

## REFERENCES

- Aleven, V., McLaren, B., Roll, I., & Koedinger, K. (2004). *Toward tutoring help seeking: applying cognitive modeling to meta-cognitive skills*. . Paper presented at the Proceedings of Seventh International Conference on Intelligent Tutoring Systems.
- Ayres, P. (2006). Impact of reducing intrinsic cognitive load on learning in a mathematical domain. *Applied Cognitive Psychology, 20*(3), 287.
- Baddeley, A. (1992). Working memory. *Science, 255*(5044), 556.
- Bandura, A. (1993). Perceived Self-Efficacy in Cognitive Development and Functioning. *Educational Psychologist, 28*(2), 117.
- Baroody, A. J. (2006). Why Children Have Difficulties Mastering the Basic Number Combinations and How to Help Them. *Teaching Children Mathematics, 13*(1), 22.
- Barton, P. E. (2006). The Dropout Problem: Losing Ground. *Educational Leadership, 63*(5), 14-18.
- Bender, W. N. (2005). *Differentiating math instruction : strategies that work for K-8 classrooms!* Thousand Oaks, Calif.: Corwin Press.
- Brady, P., & Bowd, A. (2005). Mathematics anxiety, prior experience and confidence to teach mathematics among pre-service education students. *Teachers & Teaching, 11*(1), 37.
- Brooks, D. W., & Shell, D. F. (2006). Working Memory, Motivation, and Teacher-Initiated Learning. *Journal of Science Education & Technology, 15*(1), 17.

- Brown, G., & Quinn, R. J. (2006). Algebra students' difficulty with fractions. *Australian Mathematics Teacher*, 62(4), 28.
- Brown, R., Pressley, M., Van Meter, P., & Schuder, T. (1996). A Quasi-Experimental Validation of Transactional Strategies Instruction With Low-Achieving Second-Grade Readers. *Journal of Educational Psychology*, 88(1), 18-37.
- Bruning, R., Ed., Horn, C. A., Ed., & PytlikZillig, L. M., Ed. (2003). *Web-Based Learning: What Do We Know? Where Do We Go?* Greenwich, CT: Information Age Publishing.
- Bruning, R., Ed., Schraw, G., Norby, M. M., & Ronning, R. R. (2004). *Cognitive Psychology and Instruction* (4th ed.). Upper Saddle River, New Jersey: Macmillan Publishing.
- Burns, M. (1998). *Math : facing an American phobia*. Sausalito, CA: Math Solutions Publications.
- Butler, D. L., Beckingham, B., & Lauscher, H. J. N. (2005). Promoting Strategic Learning by Eighth-Grade Students Struggling in Mathematics: A Report of Three Case Studies. *Learning Disabilities Research and Practice*, 20(3), 156-174.
- Cates, G. L., & Rhymer, K. N. (2003). Examining the Relationship Between Mathematics Anxiety and Mathematics Performance: An Instructional Hierarchy Perspective. *Journal of Behavioral Education*, 12(1), 23.
- Cavanagh, S. (2006). Big Cities Credit Conceptual Math For Higher Scores. *Education Week*, 25(18), 1.
- Chandler, P., & Sweller, J. (1991). Cognitive Load Theory and the Format of Instruction. *Cognition & Instruction*, 8(4), 293.

- Chandler, P., & Sweller, J. (1995). Cognitive Load While Learning to Use a Computer Program. *Applied Cognitive Psychology, 10*(2), 151.
- Clark, R. C., & Mayer, R. E. (2003). *E-Learning and the science of instruction : proven guidelines for consumers and designers of multimedia learning*. San Francisco, CA: Jossey-Bass Publishers.
- Clarke, T., Ayres, P., & Sweller, J. (2005). The Impact of Sequencing and Prior Knowledge on Learning Mathematics Through Spreadsheet Applications. *Educational Technology Research & Development, 53*(3), 15.
- Colom, R., Rebollo, I., Palacios, A., Juan-Espinosa, M., & Kyllonen, P. C. (2004). Working memory is (almost) perfectly predicted by g. *Intelligence, 32*(3), 277.
- Creswell, J. W. (2005). *Educational research : planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, N.J.: Merrill.
- Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety : [the experience of play in work and games]* (1st ed.). San Francisco: Jossey-Bass.
- Cunningham, P. M., & Allington, R. L. (2007). *Classrooms that work : they can all read and write* (4th ed.). Boston: Pearson/Allyn and Bacon.
- Czerniewicz, L. (2004). Cape of Storms or Cape of Good Hope? Educational technology in a changing environment. *British Journal of Educational Technology, 35*(2), 145.
- Dondertman, B., Ciancone, T., & Toronto Board of Education (Ontario). Continuing Education Dept. (1991). *Numbers in Our Lives. Numeracy Methods and Materials*.

- DuFour, R. (2004). *Whatever it takes: how professional learning communities respond when kids don't learn*. Bloomington, Ind.: National Educational Service.
- DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2004). *Whatever it takes: How professional learning communities respond when kids don't learn*.
- Ebert, C. (1992). So when can I take the retest? *Quality Outcomes-Driven Education*, December, 32-34.
- Ediger, M. (2007). Learning activities in the curriculum. *College Student Journal*, 41(4), 967-969.
- Ferraro, D., Van de Kerckhove, W., National Center for Education Statistics (ED) Washington DC., & Westat Inc. Rockville MD. (2006). *Trends in International Mathematics and Science Study (TIMSS) 2003. Nonresponse Bias Analysis. Technical Report. NCES 2007-044*.
- Fiore, G. (1999). Math-Abused Students: Are We Prepared to Teach Them? *Mathematics Teacher*, 92(5), 403-406.
- Fouad, N. A. (1995). Career Linking: An Intervention to Promote Math and Science Career Awareness. *Journal of Counseling & Development*, 73(5), 527.
- Furner, J. M., Yahya, N., & Duffy, M. L. (2005). Teach Mathematics: Strategies to Reach All Students. *Intervention in School & Clinic*, 41(1), 16.
- Gagné, R. M., Briggs, L. J., & Wager, W. W. (1992). *Principles of instructional design* (4th ed.). Fort Worth: Harcourt Brace Jovanovich College Publishers.
- Garbin, C. P., & Orr, J. (2000). *Evaluating Alternative Types of Web-Based Activities in a Research Methods and Data Analysis Laboratory* Paper presented at the Society for Computers in Psychology.

- Gerjets, P. H., & Hesse, F. W. (2004). When are powerful learning environments effective? The role of learner activities and of students' conceptions of educational technology. *International Journal of Educational Research*, 41(6), 445.
- Gomleksiz, M. N., & Bulut, I. (2007). An Evaluation of the Effectiveness of the New Primary School Mathematics Curriculum in Practice. *Educational Sciences: Theory & Practice*, 7(1), 81.
- Gravetter, F. J., & Wallnau, L. B. (2004). *Statistics for the Behavioral Sciences* (6th ed.): Wadsworth/Thompson Learning.
- Guisbond, L. (2007). 'No Child Left Behind' has failed. *Christian Science Monitor*, 99(67), 8.
- Haley, E. (1996). Old dog/new tricks: Reteaching Huck Finn and pop culture. *English Journal*, 85(7), 121.
- Harden, R. M., & Stamper, N. (1999). What Is a Spiral Curriculum? *Medical Teacher*, 21(2), 141-143.
- Healy, J. M. (1998). *Failure to connect : how computers affect our children's minds-- for better and worse*. New York: Simon & Schuster.
- Heyworth, R. M. (1999). Procedural and conceptual knowledge of expert and novice students for the solving of a basic problem in chemistry. *International Journal of Science Education*, 21(2), 195.
- JavaServer Pages. (2008). 2008, from [http://en.wikipedia.org/wiki/JavaServer\\_Pages](http://en.wikipedia.org/wiki/JavaServer_Pages).
- Kalyuga, S., Ayres, P., Chandler, P., & Sweller, J. (2003). The Expertise Reversal Effect. *Educational Psychologist*, 38(1), 23.

- Kalyuga, S., Chandler, P., & Sweller, J. (1999). Managing split-attention and redundancy in multimedia instruction. *Applied Cognitive Psychology, 13*(4), 351.
- Kalyuga, S., & Sweller, J. (2005). Rapid Dynamic Assessment of Expertise to Improve the Efficiency of Adaptive E-learning. *Educational Technology Research & Development, 53*(3), 83.
- Karabenick, S. (2004). Perceived achievement goal structure and college student help seeking. *Journal of Educational Psychology, 96*(3), 569-582.
- Kelly, M. G. E., McAnear, A. E., & International Society for Technology in Education Eugene OR. (2002). *National Educational Technology Standards for Teachers: Preparing Teachers To Use Technology*.
- Kester, L., Lehnen, C., Van Gerven, P. W. M., & Kirschner, P. A. (2006). Just-in-time, schematic supportive information presentation during cognitive skill acquisition. *Computers in Human Behavior, 22*(1), 93.
- Ketterlin-Geller, L. R., Chard, D. J., & Fien, H. (2008). Making Connections in Mathematics: Conceptual Mathematics Intervention for Low-Performing Students. *Remedial & Special Education, 29*(1), 33-45.
- Koen, B. V. (2005). Creating a Sense of "Presence" in a Web-Based PSI Course: The Search for Mark Hopkins' Log in a Digital World. *IEEE Transactions on Education, 48*(4), 599.
- Lam, P., & McNaught, C. (2006). Design and Evaluation of Online Courses Containing Media-Enhanced Learning Materials. *Educational Media International, 43*(3), 199-218.
- Lee, K. M. (2000). MUD and Self Efficacy. *Educational Media International, 37*(3), 177.

- Lent, R. W., Brown, S. D., & Larking, K. C. (1987). Comparison of Three Theoretically Derived Variables in Predicting Career and Academic Behavior: Self-Efficacy, Interest Congruence, and Consequence Thinking. *Journal of Counseling Psychology, 34*(3), 293-298.
- Lewin, C., Mavers, D., & Somekh, B. (2003). Broadening access to the curriculum through using technology to link home and school: a critical analysis of reforms intended to improve students' educational attainment. *Curriculum Journal, 14*(1), 23-53.
- Lincoln Public Schools (2002). *Secondary (6-12) Mathematics Curriculum Guide*. Retrieved from.
- Lincoln Public Schools (2003). *Secondary (6-12) Mathematics Curriculum Guide*. Lincoln Public Schools.
- Lincoln Public Schools (2006a). *2006-2007 Statistical Handbook* (No. 07-02).
- Lincoln Public Schools (2006b). *Elementary Mathematics Curriculum Guide*. Lincoln Public Schools.
- Lucas, J. L., Wanberg, C. R., & Zytowski, D. G. (1997). Development of a Career Task Self-Efficacy Scale: The Kuder Task Self-Efficacy Scale. *Journal of Vocational Behavior, 50*(3), 432-459.
- Ma, L. (1999). *Knowing and teaching elementary mathematics : teachers' understanding of fundamental mathematics in China and the United States*. Mahwah, N.J. :: Lawrence Erlbaum Associates,.

- Ma, X. (2003). Effects of Early Acceleration of Students in Mathematics on Attitudes Toward Mathematics and Mathematics Anxiety. *Teachers College Record*, 105(3), 438.
- MacKay, D. G., Stewart, R., & Burke, D. M. (1998). H.M. revisited: Relations between language comprehension. *Journal of Cognitive Neuroscience*, 10(3), 377.
- Malinsky, M., Ross, A., Pannells, T., & McJunkin, M. (2006). Math Anxiety in Pre-Service Elementary Schoolteachers. *Education*, 127(2), 274.
- Margolis, H., & McCabe, P. P. (2006). Improving Self-Efficacy and Motivation: What to Do, What to Say. *Intervention in School & Clinic*, 41(4), 218.
- Martin, S. P., & Robinson, J. P. (2007). The Income Digital Divide: Trends and Predictions for Levels of Internet Use. *Social Problems*, 54(1), 1-22.
- Marzano, R. J., Pickering, D., & Pollock, J. E. (2001). *Classroom instruction that works : research-based strategies for increasing student achievement*. Alexandria, Va.: Association for Supervision and Curriculum Development.
- Mayer, R. E., & Moreno, R. (2003). Nine Ways to Reduce Cognitive Load in Multimedia Learning. *Educational Psychologist*, 38(1), 43.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education* (2nd ed ed.). San Francisco: Jossey-Bass Publishers,.
- Metcalf, D. (2007). Reducing the Digital Divide. *American Librarian*, 38(2), 29.
- Micallef, S., & Prior, M. (2004). Arithmetic Learning Difficulties in Children. *Educational Psychology*, 24(2), 175.
- Miller, G. A. (1956). The magical number seven, plus or minus two: some limits on our capacity for processing information. *The Psychological Review*, 63, 81-97.

- Mishel, L., & Roy, J. (2006). Accurately Assessing High School Graduation Rates. *Phi Delta Kappan*, 88(4), 287-292.
- Mooney, P., Ryan, J. B., Uhing, B. M., Reid, R., & Epstein, M. H. (2005). A Review of Self-Management Interventions Targeting Academic Outcomes for Students with Emotional and Behavioral Disorders. *Journal of Behavioral Education*, 14(3), 203.
- Moreno, R. (2006). When worked examples don't work: Is cognitive load theory at an Impasse? *Learning & Instruction*, 16(2), 170.
- Morrison, G. R., Ross, S. M., & Kemp, J. E. (2004). *Designing effective instruction* (4th ed.). Hoboken, NJ: J. Wiley & Sons.
- Narloch, R., Garbin, C. P., & Turnage, K. D. (2006). Benefits of Prelecture Quizzes. *Teaching of Psychology*, 33(2), 109.
- National Center on Education and the Economy (U.S.). New Commission on the Skills of the American Workforce. (2007). *Tough choices or tough times : the report of the New Commission on the Skills of the American Workforce* (1st ed.). San Francisco: John Wiley & Sons.
- National Council of Teachers of Mathematics. (2000). *Principles and Standards for School Mathematics*. Reston, VA: National Council of Teachers of Mathematics.
- National Council of Teachers of Mathematics. (2007a). *Effective strategies for teaching students with difficulties in mathematics*. Reston, VA.
- National Council of Teachers of Mathematics. (2007b). *Five "key strategies" for effective formative assessment*. Reston, VA.

- National Council of Teachers of Mathematics. (2007c). *What does research say the benefits of formative assessment are?* Reston, VA.
- National Council of Teachers of Mathematics. (2007d). *What instructional strategies are effective in helping students with difficulties in mathematics?* Reston, VA.
- National Council of Teachers of Mathematics. (2007e). *What is formative assessment?* Reston, VA.
- National Council of Teachers of Mathematics. Commission on Teaching Standards for School Mathematics. (1991). *Professional standards for teaching mathematics.* Reston, VA: The Council.
- National Mathematics Advisory Panel (2008). *Foundations for Success: The final report of the National Mathematics Advisory Panel.* Retrieved June 17, 2008. from <http://www.ed.gov/about/bdscomm/list/mathpanel/index.html>.
- Newhouse, B. (2007). H.M.'s Brain and the History of Memory, *Weekend Edition: NPR.*
- Olina, Z., Reiser, R., Xiaoxia, H., Lim, J., & Park, S. (2006). Problem format and presentation sequence: effects on learning and mental effort among US high school students. *Applied Cognitive Psychology, 20*(3), 299.
- Paas, F., Renkl, A., & Sweller, J. (2003). Cognitive Load Theory and Instructional Design: Recent Developments. *Educational Psychologist, 38*(1), 1.
- Palinscar, A. S., & Brown, A. L. (1984). Reciprocal Teaching of Comprehension-Fostering and Comprehension-Monitoring Activities. *Cognition & Instruction, 1*(2), 117-175.
- Pogrow, S. (2006). Restructuring High-Poverty Elementary Schools for Success: A Description of the Hi-Perform School Design. *Phi Delta Kappan, 88*(3), 223.

- Pressley, M., Roehrig, A. D., Mohan, L., Warzon, K. B., & Bogaert, L. R. (2003). *Motivating Primary-Grade Students*. New York: Guilford Publications, Inc.
- Reed, S. K. (2005). From Research to Practice and Back: The Animation Tutor Project. *Educational Psychology Review, 17*(1), 55.
- Reyes, P., & Fletcher, C. (2003). Successful Migrant Students: The Case of Mathematics. *Journal of Curriculum and Supervision, 18*(4), 306-333.
- Richards, L., & Morse, J. M. (2007). *Readme first for a user's guide to qualitative methods* (2nd ed.). Beverly Hills, Calif.: Sage Publications.
- Rule, A. C. E., & Lord, L. H. E. (2003). *Activities for Differentiated Instruction Addressing All Levels of Bloom's Taxonomy and Eight Multiple Intelligences*.
- Sanders, T. (2003). Clearing the NCLB Hurdle. *American School Board Journal, 190*(9), 26-28.
- Schunk, D. H. (2005). Self-Regulated Learning: The Educational Legacy of Paul R. Pintrich. *Educational Psychologist, 40*(2), 85.
- Schweinle, A., Meyer, D. K., & Turner, J. C. (2006). Striking the Right Balance: Students' Motivation and Affect in Elementary Mathematics. *Journal of Educational Research, 99*(5), 271.
- Seufert, T., & Brunken, R. (2006). Cognitive load and the format of instructional aids for coherence formation. *Applied Cognitive Psychology, 20*(3), 321.
- Simon, H. A. (1974). *Science*(183), 482-488.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks: Sage Publications.
- Sullivan, Z. T. (1991). Theory for the untheoretical: Rereading and reteaching Austen, Bronte, and Conrad. *College English, 53*(5), 572.

- Sweller, J., & Chandler, P. (1991). Evidence for Cognitive Load Theory. *Cognition & Instruction, 8*(4), 351.
- Sweller, J., van Merriënboer, J. J. G., & Paas, F. G. W. C. (1998). Cognitive Architecture and Instructional Design. *Educational Psychology Review, 10*(3), 251.
- Tollefson, N. (2000). Classroom Applications of Cognitive Theories of Motivation. *Educational Psychology Review, 12*(1), 63.
- Trends in International Mathematics and Science Study (TIMSS). Retrieved March 28, 2007, from <http://nces.ed.gov/timss/index.asp>.
- Trotter, A. (2007). Getting Up To Speed. *Education Week, 26*(30), 10.
- Tuttle, H. G. (2007). Making Math Work. *Technology & Learning, 27*(8), 32.
- unknown. EDU Description. Retrieved March 28, 2007, from <http://scimath.unl.edu/EDU/description.html>.
- van Merriënboer, J. J. G., & Ayres, P. (2005). Research on Cognitive Load Theory and Its Design Implications for E-Learning. *Educational Technology Research & Development, 53*(3), 5.
- van Merriënboer, J. J. G., Kirschner, P. A., & Kester, L. (2003). Taking the Load Off a Learner's Mind: Instructional Design for Complex Learning. *Educational Psychologist, 38*(1), 5.
- van Merriënboer, J. J. G., & Sweller, J. (2005). Cognitive Load Theory and Complex Learning: Recent Developments and Future Directions. *Educational Psychology Review, 17*(2), 147.
- Ward, M., & Sweller, J. (1990). Structuring Effective Worked Examples. *Cognition & Instruction, 7*(1), 1.

Warner, I. M. (2004). Climbing Bloom's Ladder. *Journal of Chemical Education*, 81(10), 1413.

Wolk, R. A. (2007). One Size Fits Whom? *Teacher Magazine*, 18(5).