studies of Reading*.

FY 2004

Institution: Florida State University

Principal Investigator: Douglas Harris

Project Title: Assessing Teacher Effectiveness: How Can We Predict Who Will Be a High Quality Teacher?

Grant: R305M040121

Harris, D. (2008). The Policy Uses and Policy Validity of Value-Added and Other Teacher Quality Measures. In D.H. Gitomer (Ed.), *Measurement Issues and the Assessment of Teacher Quality*. (pp. 99-130). Thousand Oaks, CA: SAGE Publications.

Harris, D., and Rutledge, S. (in press). Models and Predictors of Teacher Effectiveness: A Review of the Evidence with Lessons from (and for) Other Occupations. *Teachers College Record*.

Harris, D., and Sass, T. (2007). *Teacher Training, Teacher Quality, and Student Achievement*. National Center for the Analysis of Longitudinal Data in Education Research (CALDER). Working Paper #3. Washington, DC: Urban Institute.

Rutledge, S., and Harris, D. (2008). Certify, Blink, Hire: An Examination of the Process and Tools of Teacher Selection. *Leadership and Policy in Schools*, 7(3): 237-263.

Institution: Purdue University

Principal Investigator: Douglas Powell

Project Title: Professional Development in Early Reading (Classroom Links to Early Literacy)

Grant: R305M040167

Diamond, K.E., Gerde, H.K., and Powell, D.R. (2008). Development in Early Literacy Skills during the Pre-Kindergarten Year in Head Start: Relations between Growth in Children's Writing and Understanding of Letters. *Early Childhood Research Quarterly*, 23: 467-478.

Douglas R.P. and Diamond, K.E. (in press). Improving the Outcomes of Coaching-Based Professional Development Interventions. In D. K. Dickinson and S. B. Neuman (Eds.), *Handbook of early literacy research* (Vol. 3). New York, NY: Guilford.

Gerde, H.K., and Powell, D.R. (2009). Teacher Education, Book-Reading Practices, and Children's Language Growth across One Year of Head Start. *Early Education and Development*, 20(2): 211-237.

Powell, D.R., Diamond, K.E., Bojczyk, K.E., and Gerde, H.K. (2008). Head Start Teachers' Perspectives on Early Literacy. *Journal of Literacy Research*, 40: 422-460.

Powell, D.R., Diamond, K.E., and Koehler, M.J. (2010). Use of a Case-Based Hypermedia Resource in an Early Literacy Coaching Intervention with Pre-Kindergarten Teachers. *Topics in Early Childhood Special Education*, 29(4): 239-249.

Institution: RAND

Principal Investigator: Richard Buddin

Project Title: Teacher Licensure Tests and Student Achievement

Grant: R305M040186

Buddin, R. and Zamarro, G. (2009). *Middle School Student Achievement* (WR-671-IES). Santa Monica, CA: RAND Education Working Paper.

Buddin, R. and Zamarro, G. (2009). Teacher Qualifications and Student Achievement in Urban Elementary Schools, *Journal of Urban Economics*. 66 (2): 103-115.

Buddin, R., and Zamaro, G. *Teacher Quality, Teacher Licensure Tests, and Student Achievement* (WR-555-IES). Santa Monica, CA: RAND Education Working Paper.

Buddin, R., and Zamarro, G. (2009). *Teacher Effectiveness in Urban High Schools* (WR-693-IES). Santa Monica, CA: RAND Education Working Paper.

Le, V.N. and Buddin, R. (2005). *Examining the Validity Evidence for California Teacher Licensure Exams* (WR 334-EDU). Santa Monica, CA: RAND Education.

Mariano, L. T. and Kirby, S.N. (2009). *Achievement of Students in Multigrade Classrooms: Evidence from the Los Angeles Unified School District* (WR-685-IES). Santa Monica, CA: RAND Education Working Paper.

Institution: University of Chicago

Investigator: Anthony Bryk

Title: Can Literacy Professional Development be Improved with Web-based Collaborative Learning Tools: A Randomized Field Trial

Grant: R305M040086

Atteberry, A., and Bryk, A. S. (2010). Analyzing the Role of Social Networks in School-Based Professional Development Initiatives. In A. J. Daly (Ed.), *The Ties of Change: Social Network Theory and Application in Education*. Cambridge, MA: Harvard Press.

Atteberry, A., Bryk, A. S., and Walker, L. (in press). Analyzing Teacher Engagement in Literacy Coaching Activities. *Elementary School Journal*.

Biancarosa, G., Bryk, A. S., and Dexter, E. (2010). Assessing the Value-added Effects of Literacy Collaborative Professional Development on Student Learning. *Elementary School Journal*, 111(1): 7-34.

Institution: University of North Carolina, Chapel Hill

Principal Investigator: Virginia Buysee

Project Title: Improving Teacher Quality to Address the Language and Literacy Skills of Latino Children in Pre-Kindergarten Programs

Grant: R305M040032

Buysee, V., Castro, D. C., and Peisner-Feinberg, E. (2010). Effects of a Professional Development Program on Classroom Practices and Outcomes for Latino Dual Language Learners. *Early Childhood Research Quarterly*, 25 (1): 94-206.

Castro, D. C., Peisner-Feinberg, E., and Buysee, V. (2010). Language and Literacy Development in Latino Dual Language Learners: Promising Instructional Practices. In O. Saracho and B. Spodek (Eds.), *Language and Cultural Diversity in Early Childhood Education* (pp. 65-93). Charlotte, NC: Information Age.

Castro, D. C., Pérez, M., Dickinson, D., and Frede, E. (in press). Promoting Language and Literacy in Dual Language Learners: Research, Practice and Policy. *Child Development Perspectives*.

Gillanders, C. and Castro, D. C. (in press) Storybook Reading for Young English Language Learners. *Young Children*.

FY 2005

Institution: Florida State University

Principal Investigator: Alysia Roehrig

Project Title: Identifying the Conditions under Which Large Scale Professional Development Policy Initiatives Are Related to Teacher Knowledge, Instructional Practices, and Student Reading Outcomes

Grant: R305M050122

Roehrig, A.D., Turner, J.E., Grove, C.M., Schneider, N., and Liu, Z. (2009). Degree of Alignment Between Beginning Teachers' Practices and Beliefs About Effective Classroom Practices. *The Teacher Educator*, 44: 164-187.

Roehrig, A.D., Duggar, S.W., Moats, L., Glover, M., and Mincey, B. (2008). When Teachers Work to Use Progress Monitoring Data to Inform Literacy Instruction: Identifying Potential Supports and Challenges. *Remedial and Special Education*, 29: 364-382.

Roehrig, A.D., Bohn, C.M., Turner, J.E., and Pressley, M. (2008). Mentoring Beginning Primary Teachers for Exemplary Teaching Practices. *Teaching and Teacher Education*, 24: 684-702.

Institution: Texas A and M University

Principal Investigator: Deborah Simmons

Project Title: Enhancing the Quality of Expository Text Instruction through Content and Case-Situated Professional Development

Grant: R305M050121

Simmons, D., Hairrell, A., Edmonds, M., Vaughn, S., Larsen, R., Willson, V., Rupley, W., and Byrns, G. (2010). A Comparison of Multiple-Strategy Methods: Effects on Fourth-Grade Students' General and Content-Specific Reading Comprehension and Vocabulary Development. *Journal of Research on Education Effectiveness*, 3 (2): 121-156.

Institution: University of Michigan

Principal Investigator: Joanne Carlisle

Project Title: Assessment of Pedagogical Knowledge of Teachers of Reading

Grant: R305M050087

Carlisle, J.F., Cortina, K.S., and Katz, L.A. (in press). First-Grade Teachers' Response to Three Models of Professional Development in Reading. *Reading and Writing Quarterly*.

Institution: University of Michigan

Principal Investigator: Joanne Carlisle

Project Title: Assessment of Pedagogical Knowledge of Teachers of Reading

Grant: R305W060024

Carlisle, J. F., Kelcey, B., Berebitsky, D., and Phelps, G. (in press). Embracing the Complexity of Instruction: a Study of the Effects of Teachers' Instruction on Students' Reading Comprehension. *Scientific Studies of Reading*.

Joanne F. Carlisle, J. F., Kelcey, B., Rowan, B., and Phelps, G. (2011): Teachers' Knowledge About Early Reading: Effects on Students' Gains in Reading Achievement, *Journal of Research on Educational Effectiveness*, 4:4, 289-321

Institution: University of Texas, San Antonio
Principal Investigator: Misty Sailors
Project Title: Teaching Teachers to Teach Critical Reading Strategies (CREST) through an Intensive Professional Development
Grant: R305M050021

Sailors, M. (2007). Supporting Teachers Through an Intensive Professional Development Model. In *Supporting Student Success*. Corpus Christi, TX: CEDER Yearbook.

Sailors, M. (2008). Improving Comprehension Instruction through Quality Professional Development. In S.E. Israel and G.G. Duffy (Eds.), *Handbook of Research on Reading Comprehension*. Mahwah, NJ: Erlbaum.

Sailors, M. and Price, L. (2010). Professional Development that Supports the Teaching of Cognitive Reading Strategy Instruction. *The Elementary School Journal*, 110(3): 301-322.

FY 2006

Institution: University of California, Irvine
Principal Investigator: Carol Olson
Project Title: The Pathway Project: A Cognitive Strategies Approach to Reading and Writing Instruction for Teachers of Secondary English Language Learners
Grant: R305W060016

Kim, J.S., Olson, C.B., Scarcella, R., Kramer, J., Pearson, M., van Dyk, D., Collins, P., and Land, R.E. (2011). A Randomized Experiment of a Cognitive Strategies Approach to Text-Based Analytical Writing for Mainstreamed Latino English Language Learners in Grades 6 to 12. *Journal of Research on Educational Effectiveness*, 4 (3), 231-263.

Institution: University of Pittsburgh
Principal Investigator: Lindsay Clare Matsumura
Project Title: Content-Focused Coaching for High Quality Reading Instruction
Grant: R305M060027

Matsumura, L.C., Garnier, H., Resnick, L.B. (2010). Implementing Literacy Coaching: The Role of School social Resources. *Educational Evaluation and Policy Analysis*, 32(2): 249-272. doi: 10.3102/0162373710363743

Matsumura, L.C., Garnier, H.E., Correnti, R., Junker, B., and Bickel, D.D. (in press). Investigating the Effectiveness of a Comprehensive Literacy-Coaching Program in Schools with High Teacher Mobility. *Elementary School Journal*.

Matsumura, L.C., Sartoris, M., Bickel, D.D., and Garnier, H.E. (2009). Leadership for Literacy Coaching: The Principal's Role in Launching a New Coaching Program. *Educational Administration Quarterly*, 45(5): 655-693.

FY 2007

Institution: Purdue University
Principal Investigator: Douglas Powell
Project Title: Classroom Links to Vocabulary and Phonological Sensitivity Skills
Grant: R305B070605

Diamond, K. E., and Powell, D. R. (2011). An Iterative Approach to the Development of a Professional Development Intervention for Head Start Teachers. *Journal of Early Intervention*, 39(1), 75-93.

O'Leary, P. M., Cockburn, M. K., Powell, D. R., and Diamond, K. E. (2010). Head Start Teachers' Views of Phonological Awareness and Vocabulary Knowledge Instruction. *Early Childhood Education Journal*, 38, 187-195.

Powell, D. R., and Diamond, K. E. (2011). Improving the Outcomes of Coaching-based Professional Development Interventions. In S. B. Neuman and D. K. Dickinson (Eds.), *Handbook of Early Literacy Research* (Vol. 3, pp. 295-307). New York: Guilford.

FY 2008

Institution: National Bureau of Economic Research

Principal Investigator: Jesse Rothstein

Project Title: Value-Added Models and the Measurement of Teacher Quality: Tracking or Causal Effects?

Grant: R305A080560

Rothstein, J. (2008). *Teacher Quality in Educational Production: Tracking, Decay, and Student Achievement*. National Bureau of Economic Research Working Paper 14442.

Institution: University of Pittsburgh

Principal Investigators: Linda Kucan and Annemarie Sullivan Palincsar

Project Title: The Iterative Design of Modules to Support Reading Comprehension Instruction

Grant: R305A080005

Kucan, L., Hapgood, S. and Palincsar, A. S. (in press). Teachers' Specialized Knowledge for Supporting Student Comprehension in Text-Based Discussions. *Elementary School Journal*.

Kucan, L., Palincsar, A.S., Khasnabis, D., and Chang, C. (2009). The Video Viewing Task: a Source of Information for Assessing and Addressing Teacher Understanding of Text-Based Discussion. *Teaching and Teacher Education*, 25: 415-423.

Unsolicited and Other Awards

FY 2002

Institution: Florida State University

Principal Investigator: Barbara Foorman

Project Title: Scaling Up an Assessment-Driven Intervention Using the Internet and Hand-held Computers

Grant: R305W02001

Francis, D.J., Santi, K.L., Fletcher, J.M., Varisco, A., and Foorman, B. (2008). Form Effects on the Estimation of Students' Oral Reading Fluency Using DIBELS. *Journal of School Psychology, 46*(3): 315-342.

Foorman, B.R., Carlson, C.D., and Santi, K.L. (2007). Classroom Reading Instruction and Teacher Knowledge in the Primary Grades. In D. Haager, J. Klinger, and S. Vaughn (Eds.), *Evidence Based Reading Practices for Response to Intervention* (pp. 45-71). Baltimore, MD: Paul H. Brookes.

Institution: Southern Methodist University

Principal Investigator: Patricia Mathes

Project Title: Scaling-up Effective Intervention for Preventing Reading Difficulties in Young Children

Grant: R305W03257

Denton, C.A. (2004). *The Virtual Reading Coach*. Austin, TX: University of Texas. [Web-delivered coaching program to provide coaching support to reading intervention teachers.]

Denton, C.A. (2006). Responsiveness to Intervention as an Indication of Learning Disability. *Perspectives, 32*(1): 4-7.

Denton, C.A., and Hocker, J.K. (2006). *Responsive Reading Instruction: A Small-Group Reading Intervention for Students in Grade 1*. Longmont, CO: Sopris West.

Denton, C.A., Mathes, P.G., Swanson, E., Nimon, K., and Kethley, C. (2010). Effectiveness of a Supplemental Early Reading Intervention Scaled Up in Multiple Schools. *Exceptional Children, 76*(4): 394-416.

Denton, C.A., Swanson, E.A., and Mathes, P.G. (2007). Assessment-Based Instructional Coaching Provided to Reading Intervention Teachers. *Reading and Writing, 20*(6): 569-590.

Hasbrouck, J.E., and Denton, C.A. (2005). *The Reading Coach: A How-To Manual for Success*. Longmont, CO: Sopris West.

Hasbrouck, J., and Denton, C.A. (2007, April). Student-Focused Coaching: A Model for Reading Coaches. *The Reading Teacher, 60*(7): 690-693.

Mathes, P.G. and Torgetson, J.K. (2005). *Early Interventions in Reading, Level 1*. Columbus, OH: SRA. [Published version of the Proactive Intervention].

Mathes, P.G. (2005). *The Teacher's Tutor*. Columbus, OH: SRA. [Staff Development CD/DVD to supplement Early Interventions in Reading].

Mathes, P.G., Denton, C.A., and Cuevas, A. (2008). *The Coaching Solution*. Dallas, TX: Southern Methodist University. [Web-based teacher support and professional development platform].

Mathes, P.G., Denton, C.A., and Kethley, C. (in press). *Taking Effective Reading Interventions to Scale: A Saga*. ERS Spectrum.

Institution: University of Texas Health Science Center at Houston
Principal Investigator: Susan Landry
Project Title: Scaling Up a Language and Literacy Development Program at the Pre-Kindergarten Level
Grant: R305W02002

Landry, S.H., Anthony, J.L., Swank, P.R., and Monseque-Bailey, P. (2009). Effectiveness of Comprehensive Professional Development for Teachers of At-Risk Preschoolers. *Journal of Educational Psychology*, 101(2): 448-465

FY 2003

Institution: Georgetown University
Principal Investigator: Sharon Ramey
Project Title: Building Language for Literacy and Core Knowledge
Grant: R305J030120

Ramey, C.T., Ramey, S.L., and Stokes, B.R. (2009). Effective Pre-K Programs: Research Evidence About Program Dosage and Student Achievement. In R. Pianta (Ed.), *Pre-Kindergarten in the United States*. (pp. 79-105) Baltimore, MD: Paul H. Brookes Publishing.

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Principal Investigator: Gil Noam
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Grant: R305W030036

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Principal Investigator: Thomas Cook
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Institution: University of California, Los Angeles

Principal Investigator: Eva Baker

Project Title: Latent Variable Regression 4-Level/5-Level Hierarchical Models for Experimental, Quasi-experimental Studies, Evaluation Studies, and Teacher and/or School Accountability Research

Grant: R305U070004

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Institution: Northwestern University

Principal Investigator: Greg Duncan

Project Title: The Effects of Disadvantaged Schools and Neighborhoods on the Education of Low-Income Youth

Grant: R305U070006

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Principal Investigator: Jennifer Wiley

Project Title: Awards for Research in Cognition and Student Learning

Grant: R305U070001

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Institution: University of Iowa

Principal Investigator: Andrew Ho

Project Title: Evaluating the Impact of the Choice of Test Score Scale on the Measurement of Individual Student Growth

Grant: R305U070008

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