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AUTHOR Suydam, Marilyn N.
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ABSTRACT

This is the fourteenth annual listing of research on mathematics education prepared for the Journal for Research in Mathematics Education. References are organized alphabetically by author within three categories: research summaries, articles, and dissertations. Included are 37 summaries, 247 articles, and 300 dissertations. Studies focused on mathematics education are annotated, whereas studies in which mathematics education was not the primary focus are usually not annotated. Annotations generally indicate one principal finding of a study, although most studies have additional findings. Journals searched and the number of articles located in each are listed. Also provided is an index to aid in locating references to designated mathematical topics: achievement, algebra, arithmetic operations, attitudes and anxiety, calculators and computers, cognitive style, diagnosis and remediation, ethnic and social variables, geometry and measurement, learning, learning disabilities, materials, number and numeration, organizing for instruction, problem solving, sequencing, sex differences, and test analysis. Grade or age level is noted for each entry. (MNS)

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RESEARCH ON MATHEMATICS EDUCATION

REPORTED IN 1983

Marilyn N. Suydam
The Ohio State University

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Research on Mathematics Education

Reported in 1983

Marilyn N. Suydam, The Ohio State University

In this 14th annual listing of mathematics education research to appear in JRME, the references are given alphabetically by author within three categories (research summaries, articles, and dissertations). Studies focused on mathematics education are annotated, whereas studies in which mathematics education was not the primary focus are usually not annotated. Annotations generally indicate one principal finding of a study, although most studies have additional findings. The original report should be checked for other results as well as for limitations affecting the validity of the findings.

A number of other persons searched several journals not available to me: Karen Fuson, Jeremy Kilpatrick, Laurie Reyes, David Robitaille, and Alan Schoenfeld, as well as Beverly Brooks Keith. In addition, several authors sent copies of articles from journals I do not usually search. I appreciate their help! (If there are others who would like to aid in this search process, please contact me.) Some references are undoubtedly overlooked, but we are trying to be as comprehensive as possible.

This year, because of space limitations, the number of dissertations was reduced from the original set located. The 55 dissertations omitted were those judged to have the most tenuous connection with mathematics education. However, we wish to announce . . .

A compilation of the 1983 dissertation abstracts for mathematics education, reproduced from Dissertation Abstracts International with the permission of University Microfilms International, will be available from the ERIC

Clearinghouse for Science, Mathematics and Environmental Education in August 1984 at a cost of \$5.00. Included will be 355 references, with the full text of the abstracts for over 250 dissertations and title and source for the remainder, along with a full index. This publication will provide, in one place, additional information on each citation in the JRME listing. The cooperation of the Editorial Board of JRME and University Microfilms International with ERIC/SMEAC is deeply appreciated: we hope the publication will prove useful to you. Orders may be sent after August 1, 1984 to ERIC/SMEAC, 1200 Chambers Road - Third Floor, Columbus, OH 43212, with a check for \$5.00 made out to SMEAC Information Reference Center.

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Research Summaries

Two listings of research reports and 19 articles summarizing or discussing research findings were located.

Bangert, Robert L.; Kulik, James A.; and Kulik, Chen-Lin. Individualized Systems of Instruction in Secondary Schools. Review of Educational Research 53: 143-158; Summer 1983.

Use of an individualized teaching system had only a small effect on student achievement in secondary school courses. (Mathematics effect size = .03) (secondary)

Bright, George W. Explaining the Efficiency of Computer Assisted Instruction. AEDS Journal 16: 144-152; Spring 1983.

CAI programs seem to have been structured to increase academic learning time, and this increase may result in improved efficiency. (grades K-12, college)

Brophy, Jere E. Classroom Organization and Management. Elementary School Journal 83: 265-285; March 1983.

Information from research on how successful teachers organize and manage their classrooms is described. (grades K-12)

Clark, Richard E. Reconsidering Research on Learning from Media. Review of Educational Research 53: 445-459; Winter 1983. [--]

Doyle, Walter. Academic Work. Review of Educational Research 53: 159-199; Summer 1983.

Research on the intellectual demands of curricular tasks (including mathematics) and how academic work is accomplished are reviewed. (grades K-12)

Fleming, M. Lynette and Malone, Mark R. The Relationship of Student Characteristics and Student Performance in Science as Viewed by Meta-Analysis Research. Journal of Research in Science Teaching 20: 481-495; May 1983. [grades K-12]

Graue, M. Elizabeth; Weinstein, Thomas; and Walberg, Herbert J. School-Based Home Instruction and Learning: A Quantitative Synthesis. Journal of Educational Research 76: 351-360; July/August 1983. [grades K-12]

Green, Judith L. and Smith, Deborah. Teaching and Learning: A Linguistic Perspective. Elementary School Journal 83: 353-391; March 1983. [--]

Heid, M. Kathleen. Characteristics and Special Needs of the Gifted Student in Mathematics. Mathematics Teacher 76: 221-226; April 1983.

Research on characteristics of the mathematically gifted is synthesized. (---)

Jones, Peter L. Mathematics in Industry. Australian Mathematics Teacher 39: 10-13; October 1983.

Findings from a number of surveys on the uses of mathematics in industry are given. (adults)

Kissane, Barry V. The Nature, Development and Nurture of Mathematical Talent. Education Research and Perspectives 10: 40-58; June 1983.

The studies of Stanley, Krutetskii, and Bloom are reviewed. (--)

Madden, Nancy A. and Slavin, Robert E. Mainstreaming Students with Mild Handicaps: Academic and Social Outcomes. Review of Educational Research 53: 519-569; Winter 1983. [---]

Purkey, Stewart C. and Smith, Marshall S. Effective Schools: A Review. Elementary School Journal 83: 427-452; March 1983, [grades K-12]

Rosenshine, Barak. Teaching Functions in Instructional Programs. Elementary School Journal 83: 335-351; March 1983. [elementary, secondary]

Schipper, Wilhelm. The Topological Primacy Thesis: Genetic and Didactic Aspects. Educational Studies in Mathematics 14: 285-296; August 1983.

Data from four studies are reviewed; results from psychological research do not agree with results from classroom research. (---)

Suydam, Marilyn N. Research on Mathematics Education Reported in 1982. Journal for Research in Mathematics Education 14: 227-293; July 1983.

This thirteenth annual annotated listing includes 23 research summaries, 260 articles, and 284 dissertations for kindergarten through post-secondary levels. An index is given. (grades K-12, college)

Suydam, Marilyn N. Teaching Effectiveness. Arithmetic Teacher 31: 3; October 1983.

Ways effective teachers manage their classes are concisely listed. (elementary)

Suydam, Marilyn N. Achieving with Calculators. Arithmetic Teacher 31: 20; November 1983.

Research indicates that calculators can aid mathematics instruction, with no decrease in achievement. (elementary)

Suydam, Marilyn N. Low Achievers. Arithmetic Teacher 31: 40; December 1983.

Ways low achievers are treated by teachers are briefly reported. (elementary)

Turnau, Stefan. Dissertations in Mathematics Education at the Higher School of Education in Cracow, 1968 to 1981: An Annotated Bibliography. Journal for Research in Mathematics Education 14: 354-

360; November 1983.

Twenty-six dissertations are listed, with annotations. (college)

Wolters, Miriam A. D. The Part-Whole Schema and Arithmetical Problems. Educational Studies in Mathematics 14: 127-138; May 1983.

Research in Holland and Belgium on problem solving and the part-whole schema is reviewed. (ages 6-10)

Articles

In this section, 247 articles are listed. The journals searched and the number of articles from each may be found at the end of the total listing.

Af Ekenstam, Adolf and Greger, Karl. Some Aspects of Children's Ability to Solve Mathematical Problems. Educational Studies in Mathematics 14: 369-384; November 1983. [ages 12-13]

Ansley, Timothy N. and Forsyth, Robert A. Relationship of Elementary and Secondary School Achievement Test Scores to College Performance. Educational and Psychological Measurement 43: 1103-1112; Winter 1983. [college]

Ausburn, Floyd B. and Ausburn, Lynna J. Visual Analysis Skills Among Two Populations in Papua New Guinea. ECTJ 31: 112-122; Summer 1983. [college]

Ayabe, Harold I.; Freese, Anne R.; Kim, Kyoung-Ja; Arakaki, Masakazu; and Kameoka, Keith Y. Feedback and Locus of Control. Journal of Genetic Psychology 143: 141-142; September 1983. [college]

Ayres, Q. Whitfield. Student Achievement at Predominantly White and Predominantly Black Universities. American Educational Research Journal 20: 291-304; Summer 1983. [college]

Backhouse, John K. Choice of Mathematics for 'A' Level. Mathematics in School 12: 12-14; November 1983. [secondary]

Baker, Colin and Griffith, Catherine Lloyd. Provision of Materials and Tests for Welsh-Speaking Pupils with Learning Difficulties: A National Survey. Educational Research 25: 60-70; February 1983. [elementary & secondary teachers]

Ball, Edmund R.; Parker, Linda G.; and Saunders, Joseph C. Incarceration and the Rate of Achievement of Learning Disabled Juvenile Delinquents. Journal of Experimental Education 51: 54-57; Winter 1982/1983. [ages 12-17]

Baroody, Arthur J. and Ginsburg, Herbert P. The Effects of Instruction on Children's Understanding of the "Equals" Sign. Elementary School Journal 84: 199-212; November 1983.

The Wynroth program seems fairly successful in cultivating a basic relational concept of "equals". (grades 1-3)

Baroody, Arthur J.; Ginsburg, Herbert P.; and Waxman, Barbara. Children's Use of Mathematical Structure. Journal for Research in Mathematics Education 14: 156-163; May 1983.

Commutativity was used extensively at each grade, while the addition-subtraction principle to solve subtraction varied across grades and the $N+1$ pattern was seldom used. (grades 1-3)

Baroody, Arthur J. and White, Mary S. The Development of Counting Skills and Number Conservation. Child Study Journal 13: 95-105; 1983.

Counting skills such as cardinality developed before conservation. (grades K, 1)

Barr, George. The Operation of Division and the Embedded Zero. Mathematics in School 12: 4-5; September 1983. [ages 11-adult]

Benbow, Camilla Persson; Stanley, Julian C.; Kirk, Marshall K.; and Zonderman, Alan B. Structure of Intelligence in Intellectually Precocious Children and in Their Parents. Intelligence 7: 129-152; April-June 1983.

Mathematically precocious children were brighter than their intelligent-parents. Vernon's model of intelligence best fits the results, with verbal-educational and practical-spatial-mechanical factors explaining most of the variance in both samples. (secondary, adult)

Benbow, Camilla Persson; Zonderman, Alan B.; and Stanley, Julian C. Assortative Marriage and the Familiality of Cognitive Abilities in Families of Extremely Gifted Students. Intelligence 7: 153-161; April-June 1983.

For mathematically precocious children, parental similarity in cognitive abilities was greater than in the general population, but parent-offspring similarity was less. (secondary, adult)

Bidwell, James K. Calculation Skills vs. Problem Solving; Scotland vs. Michigan. School Science and Mathematics 83: 682-693; December 1983.

Scores on calculation questions were significantly higher than on understanding (problem) questions, with the Scotland sample outperforming the Michigan sample and girls outperforming boys on most items. (grade 6)

Birenbaum, Menucha and Tatsuoka, Kikumi K. The Effect of a Scoring System Based on the Algorithm Underlying the Students' Response Patterns on the Dimensionality of Achievement Test Data of the Problem Solving Type. Journal of Educational Measurement 20: 17-26; Spring 1983. [grade 8]

Blair, R. Clifford; Higgins, J. J.; Topping, Mary E. H.; and Mortimer, Allen L. An Investigation of the Robustness of the t Test to Unit of Analysis Violations. Educational and Psychological Measurement

43: 69-80; Spring 1983. [grades 1, 5, 10, 11]

Blume, Glendon W. and Mitchell, Charles E. Distributivity: A Useful Model or an Abstract Entity? School Science and Mathematics 83: 216-221; March 1983.

Performance was very poor on both knowledge and application of distributivity. (grade 8)

Brainerd, Charles J. Young Children's Mental Arithmetic Errors: A Working-Memory Analysis. Child Development 54: 812-830; August 1983.

Generally, the estimated proportion of errors attributable to short-term memory failure was far greater than that attributable to processing failure. (ages 4, 5, grade 1)

Bright, George W. Applying a Sociological Concept About Sex Differences to Science and Mathematics Teaching. School Science and Mathematics 83: 568-575; November 1983.

Data from a study by Maines about sex differences are reported, indicating that males and females had different attitudes toward mathematics. (college)

Bright, George W.; Harvey, John G.; and Wheeler, Margariete Montague. Use of a Game to Instruct on Logical Reasoning. School Science and Mathematics 83: 396-405; May/June 1983.

Two versions of Mastermind were not differentially effective; the game was not effective in improving formal logical reasoning skills. (grades 6, 8)

Brophy, Jere; Rohrkemper, Mary; Rashid, Hakim; and Goldberger, Michael. Relationships Between Teachers' Presentations of Classroom Tasks and Students' Engagement in Those Tasks. Journal of Educational Psychology 75: 544-552; August 1983. [grades 4-6]

Brunson, Pansy Waycaster. A Classroom Experiment Involving Basic Mathematics and Women. Two-Year College Mathematics Journal 14: 318-321; September 1983.

Women who selected the all-female section of an algebra course had lower mathematical ability scores, yet attained significantly higher achievement scores. (college)

Carpenter, T. P.; Hiebert, J.; and Moser, J. M. The Effect of Instruction on Children's Solutions of Addition and Subtraction Word Problems. Educational Studies in Mathematics 14: 55-72; February 1983.

Prior to instruction, children's solution processes directly modeled the action or relationships in a problem. After instruction, they generally used a separating strategy for all subtraction problems. (grade 1)

Carpenter, Thomas P.; Lindquist, Mary M.; Matthews, Westina; and Silver, Edward A. Results of the Third NAEP Mathematics Assessment:

Secondary School. Mathematics Teacher 76: 652-659; December 1983.

The decline of '17-year-olds' performance leveled out between the second and third assessments; 13-year-olds improved significantly. Data from a variety of topics are included. (ages 13, 17)

Cherkes, Miriam. Cognitive Development and Cognitive Style. Journal of Learning Disabilities 16: 95-101; February 1983. [ages 7, 9, 11, 13]

Clark, H. Clifford and Richmond, Alan. Seven Years Since the Metric Conversion Act: Metric Achievement and Attitudes in Simi Valley, California. School Science and Mathematics 83: 596-600; November 1983.

Most students were competent in knowledge of simple basic metric concepts, but deficient in specific applications to daily life situations. Teachers' attitudes were generally positive. (grade 6)

Clark, Julia V. Development of Seriation and Its Relation to the Achievement of Inferential Transitivity. Journal of Research in Science Teaching 20: 781-794; November 1983. [grades K, 1]

Clarkson, Philip. Types of Errors Made by Papua New Guinean Students. Educational Studies in Mathematics 14: 355-367; November 1983. [grade 6]

Cole, Dennis D. and Hannafin, Michael J. An Analysis of Why Students Select Introductory High School Computer Coursework. Educational Technology 23: 26-29; April 1983.

Course selection was based on perceptions of high mathematics and science requirements. (grades 10-12)

Collis, Kevin F. Development of a Group Test of Mathematical Understanding Using Superitem/SOLO Technique. Journal of Science and Mathematics Education in Southeast Asia 6: 5-14; July 1983. [ages 10-16]

Conrad, Kendón J. and Eash, Maurice J. Measuring Implementation and Multiple Outcomes in a Child Parent Center Compensatory Education Program. American Educational Research Journal 20: 221-236; Summer 1983. [ages 5, 8]

Cox, T. Cumulative Deficit in Culturally Disadvantaged Children. British Journal of Educational Psychology 53: 317-326; November 1983. [ages 11-15]

Cramer, Phebe. Homonym Understanding and Conservation. Journal of Experimental Child Psychology 36: 179-195; October 1983. [grades K, 1]

Darakjian, Gregory P. and Michael, William B. The Long-Term Comparative Predictive Validities of Standardized Measures of Achievement and Academic Self-Concept for a Sample of Secondary School Students. Educational and Psychological Measurement 43: 251-260; Spring 1983. [secondary]

- Dawe, Lloyd. Bilingualism and Mathematical Reasoning in English as a Second Language. Educational Studies in Mathematics 14: 325-353; November 1983. [ages 11-13]
- Dekkers, J.; Malone, J.; de Laeter, J. R., and Hamlett, B. Mathematics Enrolment Patterns in Australian Secondary Schools: Course Trends. Australian Mathematics Teacher 39: 2-5; March 1983. [secondary]
- Derevensky, Jeffrey L.; Hart, Sybil; and Farrell, Mona. An Examination of Achievement-Related Behavior of High- and Low-Achieving Inner-City Pupils. Psychology in the Schools 20: 328-336; July 1983. [grades 1-6]
- Dew, Kathleen H. and Galassi, John P. Mathematics Anxiety: Some Basic Issues. Journal of Counseling Psychology 30: 443-446; July 1983.
Small but significant gender differences were found on two of three anxiety measures. (college)
- Dickins, Giles and Wood, Michael. A View of Mathematics from the Fifth Form. Mathematics in School 12: 12-15; March 1983. [secondary]
- Dodendorf, Diane M. A Unique Rural School Environment. Psychology in the Schools 20: 99-104; January 1983. [grades 3-8]
- Dolan, Lawrence J. Validity Analyses for the School Attitude Measures at Three Grade Levels. Educational and Psychological Measurement 43: 295-303; Spring 1983. [grades 5, 8, 11]
- Duke, J. D. Disparities in Grading Practice, Some Resulting Inequities, and a Proposed New Index of Academic Achievement. Psychological Reports 53: 1023-1080; December 1983. [college]
- Easley, Jack and Elizabeth. Horizontal Mathematics. Journal of Curriculum Studies 15: 429-431; October-December 1983. [grade 1]
- Elderveld, Paul J. Factors Related to Success and Failure in Developmental Mathematics in the Community College. Community/Junior College Quarterly of Research and Practice 7: 161-174; January-March 1983.
Numerical skills, instructional method, age, self-assessment of mathematical knowledge, and attitude toward mathematics were determinants of success or failure in remedial mathematics courses. (college)
- Entwisle, Doris R. and Baker, David P. Gender and Young Children's Expectations for Performance in Arithmetic. Developmental Psychology 19: 200-209; March 1983. [grades 1-3]
- Fennell, Eileen B.; Satz, Paul; and Morris, Robin. The Development of Handedness and Dichotic Ear Listening Asymmetries in Relation to School Achievement: A Longitudinal Study. Journal of Experimental Child Psychology 35: 248-262; April 1983. [grades K, 2, 5]
- Fitzgerald, A. The "Mathematics in Employment 16-18" Project: Its

Findings and Implications - Part 1. Mathematics in School 12: 14-18; January 1983. [adults]

Fogel, Loueen S. and Nelson, Rosemary O. The Effects of Special Education Labels on Teachers' Behavioral Observations, Checklist Scores, and Grading of Academic Work. Journal of School Psychology 21: 241-251; Fall 1983. [primary teachers]

Fortin, Andree and Robert, Michele. Minimal Modeling Input and Progress Towards Conservation Mastery. Journal of Genetic Psychology 142: 245-257; June 1983. [ages 5-7]

Fowler, Janet F. Use of Computer-Assisted Instruction in Introductory Management Science. Journal of Experimental Education 52: 22-26; Fall 1983. [college]

Frary, Robert B. and Ling, Jeanne L. A Factor-Analytic Study of Mathematics Anxiety. Educational and Psychological Measurement 43: 985-993; Winter 1983.

Scores on four of five mathematics attitude scales were strongly related to a single, underlying attitude toward mathematics. Correlates of mathematics anxiety were noted. (college)

Freed, Norman H. Foreseeably Equivalent Math Skills of Men and Women. Psychological Reports 52: 334; February 1983.

Girls and boys are approaching equivalent facility in mathematical ability. (grades 7, 8)

Freeman, Donald J.; Belli, Gabriella M.; Porter, Andrew C.; Floden, Robert E.; Schmidt, William H.; and Schville, John R. The Influence of Different Styles of Textbook Use on Instructional Validity of Standardized Tests. Journal of Educational Measurement 20: 259-270; Fall 1983.

Five styles of textbook use of one mathematics textbook were considered in relation to five standardized tests. Each style resulted in a unique profile of topics taught. (grade 4)

Freeman, Donald J.; Kuhs, Therese M.; Porter, Andrew C.; Floden, Robert E.; Schmidt, William H.; and Schville, John R. Do Textbooks and Tests Define a National Curriculum in Elementary School Mathematics? Elementary School Journal 83: 501-513; May 1983.

The four mathematics textbooks and five tests studied did not reflect a consensus on what should be taught. Only six topics were emphasized in all texts and tests. (grade 4)

Friesen, David. Changing Plans and Aspirations of High School Students. Alberta Journal of Educational Research 29: 285-296; December 1983. [grades 9-12]

Fulkerson, Katherine Fee; Furr, Susan; and Brown, Duane. Expectations and Achievement Among Third-, Sixth-, and Ninth-Grade Black and White Males and Females. Developmental Psychology 19: 231-236; March 1983. [grades 3, 6, 9]

- Fuson, Karen C.; Secada, Walter G.; and Hall, James W. Matching, Counting, and Conservation of Numerical Equivalence. Child Development 54: 91-97; February 1983.
Children used both matching and counting to make correct judgments of numerical equivalence. (ages 4, 5)
- Gayton, William F.; Hearn, Joseph F.; Breed, Lynne; and Ozmon, Kenneth L. Anxiety About Mathematics and Attitudes Toward the Metric System. Psychological Reports 53: 702; December 1983.
For women, but not men, high anxiety about mathematics is related to negative attitudes toward the metric system. (college)
- Genesee, Fred and Lambert, W. E. Trilingual Education for Majority-Language Children. Child Development 54: 105-114; February 1983. [grade 5]
- Getzels, J. W. and Smilansky, J. Individual Differences in Pupil Perceptions of School Problems. British Journal of Educational Psychology 53: 307-316; November 1983. [secondary]
- Gold, Ron. Inappropriate Conservation Judgments in the Concrete Operations Period. Genetic Psychology Monographs 107: 189-210; May 1983. [ages 5-11]
- Goldstein, Harris S. Fathers' Absence and Cognitive Development of Children Over a 3- to 5-Year Period. Psychological Reports 53: 971-976; June 1983. [ages 6-17]
- Gore, Dolores A. and Roumagoux, Daniel V. Wait-Time as a Variable in Sex-Related Differences During Fourth-Grade Mathematics Instruction. Journal of Educational Research 76: 273-275; May/June 1983.
Teachers gave significantly more wait-time to boys than to girls. (grade 4)
- Graden, Janet; Thurlow, Martha; and Ysseldyke, James. Instructional Ecology and Academic Responding Time for Students at Three Levels of Teacher-Perceived Behavioral Competence. Journal of Experimental Child Psychology 36: 241-256; October 1983. [grades 3, 4]
- Green, David. From Thumbtacks to Inference. School Science and Mathematics 83: 541-551; November 1983. [ages 11-16]
- Green, David. Shaking a Six. Mathematics in School 12: 29-32; November 1983. [ages 11-16]
- Grossman, Anne S. Decimal Notation: An Important Research Finding. Arithmetic Teacher 30: 32-33; May 1983.
Selecting the smallest of a given set of decimals was difficult; many students selected the longest decimal. (college freshmen)
- Grossman, Fred M. and Johnson, Kathleen M. Validity of the Slosson and Otis-Lennon in Predicting Achievement of Gifted Students. Educational and Psychological Measurement 43: 617-622; Summer

1983. [elementary]

Grossnickle, Donald R.; Laird, Bruce A.; Cutter, Thomas W.; and Tefft, James A. Profile of Change in Education: Microcomputer Adoption Status Report. Educational Technology 23: 17-20; September 1983. [secondary]

Haladyna, Tom; Shaughnessy, Joan; and Shaughnessy, J. Michael. A Causal Analysis of Attitude Toward Mathematics. Journal for Research in Mathematics Education 14: 19-29; January 1983.

Support for the model of factors affecting attitudes was moderately positive in grade 4 and more substantial in grades 7 and 9. (grades 4, 7, 9)

Hanna, Gerald S.; Hoyt, Donald P.; and Aubrecht, Judith D. Identifying and Adjusting for Biases in Student Evaluations of Instruction: Implications for Validity. Educational and Psychological Measurement 43: 1175-1185; Winter 1983. [secondary]

Hanna, Gerald S.; Sonnenschein, Joan L.; and Lenke, Joanne M. The Contribution of Work-Sample Test Items, Student-Reported Past Grades, and Student-Predicted Grades in Forecasting Achievement in First-Year Algebra. Educational and Psychological Measurement 43: 243-249; Spring 1983.

Work-sample test items and questionnaire items each contributed to the predictive efficiency of a standardized test. (grade 9)

Hannafin, Michael J. Fruits and Fallacies of Instructional Systems: Effects of an Instructional Systems Approach on the Concept Attainment of Anglo and Hispanic Students. American Educational Research Journal 20: 237-249; Summer 1983.

Some achievement differences were found related to both type of instruction and ethnic group on some subtests. (grade 6)

Hannafin, Michael J. Immediate, Sustained, and Cumulative Effects of an Instructional System on Mathematics Achievement. Journal of Educational Research 77: 89-93; November/December 1983.

Mathematics performance was significantly related to systems-based instructional methods.. (grades 5, 6)

Hart, K. Ratio and Fractions. Mathematics in School 12: 32-34; March 1983. [secondary]

Hativa, Nira. What Makes Mathematics Lessons Easy to Follow, Understand, and Remember? Two-Year College Mathematics Journal 14: 398-406; November 1983.

Ten major strategies found to contribute to lesson organization and clarity are discussed. (college)

Hess, Jonathan H.; Grafton, Clive L.; and Michael, William B. The Predictive Validity of Cognitive and Affective Measures in a Small Religiously Oriented Liberal Arts College. Educational and Psychological Measurement 43: 865-872; Fall 1983. [college freshmen]

Hildreth, David J. The Use of Strategies in Estimating Measurements. Arithmetic Teacher 30: 50-54; January 1983.

Students in grades 5 and 7 taught to use estimation strategies used more on the posttest than those taught the guess-and-check method. (grades 5, 7, college freshmen)

Hirsch, Christian R.; Kapoor, S. F.; and Laing, Robert A. Homework Assignments, Mathematical Ability, and Achievement in Calculus. Mathematics and Computer Education 17: 51-57; Winter 1983.

Low-scoring students profited more from the distributive assignment homework, while high-scoring students achieved better when homework related to the daily topic only. (college)

Hogrebe, Mark C.; Ervin, Leroy; Dwinell, Patricia L.; and Newman, Isadore. The Moderating Effects of Gender and Race in Predicting the Academic Performance of College Developmental Students. Educational and Psychological Measurement 43: 523-530; Summer 1983. [college]

Hollinger, Constance L. Self-Perception and the Career Aspirations of Mathematically Talented Female Adolescents. Journal of Vocational Behavior 22: 49-62; February 1983.

Non-traditional mathematics career aspirants could be discriminated from five other career-aspiration groups on the basis of seven self-estimates of ability. (grade 10)

Holzman, Thomas G.; Pellegrino, James W.; and Glaser, Robert. Cognitive Variables in Series Completion. Journal of Educational Psychology 75: 603-618; August 1983. [grades 4, 5, college]

Houston, Lawrence N. The Comparative Predictive Validities of High School Rank, the Ammons Quick Test, and Two Scholastic Aptitude Test Measures for a Sample of Black Female College Students. Educational and Psychological Measurement 43: 1123-1126; Winter 1983. [college]

Howe, Ann C.; Hall, Vernon; Stanback, Bessie; and Seidman, Shari. Pupil Behaviors and Interactions in Desegregated Urban Junior High Activity-Centered Science Classrooms. Journal of Educational Psychology 75: 97-103; February 1983. [grades 8, 9]

Hudson, Tom. Correspondence and Numerical Differences Between Disjoint Sets. Child Development 54: 84-90; February 1983.

Many children were skillful at establishing correspondences and determining exact numerical differences between disjoint sets. Kindergarten children used a sophisticated indirect counting strategy frequently. (ages 4-8)

Hunt, Dennis and Randhawa, Bikkar S. Cognitive Processes and Achievement. Alberta Journal of Educational Research 29: 206-215; September 1983. [grades 4, 5]

Hunting, Robert P. Alan: A Case Study of Knowledge of Units and

Performance with Fractions. Journal for Research in Mathematics Education 14: 182-197; May 1983.

The thought processes and schemes used by one child were explored. (age 9)

Husén, Torsten. Are Standards in U.S. Schools Really Lagging Behind Those in Other Countries? Phi Delta Kappan 64: 455-461; March 1983. [secondary]

Ibe, Milagros D. Setting Specific Criteria for Scoring Word Problems in Mathematics: Effects on Test Validity and Reliability. Journal of Science and Mathematics Education in Southeast Asia 6: 15-18; July 1983. [grade 10]

Jackson, Michael B. and Phillips, E. Ray. Vocabulary Instruction in Ratio and Proportion for Seventh Graders. Journal for Research in Mathematics Education 14: 337-343; November 1983.

Mean scores for students given vocabulary-oriented activities were significantly higher than for control group students on computational and verbal items. (grade 7)

Jesson, D. F. St. John. Levels of Understanding in Mathematics and Their Application to an Algebra Test. Educational Research 25: 125-136; June 1983. [secondary]

Jolicoeur, Pierre. Coordinate Systems in the Long-Term Memory Representation of Three-Dimensional Shapes. Cognitive Psychology 15: 301-345; July 1983.

People can store and use both viewer-centered and object-centered representations of three-dimensional objects. (adults)

Kalin, Robert. How Students Do Their Division Facts. Arithmetic Teacher 31: 16-20; November 1983.

An interview with one girl about division facts is described. (grade 4)

Kaneko, Ryutaro; Tanaka, Akio; and Matsui, Michiko. Comparison of Natural and Model-Trained Conservers. Psychological Reports 53: 623-630; October 1983. [preschool, grade 3]

Karplus, Robert; Pulos, Steven; and Stage, Elizabeth K. Early Adolescents' Proportional Reasoning on 'Rate' Problems. Educational Studies in Mathematics 14: 219-233; August 1983.

No type of comparison appeared to be more 'natural' than another. Use of strategy was affected by context and content variables. (grades 6, 8)

Kingma, Johannes. The Development of Seriation, Conservation, and Multiple Classification: A Longitudinal Study. Genetic Psychology Monographs 108: 43-67; August 1983. [grades K-2]

Kingma, J. and Koops, W. Piagetian Tasks, Traditional Intelligence and Achievement Tests. British Journal of Educational Psychology

53: 278-290; November 1983. [grades K-4]

- Knoff, Howard M. Effect of Diagnostic Information on Special Education Placement Decisions. Exceptional Children 49: 440-444; February 1983. [elementary?]
- Küchemann, Dietmar. Quantitative and Formal Methods for Solving Equations. Mathematics in School 12: 17-19; November 1983. [ages 14, 15]
- Kuntz, Susan W. and Lyczak, Richard. Sustained Effects of Title I Over the Summer Months. Journal of Educational Research 76: 148-152; January/February 1983. [grades 1-7]
- Labercane, George D. Correlations of Reading Achievement and Ability for Learning Disabled Students. Psychological Reports 53: 212-214; August 1983. [ages 9-12]
- Lawson, Anton E. The Acquisition of Formal Operational Schemata During Adolescence: The Role of the Biconditional. Journal of Research in Science Teaching 20: 347-356; April 1983. [grades 8, 10, 12, college]
- Leeds, Alan; Dixlam, David; and Brannigan, Gary G. The Development of Spatial Representation in Children from Five to Thirteen Years of Age. Genetic Psychology Monographs 108: 137-165; August 1983. [ages 5-13]
- Leitzel, Joan R. Improving School-University Articulation in Ohio. Mathematics Teacher 76: 610-616; November 1983.
Data on enrollment in college remedial classes and from a pilot study of new materials for a grade 12 course are included in this description of the course. (grade 12, college)
- Leon, James A. and Pepe, Henry J. Self-Instructional Training: Cognitive Behavior Modification for Remediating Arithmetic Deficits. Exceptional Children 50: 54-60; September 1983.
Differences in achievement were found, favoring the self-instructional group. (ages 9-12)
- Levine, Daniel U. and Ornstein, Allan C. Sex Differences in Ability and Achievement. Journal of Research and Development in Education 16: 66-72; Winter 1983. [elementary-adult]
- Light, Paul and Gilmour, Amanda. Conservation or Conversation? Contextual Facilitation of Inappropriate Conservation Judgments. Journal of Experimental Child Psychology 36: 356-363; October 1983. [age 6]
- Lindquist, Mary Montgomery; Carpenter, Thomas P.; Silver, Edward A.; and Matthews, Westina. The Third National Mathematics Assessment: Results and Implications for Elementary and Middle Schools. Arithmetic Teacher 31: 14-19; December 1983.
Data from a variety of items are presented. Overall, 9-year-olds'

performance changed little from the second assessment; gains were noted for 13-year-olds. (ages 9, 13)

Linn, Marcia C. and Pulos, Steven. Aptitude and Experience Influences on Proportional Reasoning During Adolescence: Focus on Male-Female Differences. Journal for Research in Mathematics Education 14: 30-46; January 1983.

Fewer than half the students consistently displayed proportional reasoning, with females slightly less successful than males. (grades 7, 9, 11)

Ilabre, Maria M. and Cuevas, Gilberto. The Effects of Test Language and Mathematical Skills Assessed on the Scores of Bilingual Hispanic Students. Journal for Research in Mathematics Education 14: 318-324; November 1983.

Students performed better when tested in English than in Spanish, and when tested on concepts than on applications. (grades 4, 5)

Lund, Arnold M.; Hall, James W.; Wilson, Kim P.; and Humphreys, Michael S. Frequency Judgment Accuracy as a Function of Age and School Achievement (Learning Disabled Versus Non-Learning-Disabled) Patterns. Journal of Experimental Child Psychology 35: 236-247; April 1983. [grades K, 2, 3, 5]

Maloney, David P. Proportional Reasoning and Rule-Governed Behavior with the Balance Beam. Science Education 67: 245-254; April 1983. [college]

Maqsd, M. Relationships of Locus of Control to Self-Esteem, Academic Achievement, and Prediction of Performance Among Nigerian Secondary School Pupils. British Journal of Educational Psychology 53: 215-221; June 1983. [secondary]

Marjoribanks, Kevin. Occupational, Situs, Family Learning Environment and Children's Academic Achievement. Alberta Journal of Educational Research 29: 110-122; June 1983. [age 11]

Marjoribanks, Kevin. The Relationship of Adolescents' Perceptions of Family Environments to Earlier Measures of Environmental Characteristics and Academic Achievement. Educational and Psychological Measurement 43: 1153-1162; Winter 1983. [age 16]

Marrett, (ra Bagley and Gates, Harold. Male-Female Enrollment Across Mathematics Tracks in Predominantly Black High Schools. Journal for Research in Mathematics Education 14: 113-118; March 1983.

Females were about half of the students in each of the mathematics tracks, although differences in schools were found. (secondary)

Marsh, H. W.; Parker, J. W.; and Smith, I. D. Preadolescent Self-Concept: Its Relation to Self-Concept as Inferred by Teachers and to Academic Ability. British Journal of Educational Psychology 53: 60-78; February 1983. [grades 5, 6]

Marsh, Herbert W.; Smith, Ian D.; and Barnes, Jennifer. Multitrait-

Multimethod Analyses of the Self-Description Questionnaire: Student-Teacher Agreement on Multidimensional Ratings of Student Self-Concept. American Educational Research Journal 20: 333-357; Fall 1983. [grades 5, 6]

Marshall, Sandra P. Sex Differences in Mathematical Errors: An Analysis of Distracter Choices. Journal for Research in Mathematics Education 14: 325-336; November 1983.

A significant interaction between sex and choice of distracter occurred for a large majority of the items. (grade 6)

Matthews, Julia. Will the Penny Really Drop? Mathematics in School 12: 32-34; January 1983. [ages 6, 7]

Matthews, Julia. A Subtraction Experiment with Six and Seven Year Old Children. Educational Studies in Mathematics 14: 139-154; May 1983. [ages 6, 7]

Mayberry, Joanne. The Van Hiele Levels of Geometric Thought in Undergraduate Preservice Teachers. Journal for Research in Mathematics Education 14: 58-69; January 1983.

The response patterns of 19 students suggested that they were not at the proper level to learn formal geometry. The van Hiele levels were found to represent a hierarchy. (elementary preservice)

McCauley, Donald E., Jr. and Colberg, Magda. Transportability of Deductive Measurement Across Cultures. Journal of Educational Measurement 20: 81-92; Spring 1983. [secondary]

McDermott, Paul A. and Watkins, Marley W. Computerized vs. Conventional Remedial Instruction for Learning-Disabled Pupils. Journal of Special Education 17: 81-88; Spring 1983. [grades 1-6]

McIntyre, D. John; Copenhaver, Ron W.; Byrd, David M.; and Norris, William R. A Study of Engaged Student Behavior Within Classroom Activities During Mathematics Class. Journal of Educational Research 77: 55-59; September/October 1983.

Teachers in grades 3 and 5 utilized seatwork a majority of the time; the seventh grades used a majority of teacher-led activities. As grade level increased, student engagement decreased. (grades 3, 5, 7)

Melrose, Jean. The Mathematical Association Diploma Research Project. Mathematics in School 12: 5-8; January 1983. [elementary & junior high teachers]

Menis, Joseph. Attitudes Towards Chemistry as Compared with Those Towards Mathematics, Among Tenth Grade Pupils (Aged 15) in High Level Secondary Schools in Israel. Research in Science and Technological Education 1: 185-191; 1983. [grade 10]

Mevarech, Zemira R. A Deep Structure Model of Students' Statistical Misconceptions. Educational Studies in Mathematics 14: 415-429; November 1983. [college]

Meyer, Linda A.; Gersten, Russell M.; and Gutkin, Joan. Direct Instruction: A Project Follow Through Success Story in an Inner-City School. Elementary School Journal 84: 241-252; November 1983. [grade 3]

Miller, Kevin and Gelman, Rochel. The Child's Representation of Number: A Multidimensional Scaling Analysis. Child Development 54: 1470-1479; December 1983.

Even kindergarteners appeared to understand the importance of magnitude as a basis for judging similarity between numbers. (grades K, 3, 6, adults)

Miller, Louise B. and Bizzell, Rondeall P. Long-Term Effects of Four Preschool Programs: Sixth, Seventh, and Eighth Grades. Child Development 54: 727-741; June 1983. [grades 6-8]

Mims, Michael; Cantor, Joan H.; and Riley, Christine A. The Development of Representation Skills in Transitive Reasoning Based on Relations of Equality and Inequality. Child Development 54: 1457-1469; December 1983. [grades K, 3, adults]

Minato, Saburoh. Some Mathematical Attitudinal Data on Eighth Grade Students in Japan Measured by a Semantic Differential. Educational Studies in Mathematics 14: 19-38; February 1983. [grade 8]

Mishra, Shitala P. Validity of WISC-R IQs and Factor Scores in Predicting Achievement for Mexican-American Children. Psychology in the Schools 20: 442-444; October 1983. [elementary]

Morris, Janet P. Microcomputers in a Sixth-Grade Classroom. Arithmetic Teacher 31: 22-24; October 1983.

Achievement gain was higher for the class using a microcomputer for three geometry strategy games than for the class without a computer. (grade 6)

Moskowitz, Joel M.; Malvin, Jannet H.; Schaeffer, Gary A.; and Schaps, Eric. Evaluation of a Cooperative Learning Strategy. American Educational Research Journal 20: 687-696; Winter 1983. [grades 5-6]

Myers, Jerome L.; Hansen, Randall S.; Robson, Ricky C.; and McCann, Joan. The Role of Explanation in Learning Elementary Probability. Journal of Educational Psychology 75: 374-381; June 1983.

Students in the low-explanatory and standard text conditions performed better on formulas than on story problems; those using high-explanatory texts did equally well on both types of problems. (college)

Nagy, Philip and Drost, Dale. A Comparison of Scaling and Correlational Analysis of Perceptions of Mathematics Objectives. Alberta Journal of Educational Research 29: 180-195; September 1983.

More agreement on objectives was found within than across institutional types. Substantial differences were found between university and vocational teachers, with secondary teachers in the

middle. (secondary & college teachers)

Nairne, James S. and Healy, Alice F. Counting Backwards Produces Systematic Errors. Journal of Experimental Psychology: General 112: 37-40; March 1983.

Students often missed repeated digits and decade numbers. (college)

Newcombe, Nora and Bandura, Mary M. Effect of Age at Puberty on Spatial Ability in Girls: A Question of Mechanism. Developmental Psychology 19: 215-224; March 1983. [grade 6]

Newcombe, Nora, et al. Sex Differences in Spatial Ability and Spatial Activities. Sex Roles: A Journal of Research 9: 377-386; March 1983. [college]

Newfield, John and McElyea, Virginia B. Achievement and Attitudinal Differences Among Students in Regular, Remedial, and Advanced Classes. Journal of Experimental Education 52: 47-56; Fall 1983. [grades 10, 12]

Oakland, Thomas. Joint Use of Adaptive Behavior and IQ to Predict Achievement. Journal of Consulting & Clinical Psychology 51: 298-301; April 1983. [ages 7-14]

O'Brien, Thomas C. and Casey, Shirley A. Children Learning Multiplication Part I. School Science and Mathematics 83: 246-251; March 1983.

Students were reasonably proficient in multiplication computation, but few could construct a multiplication context until grade 6. (grades 4-6)

O'Brien, Thomas C. and Casey, Shirley A. Children Learning Multiplication - Part Two. School Science and Mathematics 83: 407-412; May/June 1983.

The multiplication stories developed by the children had many fewer errors than the non-multiplicative stories. (grades 4-6)

Oren, Ditzza L. Evaluation Systems and Attributional Tendencies in the Classroom: A Sociological Approach. Journal of Educational Research 76: 307-312; May/June 1983. [grades 5, 6]

Orton, A. Students' Understanding of Integration. Educational Studies in Mathematics 14: 1-18; February 1983. [ages 16-22 (secondary, college)]

Orton, A. Students' Understanding of Differentiation. Educational Studies in Mathematics 14: 235-250; August 1983. [ages 16-22]

Osborn, Herbert H. The Assessment of Mathematical Abilities. Educational Research 25: 28-40; February 1983. [secondary]

Ozawa, Joseph P. and Michael, William B. The Concurrent Validity of a Behavioral Rating Scale for Assessing Attention Deficit Disorder (DSM III) in Learning Disabled Children. Educational and

Psychological Measurement 43: 623-632; Summer 1983. [ages 8-12]

Pallas, Aaron M. and Alexander, Karl L. Sex Differences in Quantitative SAT Performance: New Evidence on the Differential Coursework Hypothesis. American Educational Research Journal 20: 165-182; Summer 1983.

The male-female gap in SAT-M performance shrank considerably when sex differences in quantitative high school coursework were controlled. (grades 5, 7, 9, 11, 12)

Palmer, Princess, et al. Florida's Minimum Competency Program: A Survey of Teachers' Opinions. High School Journal 66: 104-109; December/January 1983. [secondary teachers]

Parke, Beverly N. Use of Self-Instructional Materials with Gifted Primary-Aged Students. Gifted Child Quarterly 27: 29-34; Winter 1983.

Self-instruction was found to be beneficial for gifted children. (grades K-2)

Patten, Maurine D. Relationships Between Self-Esteem, Anxiety, and Achievement in Young Learning Disabled Students. Journal of Learning Disabilities 16: 43-45; January 1983. [grades K-6]

Patton, James E.; Stinard, Thomas A.; and Routh, Donald K. Where Do Children Study? Journal of Educational Research 76: 280-286; May/June 1983. [grades 5-9]

Paulsen, Karen and Johnson, Margaret. Sex Role Attitudes and Mathematical Ability in 4th-, 8th-, and 11th-Grade Students from a High Socioeconomic Area. Developmental Psychology 19: 210-214; March 1983.

Overall, no significant differences by sex were found in mathematical ability, although some differences were found at some grade levels. (grades 4, 8, 11)

Penick, John E. Self-Perceptions in Science, Cognitive Development, and Teaching Strategy. Journal of Experimental Education 51: 75-80; Winter 1982/1983. [grades 1-5]

Peterson, Ken; Burton, Grace; and Baker, Dale. Geometry Students' Role-Specific Self-Concept: Success, Teacher, and Sex Differences. Journal of Educational Research 77: 122-126; November/December 1983.

Success and teacher were found to affect self-concept significantly, but sex did not. (grades 9, 10)

Peterson, Lizette. Understanding of Ratioproportionality Rules and Equality vs Equity in Children's Sharing. Journal of Genetic Psychology 142: 239-244; June 1983. [preschool, grades 1, 6]

Pinneau, Samuel R.; Dillehay, Ronald C.; and Sassenrath, Julius. Behavior Patterns of Normal Children: II. Genetic Psychology

Monographs 107: 61-134; February 1983. [grades 1, 3, 5]

Popovics, Alexander J. Order of Subtests of the New Jersey College Basic Skills Placement Test. Psychological Reports 52: 459-462; April 1983. [college freshmen]

Pothier, Yvonne and Sawada, Daiyo. Partitioning: The Emergence of Rational Number Ideas in Young Children. Journal for Research in Mathematics Education 14: 307-317; November 1983.

Children's partitioning capabilities were traced in relation to a five-level theory. (grades K-3)

Powers, Donald E. and Alderman, Donald L. Effects of Test Familiarization on SAT Performance. Journal of Educational Measurement 20: 71-79; Spring 1983. [grade 11]

Powers, Stephen; Thompson, Douglas; Azevedo, Barbara; and Schaad, Olivia. The Predictive Validity of the Stanford Mathematics Test Across Race and Sex. Educational and Psychological Measurement 43: 645-649; Summer 1983. [grades 6, 8]

Pravica, S. S. and McLean, L. D. The Effects of Principal Participation in Curriculum Implementation: Support from an Evaluation of a New Mathematics Curriculum. Alberta Journal of Educational Research 29: 46-53; March 1983.

The more involved the principal was in the adoption process for a new mathematics curriculum, the more the school utilized mathematics consultants and the more students gained in achievement. (grade 6)

Prawat, Richard S.; Lanier, Perry E.; Byers, Joe L.; and Anderson, Ariel L. H. Attitudinal Differences Between Students in General Mathematics and Algebra Classes. Journal of Educational Research 76: 215-220; March/April 1983.

General mathematics and algebra students were similar on individually linked measures such as self-esteem, but expressed clearly divergent views about the adequacy of the classroom learning environment. (grade 9)

Quintero, Ana H. Conceptual Understanding in Solving Two-Step Word Problems with a Ratio. Journal for Research in Mathematics Education 14: 102-112; March 1983.

The meaning of concepts and relationships was a major source of difficulty, and levels in understanding the concept of ratio were identified. (ages 9-14)

Randhawa, Bikkar S. Verbal interaction of Students and Their Teachers in Junior High Classrooms. American Educational Research Journal 20: 671-686; Winter 1983. [grades 7-9]

Raymond, Mark R. and Roberts, Dennis M. Development and Validation of a Foreign Language Attitude Scale. Educational and Psychological Measurement 43: 1239-1246; Winter 1983. [college]

Ridley, Dennis R. and Novak, Joseph D. Sex-Related Differences in High School Science and Mathematics Enrolments: Do They Give Males a Critical Headstart Toward Science- and Math-Related Careers? Alberta Journal of Educational Research 29: 308-318; December 1983.

Differences in mathematics enrollments (from previously published data) appeared too small to account for large gender differences in career pursuits. (secondary)

Ridley-Johnson, Robyn; Cooper, Harris; and Chance, June. The Relation of Children's Television Viewing to School Achievement and I.Q. Journal of Educational Research 76: 294-297; May/June 1983. [grades 5-8]

Roberge, James J. and Craven, Patricia A. Deductive Reasoning and Its Relationship to Reading Comprehension. School Science and Mathematics 83: 69-76; January 1983.

Students in the high reading comprehension group had generally superior deductive reasoning scores. Results differed from other studies on percentages using valid and invalid principles. (grades 5-8)

Roberge, James J. and Flexer, Barbara K. Cognitive Style, Operativity, and Mathematics Achievement. Journal for Research in Mathematics Education 14: 344-353; November 1983.

Field-independent students scored significantly higher than field-dependent students on concepts and problem solving. Level of operational development also affected achievement. (grades 6-8)

Robinson, Jack E. Can "Soft" Data Be Used to Evaluate the Effectiveness of Educational Technologies? Educational Technology 23: 17-21; June 1983. [college]

Robitaille, David F. and O'Shea, Thomas. The Development of an Item Bank in Mathematics Using the Rasch Model. Canadian Journal of Education 8: 57-70; January 1983.

The Rasch simple logistic model was used to calibrate all items on tests keyed to the British Columbia mathematics curriculum. (grades 3-4, 7-8, 10-11)

Roe, Kiki V.; McClure, Anne; and Roe, Arnold. Infant Gesell Scores vs. Cognitive Skills at Age 12 Years. Journal of Genetic Psychology 142: 143-147; March 1983. [age 12]

Rovet, Joanne and Netley, Charles. The Triple X Chromosome Syndrome in Childhood: Recent Empirical Findings. Child Development 54: 831-845; August 1983. [ages 8-11]

Saigh, Philip A. and Khouri, Amen. The Concurrent Validity of the Mathematics Anxiety Rating Scale for Adolescents (MARS-A) in Relation to the Academic Achievement of Lebanese Students. Educational and Psychological Measurement 43: 633-637; Summer 1983. [secondary]

- Saigh, Philip A. and Mukallid, Samar H. The Validity of the Suinn Test Anxiety Behavior Scale as a Predictor of the Academic Achievement of Lebanese Students. Educational and Psychological Measurement 43: 271-274; Spring 1983. [secondary]
- Salend, Spencer J. Self-Assessment: A Model for Involving Students in the Formulation of Their IEPs. Journal of School Psychology 21: 65-70; Spring 1983. [grades 2, 3]
- Sanford, Julie P. and Evertson, Carolyn M. Time Use and Activities in Junior High Classes. Journal of Educational Research 76: 140-147; January/February 1983.
- Significant relationships were found between time use and class achievement and attitude in mathematics classes, but not in English classes. (junior high)
- Scarr, Sandra and Weinberg, Richard A. The Minnesota Adoption Studies: Genetic Differences and Malleability. Child Development 54: 260-267; April 1983. [age 18]
- Schiff, William. Conservation of Length Redux: A Perceptual-Linguistic Phenomenon. Child Development 54: 1497-1506; December 1983. [ages 3-5]
- Schmidt, William H. High School Course-Taking: A Study of Variation. Journal of Curriculum Studies 15: 167-182; April-June 1983. [grade 12]
- Schmidt, William H. High School Course-Taking: Its Relationship to Achievement. Journal of Curriculum Studies 15: 311-332; July-September 1983. [grade 12]
- Schmidt, William H. and Buchmann, Margret. Six Teachers' Beliefs and Attitudes and Their Curricular Time Allocations. Elementary School Journal 84: 162-171; November 1983. [grades 2-5]
- Schoenfeld, Alan H. Beyond the Purely Cognitive: Belief Systems, Social Cognitions, and Metacognitions as Driving Forces in Intellectual Performance. Cognitive Science 7: 329-363; October-December 1983.
- Students' beliefs about mathematical thinking are shown to affect the way they go about solving mathematical problems. Students' solutions to geometry construction problems are modeled, and their attitudes about proof are discussed. (college freshmen, sophomores)
- Siroth, Marvin L. A Study of Aging, Intelligence and Problem Solving. Psychological Reports 53: 1271-1279; December 1983. [ages 60-79]
- Schultz, Karen A. and Austin, Joe Dan. Directional Effects in Transformation Tasks. Journal for Research in Mathematics Education 14: 95-101; March 1983.
- Slide tasks seemed easiest regardless of direction, whereas the ordering by difficulty of flip and turn tasks depended on direction. (grades 1, 3, 5)

Schunk, Dale H. Progress Self-Monitoring: Effects on Children's Self-Efficacy and Achievement. Journal of Experimental Education 51: 89-93; Winter 1982/1983.

Self- and external monitoring on subtraction tasks led to significantly higher percepts of efficacy, skill, and persistence compared with no monitoring. (ages 8-9)

Schunk, Dale H. Developing Children's Self-Efficacy and Skills: The Role of Social Comparative Information and Goal Setting. Contemporary Educational Psychology 8: 76-86; January 1983. [grades 4, 5]

Schunk, Dale H. Reward Contingencies and the Development of Children's Skills and Self-Efficacy. Journal of Educational Psychology 75: 511-518; August 1983. [ages 8-11]

Scott, Patrick B. A Survey of Perceived Use of Mathematics Materials by Elementary Teachers in a Large Urban School District. School Science and Mathematics 83: 61-68; January 1983.

Use of most materials tended to decrease as grade level increased. Most teachers used few materials other than textbooks; only rulers and flashcards were used by over half the teachers. (teachers in grades K-5)

Secada, Walter G.; Fuson, Karen C.; and Hall, James W. The Transition from Counting-All to Counting-On in Addition. Journal for Research in Mathematics Education 14: 47-57; January 1983.

Adequate subskill performance was strongly related to counting-on. Brief instruction resulted in most learning to count-on. (grade 1)

Sharpley, Anna M.; Irvine, James W.; and Sharpley, Christopher F. An Examination of the Effectiveness of a Cross-Age Tutoring Program in Mathematics for Elementary School Children. American Educational Research Journal 20: 103-111; Spring 1983.

Increases in tutors' and tutees' mathematics achievement was significantly greater than those of control children. (grades 2, 3, 5, 6)

Shaughnessy, Joan; Haladyna, Tom; and Shaughnessy, J. Michael. Relations of Student, Teacher, and Learning Environment Variables to Attitude Toward Mathematics. School Science and Mathematics 83: 1-37; January 1983.

A number of variables was identified which show promise as predictors of student attitudes. Fatalism and overall teacher quality had the strongest relationship across grade levels. (grades 4, 7, 9)

Shaw, Robert A. and Pelosi, Philip A. In Search of Computational Errors. Arithmetic Teacher 30: 50-51; March 1983.

Four situations in which computational errors were identified in interviews are presented. (ages 16-18)

Shepard, Lorrie A.; Smith, Mary Lee; and Vojir, Carol P. Characteristics of Pupils Identified as Learning Disabled. American

Educational Research Journal 20: 309-331; Fall 1983. [elementary, secondary]

Sherrill, James M. Solving Textbook Mathematical Word Problems. Alberta Journal of Educational Research 29: 140-152; June 1983.

Students tended to skim for facts rather than rereading problems, did not check, and did not use heuristics. (grade 7)

Shumway, Richard J.; White, Arthur L.; Wilson, Patricia; and Brombacher, Bruce. Feature Frequency and Negative Instances in Concept Learning. American Educational Research Journal 20: 451-459; Fall 1983.

Giving both positive and negative instances was favored when frequency of irrelevant features was unequal. (grade 9)

Signer, Barbara. How the Literature and a Research Study Agree on CAI Innovation Success or Failure. School Science and Mathematics 83: 307-317; April 1983.

Teacher concerns and level of implementation of CAI were evaluated. They felt insecure and were judged as mechanical users. (secondary teachers)

Silliphant, Virginia M. Kindergarten Reasoning and Achievement in Grades K-3. Psychology in the Schools 20: 289-294; July 1983. [grades K-3]

Smith, Alfred L., Jr. and Dittmann, Allen T. Listening and Non-Listening Behaviors in the Classroom: An Observational Study. Psychological Reports 53: 442; October 1983. [grades 2, 4, 6]

Snyder, Sharyne D. and Michael, William B. The Relationship of Performance on Standardized Tests in Mathematics and Reading to Two Measures of Social Intelligence and One of Academic Self-Esteem for Two Samples of Primary School Children. Educational and Psychological Measurement 43: 1141-1148; Winter 1983. [grades 1-3]

Snyder, Vivian and Elmore, Patricia B. The Predictive Validity of the Descriptive Tests of Language Skills for Developmental Students Over a Four-Year College Program. Educational and Psychological Measurement 43: 1113-1122; Winter 1983. [college]

Solano, Cecilia H. Self-Concept in Mathematically Gifted Adolescents. Journal of General Psychology 108: 33-42; January 1983.

Mathematical ability affected the self-esteem only of girls. (grades 7, 8)

Souviney, Randall J. Mathematics Achievement, Language and Cognitive Development: Classroom Practices in Papua New Guinea. Educational Studies in Mathematics 14: 183-212; May 1983. [grades 2, 4, 6]

Stanley, Sandra O. and Greenwood, Charles R. How Much "Opportunity to Respond" Does the Minority Disadvantaged Student Receive in School? Exceptional Children 49: 370-373; January 1983. [grade 4]

Steele, Kathleen J.; Battista, Michael T.; and Krockover, Gerald H. The Effect of Microcomputer-Assisted Instruction on the Computer Literacy of Fifth Grade Students. Journal of Educational Research 76: 298-301; May/June 1983.

Microcomputer-assisted drill and practice on computation significantly improved computer literacy. (grade 5)

Steffe, Leslie P. Children's Algorithms as Schemes. Educational Studies in Mathematics 14: 109-125; May 1983.

Interviews with six pupils yielded information on counting schemes. (age 7)

Stehney, Ann K. Undergraduate Training for Industrial Careers. American Mathematical Monthly 90: 478-481; August/September 1983. [adults]

Steinberg, Esther R. Problem Complexity and the Transfer of Strategies in Computer-Presented Problems. American Educational Research Journal 20: 13-28; Spring 1983.

Size of initial problems strongly affected transferability of strategies. (college, adults)

Stones, Ivan; Beckmann, Milton; and Stephens, Larry. Factors Influencing Attitudes Toward Mathematics in Pre-Calculus College Students. School Science and Mathematics 83: 430-435; May/June 1983.

Overall, students' attitudes were rather neutral toward mathematics. High school mathematics background was clearly related to attitudes toward mathematics in college. (college)

Strang, John D. and Rourke, Byron P. Concept-Formation/Non-Verbal Reasoning Abilities of Children Who Exhibit Specific Academic Problems with Arithmetic. Journal of Clinical Child Psychology 12: 33-39; Spring 1983. [ages 9-14]

Suddick, David E.; Owens, Lee F.; and Collins, Burton A. Stability of Assistance Needed in Learning by the Student Body of an Adult College. Psychological Reports 53: 93-94; August 1983. [college]

Svenson, I. F.; Lawrence, J. A.; and Willis, S. G. Distance University Students' Processing of Mathematics Exercises. Educational Studies in Mathematics 14: 73-85; February 1983. [college]

Svenson, Ola and Sjöberg, Kit. Speeds of Subitizing and Counting Processes in Different Age Groups. Journal of Genetic Psychology 142: 203-211; June 1983. [ages 7, 8, 10, 12, 15, adults]

Szynal-Brown, Carol and Morgan, Ronald R. The Effects of Reward on Tutor's Behaviors in a Cross-Age Tutoring Context. Journal of Experimental Child Psychology 36: 196-208; October 1983. [grades 1, 3]

Tatsuoka, Kikumí K. Rule Space: An Approach for Dealing with Misconceptions Based on Item Response Theory. Journal of Educational

Measurement 20: 345-354; Winter 1983. [?]

Taylor, B. Ross. Equity in Mathematics: A Case Study. Mathematics Teacher 76: 12-17; January 1983.

Data on the enrollment of females and all races in mathematics classes in Minneapolis are included in this description of the equity program. (secondary)

Tegano, Rosemary Zockowski and Faulkender, Patricia F. Adult Sex Differences in the Concept of Horizontality as Related to Mechanical Ability, ACT Scores and State Anxiety. Psychological Reports 53: 858; December 1983. [college]

Tennyson, Robert D.; Youngers, Judith; and Suebsonthi, Prapvadee. Concept Learning by Children Using Instructional Presentation Forms for Prototype Formation and Classification-Skill Development. Journal of Educational Psychology 75: 280-291; April 1983. [grade 3]

Thompson, Charles and Hendrickson, A. Dean. Verbal Addition and Subtraction Problems: New Research Focusing on Levels of Difficulty of the Problems and of the Related Number Sentences. Focus on Learning Problems in Mathematics 5: 33-45; Winter 1983.

Hierarchies of problem difficulty were found within grade level. Children were less able to write correct number sentences than to solve the verbal problems. (grades 1-4)

Thornton, Carol A.; Jones, Graham A.; and Toohey, Margaret A. A Multisensory Approach to Thinking Strategies for Remedial Instruction in Basic Addition Facts. Journal for Research in Mathematics Education 14: 198-203; May 1983.

Except in grade 2, performance increased between pretest and post-test and was maintained. (grades 2-6)

Threadgill-Sowder, Judith. Question Placement in Mathematical Word Problems. School Science and Mathematics 83: 107-111; February 1983.

Question placement had no effect on ability of students to solve problems, regardless of complexity or length of problems. (community college)

Trelinski, G. Spontaneous Mathematization of Situations Outside Mathematics. Educational Studies in Mathematics 14: 275-284; August 1983. [college]

Tsai, Shio-Ling and Walberg, Herbert J. Mathematics Achievement and Attitude Productivity in Junior High School. Journal of Educational Research 76: 267-272; May/June 1983.

Achievement was significantly associated with attitudes, sex, ethnicity, father's and mother's education, verbal opportunities in the home, and frequency of mathematical practices. (age 13)

Veldman, Donald J. and Worsham, Murray. Types of Student Classroom Behavior. Journal of Educational Research 76: 204-209; March/

April 1983. [junior high]

Walberg, Herbert J. and Shanahan, Timothy. High School Effects on Individual Students. Educational Researcher 12: 4-9; August/September 1983. [grade 12]

Wang, Margaret C. and Walberg, Herbert J. Adaptive Instruction and Classroom Time. American Educational Research Journal 20: 601-626; Winter 1983. [grades K-3]

Watson, Jane M. The Aiken Attitude to Mathematics Scales: Psychometric Data on Reliability and Discriminant Validity. Educational and Psychological Measurement 43: 1247-1253; Winter 1983. [college]

Wearne-Hiebert, Diana C. and Hiebert, James. Junior High School Students' Understanding of Fractions. School Science and Mathematics 83: 96-106; February 1983.

About one-half of the sixth graders and one-half to two-thirds of the eighth graders were successful on most items. Items were scaled by difficulty level. (grades 6, 8)

Webb, Noreen M. and Cullian, Linda K. Group Interaction and Achievement in Small Groups: Stability Over Time. American Educational Research Journal 20: 411-423; Fall 1983.

Interaction in the group was a potent predictor of mathematics achievement; asking a question and receiving no answer was detrimental to achievement. (grades 7-9)

Wheeler, Margariete Montague and Feghali, Issa. Much Ado About Nothing: Preservice Elementary School Teachers' Concept of Zero. Journal for Research in Mathematics Education 14: 147-155; May 1983.

Preservice teachers had an inadequate knowledge about zero. (elementary preservice)

White, William F. and Bigham, Wanda D. Increase of College Retention by an Information Systems Approach to Instruction. Psychological Reports 52: 306; February 1983. [college]

Whitman, Thomas and Johnston, Mary B. Teaching Addition and Subtraction with Regrouping to Educable Mentally Retarded Children: A Group Self-Instructional Training Program. Behavior Therapy 14: 127-143; January 1983.

Self-instructional training led to reliable increases in accuracy on regrouping problems. [ages 10-13 (EMRs)]

Wilkinson, Louise Cherry and Spinelli, Francesca. Using Requests Effectively in Peer-Directed Instructional Groups. American Educational Research Journal 20: 479-501; Winter 1983. [grades 2, 3]

Williams, Paul D. Discovery Learning in Remedial Mathematics: Multiple-Choice Versus Written Generalization. Mathematics and Computer Education 17: 171-177; Fall 1983.

No significant difference in achievement or attitudes was found for

—students given instruction with differing discovery methods.
(college)

Willig, Ann A.; Harnisch, Delwyn L.; Hill, Kennedy T.; and Maehr, Martin L. Sociocultural and Educational Correlates of Success-Failure Attributions and Evaluation Anxiety in the School Setting for Black, Hispanic, and Anglo Children. American Educational Research Journal 20: 385-410; Fall 1983.

Motivation contributed to low mathematics achievement, but different factors were more important for different groups. (grades 4-8)

Wollman, Warren. Determining the Sources of Error in a Translation from Sentence to Equation. Journal for Research in Mathematics Education 14: 169-181; May 1983.

Principal sources of reversal errors were haste, failure to think of checking, failure to base the equation on meaning of the sentence, and use of non-algebraic symbols. (college)

Woodward, Ernest and Byrd, Frances. Area: Included Topic, Neglected Concept. School Science and Mathematics 83: 343-347; April 1983.

Less than one-fourth of the students answered a question about area correctly. (grade 8)

Youngman, M. B. Variations Between Secondary Teachers' Jobs. Educational Research 25: 52-59; February 1983. [secondary teachers]

Youngman, M. B. Intrinsic Roles of Secondary School Teachers. British Journal of Educational Psychology 53: 234-246; June 1983. [secondary teachers]

Zawojewski, Judith. Initial Decimal Concepts: Are They Really So Easy? Arithmetic Teacher 30: 52-56; March 1983.

After a unit on decimals, mastery level was attained by over 75 per cent of the students on tenths, over 45 per cent on hundreds, over 23 per cent on mixed tenths and hundreds, but only ten per cent to 33 per cent on applications. Many retention scores showed further improvement. (grades 4-6)

Zeleznik, Carter; Hojat, Mohammadreza; and Veloski, Jon. Long-Range Predictive and Differential Validities of the Scholastic Aptitude Test in Medical School. Educational and Psychological Measurement 43: 223-232; Spring 1983. [college]

Ziomek, Robert L. and Schoenenberger, William J. The Relationship of Title I Student Achievement to Program and School Attendance. Elementary School Journal 84: 232-240; November 1983. [grades 2-6]

Dissertations

This final section of the listing contains 300 dissertations. Another 55 dissertations judged to have only a tenuous connection to mathematics education are not included.

Abbate, Louis Edward. A Method of Interpretation of the Wechsler Intelligence Scale for Children--Revised to Assess Cognitive Style. (University of Massachusetts, 1983.) DAI 43A: 3842; June 1983. [DA8310261] [elementary]

Alberding, Arthur Paul. Mathematics Learning Centers in Two-Year Colleges. (The University of Arizona, 1983.) DAI 44A: 722; September 1983. [DA8315270]

Tutoring, testing, and calculators were considered by students to be the three most essential services offered by learning centers. (college)

Alfred, Elizabeth Ann. A Measurement of the Relationship Between ESEA Title I Program Management and Student Achievement, Attitude Toward School, and Self Concept. (The University of Nebraska-Lincoln, 1983.) DAI 44A: 919; October 1983. [DA8318645] [elementary]

Al-Saloom, Abdul Hussain M. The Cognitive Process Fostered by the Iraqi Mathematical Textbooks as Revealed by Content Analysis. (University of Northern Colorado, 1982.) DAI 43A: 2883; March 1983. [DA8301131] [grades 4-6]

Ast, Shelley. Freshmen Sex Role Self Concept, Academic Achievement and Career Choice. (Yeshiva University, 1983.) DAI 44B: 2008; December 1983. [DA8323163] [grade 12]

Aviv, Cherie Denise Adler. Oral Reading Behavior and Its Relationship to Solving Open Addition and Subtraction Sentences. (University of Georgia, 1983.) DAI 44A: 415; August 1983. [DA8314704]

Incorrect reading of open sentences was due to using a wrong name or omitting symbols. (grade 2)

Baker, Dale Rose Raczowski. Differences in Personality, Attitude, and Cognitive Abilities Found Among Biological, Physical Science, and Nonscience Students. (Rutgers University The State U. of New Jersey (New Brunswick), 1982.) DAI 43A: 2621; February 1983. [DA8301562] [college]

Bedi, Stephen Stalker. A Longitudinal Study of an Alternative Organizational and Instructional Model for Academically High-Risk Primary-Level Children. (The George Washington University, 1982.) DAI 43A: 2627-2628; February 1983. [DA8229461] [grades 1-3]

Ben-Haim, David. Spatial Visualization: Sex Differences, Grade Level Differences and the Effect of Instruction on the Performance and Attitudes of Middle School Boys and Girls. (Michigan State University, 1982.) DAI 43A: 2914; March 1983. [DA8303753]

After instruction, students performed significantly higher on spatial visualization, but no change in attitude toward mathematics occurred and no sex differences were found. (grades 5-8)

Benson, Steven Lawrence. Self-Initiated Goal Setting as a Strategy in Attending Behavior and Arithmetic Performance in Low Achieving and Distractible Boys. (State University of New York at Albany, 1983.) DAI 44A: 1728; December 1983. [DA8323614]

Students trained to initiate their own goal setting did not score significantly better than groups with externally-imposed goals. (ages 6-11)

Berkovitz, Roslyn A. Faculty Trust and Acceptance of Decisions Made at Three Hierarchical Levels of a College by Sexually-Defined Departments. (Cornell University, 1982.) DAI 43A: 2247; January 1983. [DA8228365] [college]

Bhartiya, Anil. The Effectiveness of Mathematics in Mathematics in Relation to Certain Student's Characteristics. (Meerut University (India), 1981.) DAI 43A: 2263; January 1983. [-] [grade 9]

Bhattacharya, Dipendra Narayan. Gifted Children in Mathematics: Case Studies. (State University of New York at Buffalo, 1982.) DAI 43A: 2914; March 1983. [DA8303086]

Four gifted students were found to have similar perceptions about mathematics and school. (grades 7-10)

Blackwell, Richard Thomas. A Comparison of Think Aloud and Thought Listing Methods of Cognitive Assessment with Math Anxious College Students. (The University of North Carolina at Chapel Hill, 1983.) DAI 44B: 1228; October 1983. [DA8316576]

Thought listing took longer and produced higher anxiety, while thinking aloud resulted in more task-oriented cognitions. (college)

Blake, Ann Beth. The Effect of Language on Wechsler Adult Intelligence Scale-Revised Arithmetic Subtest Scores. (University of Washington, 1983.) DAI 44A: 1690-1691; December 1983. [DA8319387]

Students did not score higher on personalized non-gender-specific items than on three other item formats. (college)

Blum, Vicki Lynn. Evaluating Instructional Software for the Microcomputer: An Analytical Evaluation Procedure. (Columbia University Teachers College, 1982.) DAI 43A: 3192; April 1983. [DA8304057]

Most large commercial courseware programs were for arithmetic, with the emphasis on drill and practice. (grades K-12)

Bone, Dorothea Darrow. The Development and Evaluation of an Introductory Unit on Circular Functions and Applications Based on Use of Scientific Calculators. (Columbia University Teachers College, 1983.) DAI 44A: 1363; November 1983. [DA8322178]

Most of the ten students using the developed unit learned the content and developed appreciation for the variety of applications.

(secondary)

Bower, JoAnn Crabtree. The Impact of Teaching Test-Taking Skills Upon the Scores of Selected Secondary Students Taking the Louisiana State Assessment Test. (The Louisiana State University and Agricultural and Mechanical College, 1982.) DAI 44A: 55-56; July 1983. [DA8312075] [grade 10]

Breault, Mary Ann. The Effects of Selected Variables in the Arithmetical Verbal Problem Solving Performance of Learning Disabled Children. (The University of Connecticut, 1983.) DAI 44A: 431; August 1983. [DA8314598]

A significant difference was found between performance on extraneous and non-extraneous problems, and between addition and subtraction problems. (elementary)

Brimlow, Patricia Anne. The Feasibility of Implementing an Evaluation Model to Assess Group Achievement and Attitudinal Changes. (Ohio University, 1982.) DAI 43A: 3248; April 1983. [DA8304355]

The model was found to be practicable. Differences among groups were attributable to achievement but not attitude. (college freshmen)

Brunson, Larry DuRand. Effects of Developmental Therapy on Concrete-Operational Reasoning for a Sample of E-S-N Children. (The University of Alabama, 1982.) DAI 43A: 3563; May 1983. [DA8303334] [secondary]

Bujan-Delgado, Victor Manuel. A Study of the Relationships Between Socioeconomic Characteristics and Aspects of Mathematical Achievement of Primary School Children of Grades Four and Six in Costa Rica. (The Ohio State University, 1982.) DAI 43A: 2583; February 1983. [DA8300215] [grades 4, 6]

Bull, Elizabeth Kay. Problem Representations and Solution Procedures Used in Solving Algebra Word Problems. (University of Colorado at Boulder, 1982.) DAI 43A: 2279-2280; January 1983. [DA8229816]

The coding system and schematic framework used in the study were noted. (college)

Burke, Antoinette Marie. Microcomputer Technology in Public Schools in Southeastern Michigan. (Wayne State University, 1983.) DAI 44A: 654; September 1983. [DA8315580] [grades K-12]

Burrowes, Sharon Kathleen. A Study of the Effects of Using CAI to Teach Signed Numbers to Seventh Grade Gifted Students. (The University of Akron, 1983.) DAI 43A: 2264; January 1983. [DA8227441]

No conclusions were drawn regarding achievement or attitude. (grade 7)

Burzler, Donald Robert, Jr. An Investigation of the Three Level Construct of Comprehension for Verbal Mathematics Problems. (The University of Connecticut, 1982.) DAI 43A: 2616; February 1983.

[DA8300121]

Performance on three levels of comprehension provided some support for the three-level construct. (grades 5, 7)

Buscavage, Thomas James. The Relationship of Coordinated Instruction, Past Mathematical Performance, Duration of Time Enrolled, and Mathematical Achievement of Pull-Out Title I Students. (The Florida State University, 1982.) DAI 43A: 3869-3870; June 1983. [DA8308667]

Two years of enrollment in a Title I program appeared to be the optimum time for achievement. An additional year sustained but did not increase achievement. (grades 2-6)

Bush, William Spencer. Preservice Secondary Mathematics Teacher's Knowledge About Teaching Mathematics and Decision-Making Processes During Teacher Training. (University of Georgia, 1982.) DAI 43A: 2264; January 1983. [DA8228674]

Before entering the methods course, five preservice teachers knew much about the general teaching behavior of mathematics teachers. Types of behaviors used were studied. (secondary preservice)

Byanski, Thomas Joseph. Impact on Pupils' Attitude and Achievement Following Transfer Resulting from Closing a School. (Purdue University, 1982.) DAI 43A: 3762; June 1983. [DA8310812] [grades 1-3]

Byrd, Pamala Gulley. A Descriptive Study of Mathematics Anxiety: Its Nature and Antecedents. (Indiana University, 1982.) DAI 43A: 2583; February 1983. [DA8300843]

The nature and antecedents of mathematics anxiety were explored. (college)

Canady, Sharon Markham. A Study of the Effects of the Essential Elements of Instruction Model on Mathematics Achievement. (Northern Arizona University, 1983.) DAI 44A: 983; October 1983. [DA8319232]

The model significantly affected mathematics scores. (grades 3-6)

Carrington, Mary Ann. The Effect of School Entrance Age on Achievement and Adjustment. (Rutgers University The State U. of New Jersey (New Brunswick), 1982.) DAI 43A: 2503; February 1983. [DA8301566] [grades K-6]

Case, Jeffrey Dean. Predicting Student Performance in Entry Level Electrical Engineering Technology and Mathematics Courses Using Precollege Data. (University of Illinois at Urbana-Champaign, 1983.) DAI 44A: 1768; December 1983. [DA8324524]

The best predictors of performance in entry-level mathematics courses included SAT scores, GPA, previous background, and age. (college)

Casper, Ellen Frances. A Study to Determine the Effectiveness of Rational-Emotive Affective Education Upon the Academic Achievement

of Sixth-Grade Children. (University of Virginia, 1981.) DAI 43B: 3353; April 1983. [DA8300079]

No significant differences were found between type of affective treatment and mathematics achievement. (grade 6)

Christianson, Deann Julie. An Investigation of the Relationship Between Cognitive Developmental Stage and Quantitative Skills in College Students. (University of the Pacific, 1983.) DAI 44A: 1363-1364; November 1983. [DA832161A]

Significant relationships existed between mathematics placement level and Piagetian stage. (college)

Clark, Jeffrey. Microcomputer Based Remediation Strategies for Subtraction. (The University of Utah, 1983.) DAI 44A: 1026; October 1983. [DA8319379]

No significant differences were found between groups receiving different-forms-of-feedback. Systematic errors-were-not stable over time. (grades 3-5)

Coburn, Marlene. The Effects of Empirical Counting, Developmental Level, and Set Size on Children's Conservation Performance. (City University of New York, 1983.) DAI 44B: 336; July 1983. [DA8312339]

Non-conservers who understood 1-1 correspondence used counting to solve conservation problems involving larger set sizes more than did those not understanding 1-1 correspondence. (primary)

Collenback, Loyce Lee. Computer Supported Problem Solving in Secondary Advanced Mathematics. (The University of Texas at Austin, 1982.) DAI 43A: 2264; January 1983. [DA8227637]

No evidence was found that students with computer programming experience outperform those with no such experience. (secondary)

Colon Colon, Jesus. An Investigation of the Effects of Migration on Self-Concept, Attitude Toward Mathematics and Achievement in Mathematics Among Puerto Rican Return-Migrant Students and Puerto Rican Students Who Have Never Migrated. (The Pennsylvania State University, 1982.) DAI 43A: 3201-3202; April 1983. [DA8300749]
[grades 10-12]

Cramond, Bonnie Louise. Predicting Mathematics Achievement of Gifted Adolescent Females. (University of Georgia, 1982.) DAI 43A: 2281; January 1983. [DA8228677]

Spatial visualization and attitude toward success were the only significant predictors of mathematics achievement in grade 8; in grade 12, spatial visualization and perceptions of counselors' attitudes were significant. (grades 8, 12)

Crenshaw, Harrison Manley, II. A Comparison of Two Computer Assisted Instruction Management Systems in Remedial Math. (Record of Study). (Texas A&M University, 1982.) DAI 43A: 3467-3468; May 1983. [DA8306839]

No significant difference in achievement was found between groups using a laboratory or in-class method. (primary)

Culbreath, John Willie. An Exploratory Case Study of the Relationship Between Levels of Control and Achievement Test Scores and Race in Two Georgia Public Secondary Schools. (University of Georgia, 1983.)

DAI 44A: 1261-1262; November 1983. [DA8320077] [secondary]

Curtin, Susan Elizabeth Harris. Collaborative Change Among Mathematics Teachers to Improve the Mathematics Performance of Girls: A Case Study. (Boston University School of Education, 1983.) DAI 44A: 1425; November 1983. [DA8319878]

Part of the plan involved the preparation of four articles to inform parents of the need to support their daughters in mathematics. The collaborative model had limited usefulness, however. (secondary teachers)

Czerwinski, Michael Henry. An Examination of Blind Children's Braille Symbol Knowledge in the Areas of Reading and Mathematics. (The Florida State University, 1982.) DAI 43A: 3285; April 1983. [DA8306160] [grades 1-9]

Dallman, Mary Ellen. The Relationship Between the ACT Assessment and the ETS Tests of General Education as Measures of Basic Skill Levels of Ball State University Secondary Teacher Education Candidates. (Ball State University, 1983.) DAI 44A: 453; August 1983. [DA8315166]

The ETS mathematics test was not a reliable substitute for the ACT mathematics test. (secondary preservice)

Daniele, Vincent Anthony. A Naturalistic Study of Intermediate and Junior High Level Mathematics Classrooms for the Deaf, with Emphasis on Time-on-Task. (Syracuse University, 1982.) DAI 43A: 2308; January 1983. [DA8228978]

Strong positive correlations were found between student attentiveness and mathematics achievement. Uses of time were also noted. (intermediate, junior high)

Danley, Raymond Roger. A Study of Relationships Between Environments and Student Achievement. (University of Toronto (Canada), 1982.) DAI 43A: 3796; June 1983. [---]

The interaction of home and classroom environments was found to have a significant relationship with mathematics concept scores, but not problem solving. (grade 5)

Darch, Craig Bernard. A Comparison of Two Approaches in Teaching Math Word Story Problem Solving to Skill Deficient Fourth Graders. (University of Oregon, 1982.) DAI 43A: 2958; March 1983. [DA8301767]

Direct instruction groups, both with fixed and extended practice, scored higher than traditional instruction groups. (grade 4)

Davenport, Martha Ann Reid. The Utility of WISC-R Pattern Analysis in the Prediction of Academic Achievement for Learning Disabled

Children. (East Texas State University, 1983.) DAI 44A: 1754; December 1983. [DA8323489] [ages 8-13]

Davis, Beverly Irby. A Comparative Analysis of Enrichment Program Participation and Academic Achievement of Intellectually Superior Students. (The University of Mississippi, 1983.) DAI 44A: 728; September 1983. [DA8316179] [grades 5, 6]

Davis, Mary Jean. Locus of Control as a Predictor of School Success for Primary-Grade Children. (The University of Florida, 1982.) DAI 44A: 970; October 1983. [DA8313627] [grade 2]

Deery, Brian Edward Wolfe. The Effect of Project Adventure on Sixth Grader's Reading and Math Scores, and Its Relationship to Locus of Control. (Boston College, 1983.) DAI 44A: 435; August 1983. [DA8314858] [grade 6]

DeGuire, Linda Jean. Reanalyses of Factor-Analytic Studies of Mathematical Abilities. (University of Georgia, 1983.) DAI 44A: 415; August 1983. [DA8314713]

A partial hierarchical structure of mathematical abilities was found. (---)

Dennis, Oneita Sue Shirah. The Relationship of Attitude, Mathematics Background and Junior College Transfer Status in Entering Elementary Education Majors to Competency in Elementary Mathematics. (University of Southern Mississippi, 1983.) DAI 44A: 1332; November 1983. [DA8321481]

Significant relationships were found between mathematics competency, attitudes, and mathematics background, but not transfer status. (elementary preservice)

Dettloff, Janet May. Predicting Achievement in Community College Science Students. (The University of Michigan, 1982.) DAI 43A: 3197; April 1983. [DA8304478] [community college]

Dews, Janet Lee. The Effects of Data-Based Instruction on the Learner's Acquisition of the Basic Addition and Subtraction Facts. (Northern Illinois University, 1982.) DAI 43A: 2217; January 1983. [DA8229213]

Students using data-based instruction scored higher on the facts test than traditional instruction students. (grade 2)

Dickey, Edwin Milton, Jr. A Study Comparing Advanced Placement and First-Year College Calculus Students on a Calculus Achievement Test. (University of South Carolina, 1982.) DAI 44A: 95; July 1983. [DA8311328]

AP calculus students scored as well or better than first-year college calculus students. However, 45 per cent of the AP students usually do not take the exam. (secondary, college)

DiFabio, David Michael. Cognitive Style and the Identification of Educationally "At Risk" Kindergarten Children. (The University of

Rochester, 1983.) DAI 44A: 1417-1418; November 1983. [DA8321709]
[grade K]

Doll, Elizabeth Jane. An Exploration of the Relationship Between Inferencing Ability and School Achievement in Fourth and Sixth Grade Children. (University of Kentucky, 1983.) DAI 44A: 1764-1765; December 1983. [DA8322975] [grades 4, 6]

Donovan, Brian Francis. Power and Curriculum Implementation: A Case Study of an Innovative Mathematics Program. (The University of Wisconsin-Madison, 1983.) DAI 44A: 1315; November 1983. [DA9317021] [elementary]

Dudley, Alan Geoffrey. A Clinical Investigation on the Effects of Permutations of Problem Types and Time on the Solution Strategies of First Grade Children on Addition and Subtraction Word Problems. (University of South Florida, 1983.) DAI 44A: 694; September 1983. [DA8316525] [grade 1]

Duggar, Cynthia Miller. A Study of the Relationships Among Computer Programming Ability, Computer Program Content, Computer Programming Style, and Mathematical Achievement in a College Level BASIC Programming Course. (Georgia State University-College of Education, 1983.) DAI 44A: 95; July 1983. [DA8311672]

Significant differences were found in programming ability for algebraic and geometric computer program content, but not for pure or applied content. Only algebraic ability had a positive effect on programming ability. (community college)

Durham, Anna Mae Hawthorn. The Effects of Readability of Mathematical Materials on Achievement in an Eighth Grade Mathematics Class. (Texas Woman's University, 1982.) DAI 44A: 126; July 1983. [DA8312275]

The group using materials written at the lowest readability level scored significantly higher. (grade 8)

Easterling, Barbara Ann. The Effects of Computer Assisted Instruction as a Supplement to Classroom Instruction in Reading Comprehension and Arithmetic. (North Texas State University, 1982.) DAI 43A: 2231; January 1983. [DA8228032]

Use of a computer drill program did not significantly improve standardized test scores. (grade 5)

Edelman, Uri. Individualized Instruction in Math and Its Effect on Males and Females with Academic Disabilities. (University of Pittsburgh, 1982.) DAI 44A: 19; July 1983. [DA8312528]

The individualized program reduced sex differences between mathematics scores. (?)

Edens, Helen Smith. Effects of the Use of Calculators on Mathematics Achievement of First Grade Students. (University of Virginia, 1981.) DAI 43A: 3248; April 1983. [DA8228649]

The non-calculator group scored higher on the test of mathematics

objectives and concepts than did the calculator group, with no differences for computation or total score. (grade 1)

Ekstrand, Judith McElwain. Methods of Validating Learning Hierarchies with Applications to Mathematics Learning. (Stanford University, 1983.) DAI 43A: 3531; May 1983. [DA8307148]

Only the grade 5 sample from NLSMA even weakly supported Bloom's hierarchy. Factor analyses provided possible evidence that the hierarchy does exist in the data, however. (grades 5, 8, 11, 12)

Exezidis, Roxane Harres Dadinis. An Investigation of the Relationship of Reading Comprehension, Vocabulary, Mathematical Concepts, and Computation on Problem Solving Among Anglo, Black, and Chicano Male and Female Middle School Adolescents. (University of Houston, 1982.) DAI 43A: 2264-2265; January 1983. [DA8229065]

Problem-solving achievement was highly correlated to understanding of mathematical concepts and somewhat correlated to race-related differences. (grades 6-8)

Fajemidagba, Olubusuyi M. The Relationships Between Piagetian Cognitive Developmental Stages of Concrete and Formal Operations and Achievement on Mathematical Ratio and Proportion Problems. (State University of New York at Albany, 1983.) DAI 43A: 3497; May 1983. [DA8307905] [mean age 14]

Faust, Ace Thomas. The Effect of Robinson v. Cahill on Fifth Grade Reading and Mathematics Achievement in Selected New Jersey Suburban (Rural) School Districts. (Northern Arizona University, 1983.) DAI 44A: 917; October 1983. [DA8319234] [grade 5]

Fee-Fulkerson, Katherine Cynthia. Cognitions and Performance of High and Low Math Anxious College Men and Women. (The University of North Carolina at Chapel Hill, 1982.) DAI 43B: 3729-3730; May 1983. [DA8308305]

No anxiety-related differences were found, and no overall gender-related differences. (college)

Ferguson, Ronald Dale. The Structure of Mathematics Anxiety in a Community College Setting. (Texas A&M University, 1982.) DAI 43A: 3531; May 1983. [DA8306770]

A 30-item self-inventory of abstract anxiety was found to measure that factor plus others. (community college)

Ferro, Salazar F. Language Influence on Mathematics Achievement of Capeverdean Students. (Boston University School of Education, 1983.) DAI 43A: 3879; June 1983. [DA8309726] [secondary?]

Fisher, Linda Cantrell. An Investigation of the Problem-Solving Strategies Used by Secondary Mathematics Teachers to Solve Proportional Problems. (The Florida State University, 1983.) DAI 44A: 1715; December 1983. [DA8323834]

Teachers used a variety of strategies which varied with the problem. Algebra accounted for one-fourth of the solutions and

proportional approaches for one-half, with the proportion formula used most frequently. (secondary teachers)

Flanagan, Analyne. The Effect of a Record Keeping System on Student Achievement and Attitude in Mathematics. (University of Oregon, 1982.) DAI 43A: 2873; March 1983. [DA8301776]

Significant increases in achievement were found for fifth and sixth grades using the record-keeping system, and teacher acceptance was positive. (grades 3, 5, 6)

Flinter, Paul Francis. A Follow-Up of Second and Third Graders Who at One Time Qualified for Title I Intervention Based on Deficits in Reading and Mathematics. (The University of Connecticut, 1982.) DAI 43A: 3564; May 1983. [DA8306997] [secondary]

Forster, Beverly Roane. Pupil Productivity in Elementary School Mathematics as Related to Principal and Teacher Leadership Style. (The College of William and Mary in Virginia, 1983.) DAI 44A: 929; October 1983. [DA8316476]

Some relationship between student achievement and leadership style was found. (grades 4-6)

Foster, Kelli. The Influence of Computer-Assisted Instruction and Workbook on the Learning of Multiplication Facts by Learning Disabled and Normal Students. (The Florida State University, 1983.) DAI 44B: 934; September 1983. [DA8317370]

The performance of learning disabled and normal students was similar across measures. Few differences were found between the two methods. (elementary)

Franca, Vany Martins. Peer Tutoring Among Behaviorally Disordered Students: Academic and Social Benefits to Tutor and Tutee. (George Peabody College for Teachers of Vanderbilt University, 1982.) DAI 44A: 459; August 1983. [DA8313837] [middle school]

Fremouw, Laura-Jean. Achievement Motivation Changes with Title I-Mathematics Students in a Middle/Lower Class Secondary School. (University of Northern Colorado, 1982.) DAI 43A: 3249; April 1983. [DA8305231]

Only intelligence was predictive of dropping out of the program. Slight differences in motivation were found. (secondary)

Friel, Susan N. Analysis of the Use of Inferential Reasoning by Eighth, Tenth and Twelfth Grade Students. (Boston University School of Education, 1983.) DAI 44A: 1364; November 1983. [DA8319895]

More combined-item than single-item inferences and more complex than simple inferences were drawn. Other differences occurred during the problem-solving process. (grades 8, 10, 12)

Friske, Joyce Stivers. Interaction of General Reasoning Ability and Selected Affective Variables with Instrumental and Relational Treatments in Junior High Mathematics. (The University of Texas at Austin, 1982.) DAI 43A: 2265; January 1983. [DA8227647]

No significant differences were found between three aptitudes and two treatments. (grades 8, 9)

Frye, Elizabeth Weimer. The Effect of Knowledge of Level of Mathematics Basic Skills on Math Anxiety. (West Virginia University, 1983.) DAI 44A: 1013; October 1983. [DA8318746]

Use of diagnosis and prescription for mathematics deficiencies may be related to lowered anxiety scores. (college freshmen)

Fuchs, Curtis Ray. Microcomputer Futures: Predictions of Selected Faculty Members in Missouri Secondary Schools. (University of Missouri-Columbia, 1982.) DAI 43A: 3787; June 1983. [DA8310390] [secondary]

Galley, Judith Anne. The Effects of Automaticity Training on Automatic Recall and Retention of Multiplication with Eight- and Nine-Year-Olds. (University of Arkansas, 1983.) DAI 44A: 1688; December 1983. [DA8322926]

Overall, no statistical differences were found between groups trained with tachistoscopes, slides, or flashcards, but all aided retention. (grades 3, 4)

Gamble, Susanne Medlin. Raising Thought Processes of Five-Year-Old Children to Improve Acquisition of Mathematic [sic] Ability. (Mississippi State University, 1983.) DAI 44A: 1329; November 1983. [DA8317585]

Mathematics achievement was little affected by training on the prerequisites of abstract thinking, but training did affect ability to conserve. (grade K)

Garofalo, Joseph Francis. Simultaneous Synthesis, Behavior Regulation and the Factor Structure of Arithmetical Performance. (Indiana University, 1982.) DAI 43A: 3531; May 1983. [DA8308000]

Performance on tests of quantitative ability and problem solving are primarily related to the simultaneous synthesis factor, while computation performance is primarily related to the behavior regulation factor. (elementary)

Garofano, Neil Paul. An Investigation into the Computation and Conservation Performance of Learning Disabled and Nondisabled Children in Second Grade. (Columbia University Teachers College, 1982.) DAI 43A: 3286; April 1983. [DA8304011]

Non-disabled pupils had superior calculation and conservation performance, especially in providing correct justifications. (grade 2)

Garza-Buentello, Maria Teresa. A Study of the Relationship of Mexican Teachers' Attitudes to the Mathematics Achievement of Their Pupils. (Stanford University, 1983.) DAI 44A: 1732; December 1983. [DA8320708] [teachers in grade 5]

Gates, Robin Boyd. A Study of Cognitive Gains of Fourth, Fifth and Sixth Grade Students Across Two Years of Title I. (The Pennsylvania State University, 1982.) DAI 43A: 2179; January 1983.

[DA8228890]

No significant difference in total mathematics gain was found between Years 1 and 2. Growth in mathematics was greater than in reading. (grades 4-6) 2

Gill, Robert Jerome. The Effectiveness of Chisanbop and Fingermath Reckoning in Remediating Computational Weaknesses of Fourth and Fifth Grade Compensatory Arithmetic Students. (Rutgers University The State U. of New Jersey (New Brunswick), 1982.) DAI 44A: 415; August 1983. [DA8313438]

Both Chisanbop and Fingermath group gains were significantly better than the Control group gains in subtraction, but not the other operations. (grades 4, 5)

Glenn, William Campbell. Mathematics Performance of Students with Equal Entry Level Skills But Differing Levels of Self-Concept. (New Mexico State University, 1983.) DAI 44A: 1338; November 1983. [DA8321610]

The level of positiveness of self-concept had no significant effect on achievement gain scores. (grade 6)

Gohs, Deborah Ellenberger. Exploration of Teacher Classroom-Activities Relating to Classroom Environments: An Approach to Studying Teacher Effectiveness. (University of Kentucky, 1983.) DAI 44A: 1732; December 1983. [DA8322977] [grades 7, 9]

Goiran, Anne Fontaine. The Effects of a Cognitive-Behavior Instructional Strategies Treatment on Pupil Academic Engaged Time. (University of Northern Colorado, 1983.) DAI 44A: 972; October 1983. [DA8313975]

The CBIS program was effective in increasing academic engaged time. (grade 7)

Golden, Constance Kibbee. The Effect of the Hand-Held Calculator on Mathematics Speed, Accuracy, and Motivation of Secondary Educable Mentally Retarded Students (Grades 7-8). (West Virginia University, 1982.) DAI 43A: 2311; January 1983. [DA8226927]

The group using calculators performed significantly better on multiplication and division than did the non-calculator group. (grades 7-9)

Gourgey, Annette Farha. The Relationship of Beliefs About Mathematics, Mathematical Self-Concept and Arithmetic Skills to Mathematics Anxiety and Performance in Basic Statistics. (New York University, 1982.) DAI 43A: 2284; January 1983. [DA8226758]

Relationships were found between mathematics anxiety, beliefs about mathematics, and mathematics self-concept: (college)

Green, Gussie Lee. Instructional Use of Microcomputers in Indiana Public High Schools. (Ball State University, 1983.) DAI 44A: 1678; December 1983. [DA8322551] [secondary]

Grinstead, Joe Dale. The Effect of Teacher Signals, Group Participation, and Error Correction Procedures on Students' Verbal Math Responses. (University of Kansas, 1982.) DAI 43A: 2884-2885; March 1983. [DA8303892]

Student participation increased on group questions, with decreased incorrect responding when questions were directed to individuals. (grades 3, 4)

Gutierrez, Myrtle Lee. The Effects of Nonpromotion on First Through Fourth Grade Students as Related to Academic Achievement, Self-Concept and Intellectual Maturity. (Northern Arizona University, 1983.) DAI 44A: 984; October 1983. [DA8319235] [grades 1-4]

Haines, James Mills. Brief Counseling Intervention in College Algebra. (Kansas State University, 1982.) DAI 43A: 3813; June 1983. [DA8310116]

Some variables affecting mathematics anxiety were noted. (college)

Halderman, Barrett G. The Relation of Socioeconomic and Scholastic Aptitude Variants to Academic Achievement for Males and Females at Third and Fifth Grades. (Iowa State University, 1982.) DAI 43B: 3719-3720; May 1983. [DA8307749] [grades 3, 5]

Hammer, Marlene Breger. Comparison of Mathematical Achievement of Psychotic Children and Emotionally Disturbed Nonpsychotic Children. (Duke University, 1982.) DAI 44A: 135; July 1983. [DA8311174]

Psychotic pupils had significantly discrepant performances in mathematics and reading. (ages 8-11)

Handler, Barbara Hershey. Reduction of Mathematics Anxiety in College Remedial Algebra Students. (The University of Tennessee, 1982.) DAI 44A: 95; July 1983. [DA8313297]

Students given anxiety reduction experienced a decrease in mathematics anxiety and an increase in mathematics competency. (college freshmen)

Harsher, Sharon Lee. An Investigation of the Affective and Cognitive Effects of the Teacher-Directed Conventional Method, the Student-Directed Individualized Method, and the Student-Directed Competency-Based Method of Instruction in Secondary Business Mathematics Classes. (University of Maryland, 1982.) DAI 43A: 2208; January 1983. [DA8227982]

No significant achievement differences were found between groups. (secondary)

Hartzler, Stanley James. Secondary Algebra Textbooks in the United States 1806-1982: Selected Descriptions and Historical Trends. (The University of Texas at Austin, 1982.) DAI 43A: 2265; January 1983. [DA8227661]

Significant trends were found on problems and objectives. (grade 9)

Harvey, Patricia Cooper. Variations on Direct Instruction in One

Third Grade Classroom. (Stanford University, 1983.) DAI 43A: 3498-3499; May 1983. [DA8307164]

Significant differences in mathematics achievement favored the researcher-taught class given direct instruction. (grade 3)

Hathaway, Harriet Anne. The Relationship of Certification and Mathematics Background of Teachers and Pupil Performance on the NCCT-M After Remediation. (The University of North Carolina at Greensboro, 1983.) DAI 44A: 694; September 1983. [DA8315641]

Only number of semester hours a teacher had formally studied made a significant difference in student performance. (grade 11)

Hative, Nira Brenner. Factors of Organization and Clarity in Mathematics Lessons. (Stanford University, 1982.) DAI 43A: 2583; February 1983. [DA8301223]

Teachers' lesson organization and clarity were independent of teachers' general scholastic ability and only moderately related to their motivation or experience. (college)

Haus, George James. The Development and Evaluation of a Microcomputer-Based Math Assessment and Remediation Program for Mildly-Mentally Handicapped Junior High School Students. (Indiana University, 1983.) DAI 44A: 728; September 1983. [DA8317165]

Most students made marked gains in computation after computer drill. (junior high)

Hazlett, Benjamin Addison. Relationships Between Elementary Teachers' Expressed Attitudes Toward Students, Quality of Dyadic Classroom Interaction and Student Grades. (Oklahoma State University, 1982.) DAI 43A: 2516; February 1983. [DA8300157] [grades 5, 6]

Heidenreich, Boyce Hughett. Faculty Development Strategies for Improving Mathematics Instruction in Intermediate Elementary Grades. (Seattle University, 1982.) DAI 43A: 3571; May 1983. [DA8306442]

The in-service workshops were considered successful by teachers, and their pupils' mathematics scores increased. (teachers in grades 4-6)

Heller, Lucille Cecilia. An Exploration of the Effect of Structure Variables on Mathematical Word Problem-Solving Achievement. (Rutgers University The State U. of New Jersey (New Brunswick), 1982.) DAI 44A: 416; August 1983. [DA8313444]

Students were more successful in problem solving if they were rated at the high level on one or more structural variables. Field independent students scored higher than field dependent students. (college)

Helmick, Faith Illeen. Evaluation of the Placement Test for First-Year Mathematics at the University of Akron. (The University of Akron, 1983.) DAI 44A: 401; August 1983. [DA8314828]

Factors predictive of achievement were ascertained. (college freshmen)

Hershberger, James Russell. The Effects of a Problem Solving Oriented Mathematics Program on Gifted Fifth-Grade Students. (Purdue University, 1983.) DAI 44A: 1715; December 1983. [DA8323998]

Extensive computer problem solving enhanced understanding of mathematical topics and aided in developing strategies. (grade 5)

Higab, Ahmed Kamal Ahmed. The Effects of Aptitudes and Structurally-Different Methods of Teaching Mathematics on Achievement and Satisfaction. (University of Southern California, 1983.) DAI 43A: 3787; June 1983. [---]

Interactions were found only between reasoning aptitude and teacher, and quantitative aptitude and sex. (secondary)

High, Jane. The Effects of a Summer Learning Program and a Parent Training Program on Children's Achievement and Self-Concept. (George Peabody College for Teachers of Vanderbilt University, 1982.) DAI 43A: 2936; March 1983. [DA8227062] [ages 6-13]

Hinton, Barbara E. Post-Secondary Vocational-Technical School Basic Mathematics: A Description of Competencies with Core Curriculum Recommendations. (University of Arkansas, 1983.) DAI 44A: 1770; December 1983. [DA8322869]

Items dealing with whole numbers, fractions, decimals, measures, tables, graphs, and calculators were identified as essential for every graduate. (post-secondary)

Horine, Julie Elaine. The Cumulative Effects of Incremental Practice on the Retention of Mathematical Rules. (The Florida State University, 1983.) DAI 44A: 372; August 1983. [DA8314190]

Use of incremental practice had no significant effect on student performance. (grade 5)

Hurley, Elizabeth Ann. Peer Teaching in a Calculus Classroom: The Influence of Ability. (The University of Rochester, 1982.) DAI 44A: 694; September 1983. [DA8313587]

No significant difference in achievement was found among groups having peer teaching from different levels of partners. (college)

Immers, Richard Carl. Linear Estimation Ability and Strategy Use by Students in Grades Two Through Five. (The University of Michigan, 1983.) DAI 44A: 416; August 1983. [DA8314296]

Ability to estimate length was significantly correlated with age. Instruction proved most effective for long and vertical estimates. (grades 2-5)

James, Rebecca Lou. Relationship of Elements of Individualized Instruction to Arithmetic Achievement. (University of Houston, 1982.) DAI 43A: 2232; January 1983. [DA8229071]

Use of sequenced outcome objectives, mastery procedures, and the combination of program elements were correlated with computation scores. (grade 2)

- Janes, Catherine John. An Investigation of Differences in Verbal Ability and Mathematical Ability Among Talented Male and Female High School Students. (University of Houston, 1982.) DAI 43A: 2265; January 1983. [DA8229072] [grade 10]
- Johnson, Margaret Akers. Spatial Visualization Ability: Effects of Long Term Practice and Relationship to Mathematical Ability. (The University of Arizona, 1983.) DAI 44B: 593; August 1983. [DA8311412]
- The effect of training as gymnasts and architects was explored. Little evidence on correlation with mathematical ability or sex differences was found. (college)
- Johnson, Muriel R. An Investigation of Transformational Geometry with Special Reference to the High School Mathematics Curriculum of New Zealand. (Rutgers University The State U. of New Jersey (New Brunswick), 1982.) DAI 44A: 416; August 1983. [DA8313446] [grades 8-11]
- Johnston, Georgeann Vann. Interaction of General Reasoning Ability and Locus of Control with Instructional Treatments in Algebra I. (The University of Texas at Austin, 1982.) DAI 43A: 2266; January 1983. [DA8227670]
- The interactions sought were not statistically established. (grade 9)
- Johnston, Mary Beth. Self-Instruction and Children's Math Problem Solving: A Study of Training, Maintenance, and Generalization. (University of Notre Dame, 1983.) DAI 43B: 4150; June 1983. [DA8310981]
- During training, self-instruction resulted in greater accuracy than didactic instruction, but this was no longer evidenced during maintenance nor in generalization. (elementary?)
- Jones, Amy Ann Anthony. Academic Achievement, Attitudes, and Classroom Behavior Differences Related to Participation and Nonparticipation in Project Follow Through in Washington, D.C. (The George Washington University, 1983.) DAI 44A: 630; September 1983. [DA8315342] [grades 2, 3]
- Kaczala, Caroline Mary. Sex Role Identity and Its Effect on Achievement Attitudes and Behaviors. (The University of Michigan, 1983.) DAI 44A: 1734; December 1983. [DA8324210] [grades 5-12]
- Kasilus, Martha Henricks. A Study on Group Instruction vs. Directed Study Techniques for Teaching Computer Programming to Gifted Secondary Mathematics Students. (Georgia State University-College of Education, 1983.) DAI 44A: 658; September 1983. [DA8317519]
- Both types of instruction were effective. Neither changed attitudes toward computer science. (secondary)
- Keinig, Ruth Talbott. The Change Facilitator Model for Managing and Evaluating Developmental Studies Programs Applied to the Study of

Freshmen Achievement at the Marymount College of Virginia. (The George Washington University, 1982.) DAI 43A: 2542; February 1983. [DA8229475] [college freshmen]

Kim, Eunja Connie. The Effect of Test-Wiseness Training on the Achievement and Causal Attributions of Korean and Hispanic Elementary Students. (University of Southern California, 1983.) DAI 44A: 1428-1429; November 1983. [--] [elementary]

Kinney, Patricia Ann. Parent Tutoring and Mathematics Achievement of Sixth-Grade Students. (New Mexico State University, 1983.) DAI 44A: 20; July 1983. [DA8311387]

Parents as tutors did not improve students' achievement, but parental opinion was correlated with achievement. (grade 6)

Knopp, Sharon Lee. Sex-Role Self-Concept and Cognitive Functioning: The Relationships Among Androgyny, Attribution, and Math and Verbal Aptitudes. (Northwestern University, 1983.) DAI 44B: 955; September 1983. [DA8315945] [college]

Koh, Young Hee. An Analysis of Cognitive Functioning of Korean Middle School Students. (University of Pittsburgh, 1982.) DAI 43A: 2875; March 1983. [DA8303621] [middle school]

Koontz, Patricia M. Yourst. Theoretical Study, Development, and Concept Validation of a Microcomputer Literacy Curriculum for the Intermediate Grade (4-6) Student. (Kent State University, 1983.) DAI 44A: 1680; December 1983. [DA8321144] [intermediate]

Kvet, Edward Joseph, III. Excusing Elementary Students from Regular Classroom Activities for the Study of Instrumental Music: The Effect on Sixth-Grade Reading, Language, and Mathematics Achievement. (University of Cincinnati, 1982.) DAI 43A: 2270-2271; January 1983. [DA8228802] [grade 6]

Langbort, Carol Ruth. An Investigation of the Ability of Fourth Grade Children to Solve Word Problems Using Hand-Held Calculators. (University of California, Berkeley, 1982.) DAI 43A: 2914; March 1983. [DA8300563]

Results differed, dependent on ability level, level and operation of problems, and instructional unit. (grade 4)

Larkin, Martha Ann. The Effects of a Placement Test to Counsel Students in Precalculus Mathematics Registration. (Brigham Young University, 1983.) DAI 44A: 1715; December 1983. [DA8322666]

It was concluded that the placement test helped to reduce the failure rate in the Polynomials and Synthetic Division course. (college)

Leyton Soto, Fernando. The Extent to Which Group Instruction Supplemented by Mastery of the Initial Cognitive Prerequisites Approximates the Learning Effectiveness of One-to-One Tutorial Methods. (The University of Chicago, 1983.) DAI 44A: 974-975; October 1983. [--] [grade 9]

Lilly, Marsha Weiss. Attributions of Performance and Expectancies for Success: Self-Perceptions of Gifted Adolescents During Mathematical Concept Development. (University of Houston, 1982.) DAI 43A: 2288; January 1983. [DA8229073]

Skill performance was not significantly different, yet males perceived their ability, general expectancy, and efficacy judgments consistently higher than females did. (grades 6-8)

Lindskog, Cederick O. A Self-Efficacy Analysis of the Effects of Reflective-Impulsive Conceptual Tempo on Children's Mathematics Computation Skills. (Ball State University, 1982.) DAI 43A: 3850; June 1983. [DA8309634]

Self-efficacy ratings were not reliable predictors of computation performance. (grade 4)

Ling, Jeannie Lan. A Factor-Analytic Study of Mathematics Anxiety. (Virginia Polytechnic Institute and State University, 1982.) DAI 43A: 2266; January 1983. [DA8226901]

Mathematics anxiety appeared to be a unidimensional construct related to students' attitude toward mathematics more than to their personality characteristics. Females did not suffer mathematics anxiety more than males. (college freshmen)

Liu, Jeanne M. The Effect of Concept Instruction on Students' Abilities to Apply Algorithms to Solve Mathematics Problems. (University of South Carolina, 1983.) DAI 44A: 1013; October 1983. [DA8319300]

Concept instruction did not enhance ability to apply the algorithm directly or to solve problems, although mastery of the concept denoting the algorithm did have a significant effect. (grade 7)

Loase, John Frederick. An Analysis of the Relationship Between the Mathematical Competencies Requisite to Employment and to Satisfactory Job Performance in Certain Mathematical Professions. (Columbia University Teachers College, 1983.) DAI 44A: 96; July 1983. [DA8313374]

For both actuaries and computer scientists, the use of elementary arithmetic was daily or weekly. Topics from algebra were also met frequently. The vast majority of topics from collegiate mathematics was very rarely used. (secondary, college)

Long, Lynne Greer. The Influence of School Building Design and Instructional Style on Title I First-Grade Math Achievement Scores in the District of Columbia Public Schools. (The George Washington University, 1983.) DAI 44A: 660; September 1983. [DA8315345]

The highest mean gain scores were attained by students having traditional instructional style in traditional school buildings. (grade 1)

Luisser, Thomas Robert. College Science Students' Perceptions of the Value of High School Mathematics Instruction in Preparing Students for Freshman College Science. (Lehigh University, 1983.) DAI

44A: 975; October 1983. [DA8317133]

High school calculus was consistently ranked highest in all questions related to mathematics course value and applicability. (college)

Lulow, Roger James. The Effect of School Employee Strikes on Student Achievement in Nine Ohio School Districts. (Kent State University, 1983.) DAI 44A: 1274; November 1983. [DA8321147] [grade 6]

Maddocks, John Calvin. The Relationship Between Average Student Achievement and Nonpromotion Rate: A Path Analysis Model for North Carolina Elementary Schools. (The University of North Carolina at Greensboro, 1983.) DAI 44A: 631-632; September 1983. [DA8315647] [grades 1-3]

Marshall, Patricia McGinn. Homework and Social Facilitation Theory in Teaching Elementary School Mathematics. (Stanford University, 1983.) DAI 44A: 416-417; August 1983. [DA8314475]

Homework was found to be beneficial for problem-solving achievement but not for computation achievement. (grades 5, 6)

Martell, Vivian Marie. Concepts of Euclidean Geometry: Their Recall from Verbal and Visual Memories. (The University of Florida, 1982.) DAI 43A: 2915; March 1983. [DA8302264]

Students recalled the least about circular items. Figural presentation of question stems elicited more correct responses than verbal presentation. (grade 10)

Martin, Mary Jo. Organizational Climate and Student Achievement in Mathematics. (Duke University, 1983.) DAI 44A: 1275; November 1983. [DA8321573]

Significant relationships appeared to exist between organizational climate (open to closed) and mathematics achievement. (grades 3-9)

Martin, Michael Kemp. The Relationship of Student Self-Concept to Achievement in Reading and Mathematics and Time Off-Task. (The University of Wisconsin-Madison, 1982.) DAI 43A: 2232-2233; January 1983. [DA8216254] [grades 3, 4]

Maspons, Maria Mercedes. Pretraining Hispanic Students on Test-Taking Strategies and Its Effects on the Reliability and Predictive Validity of a Mathematics Predictor Test. (University of Miami, 1983.) DAI 44A: 1367; November 1983. [DA8321408]

Hispanic students benefited from short training in test-taking skills. (college)

Mateja, John Andrew. An Investigation into Middle School Students' Knowledge of Textbook Metastructure. (University of Georgia, 1982.) DAI 43A: 3554; May 1983. [DA8308190] [grade 6]

Maxim, Bruce Robert. A Comparison of Two Sequences for Teaching Percent. (The University of Michigan, 1982.) DAI 43A: 3249; April 1983. [DA8304541]

Performance exceeded several nationally reported test results, with few significant differences between factor product and proportion methods. (grade 7)

McCormick, Paula Kaplan. An Analysis of Individualized Education Program Goals Selected for Elementary School Learning-Disabled Students. (The George Washington University, 1983.) DAI 43A: 3567; May 1983. [DA8307890] [elementary]

McDermitt, Sharon Anne. First-Graders' Performances on Subdivision Tasks Involving Discrete and Continuous Materials. (The University of Texas at Austin, 1983.) DAI 44A: 1013; October 1983. [DA8319644]

Students achieved more successful subdivisions with discrete objects than with continuous units. No difference was found when tasks were presented directly or in story context. (grade 1)

McDonald, David G. Structural Coupling and School Outcomes: Job Satisfaction, Student Attitudes and Perceptions of School, Student Achievement in Reading, Student Achievement in Mathematics, and Perceived Organizational Effectiveness. (University of Kansas, 1982.) DAI 43A: 3770-3771; June 1983. [DA8309303] [?]

McEvoy, Thomas James. A Meta-Analysis of Comparative Research on the Effect of Desegregation on Academic Achievement and Self-Esteem of Black Students. (Wayne State University, 1982.) DAI 43A: 3559; May 1983. [DA8306918] [grades K-12]

McGalliard, William Augustus, Jr. Selected Factors in the Conceptual Systems of Geometry Teachers: Four Case Studies. (University of Georgia, 1983.) DAI 44A: 1364; November 1983. [DA8320118]

The four teachers believed that geometry would have an impact on students' thinking, and wanted to insure a smooth-running school system by completing the syllabus. (secondary in-service)

McGee, William Earl. The Relationship Between Learning Methods and Academic Achievement in 10-Year-Old Boys. (The University of Tennessee, 1982.) DAI 43A: 2940; March 1983. [DA8303704] [age 10]

McGuire, Joan Mousaw. An Investigation of Attributional Responses Among Mildly Retarded, Learning Disabled, Low Achieving, and High Achieving Students Following Success and Failure on Achievement Tasks. (The University of Connecticut, 1982.) DAI 43A: 2633; February 1983. [DA8302081] [mental ages 8, 12]

McKee, Lynda Diane. Figure-Drawing Ability in Solving Mathematical Problems. (University of Georgia, 1983.) DAI 44A: 417; August 1983. [DA8314734]

Figure-drawing ability was moderately correlated with figure-drawing tendency, problem-solving ability, and mathematical achievement. Problem-solving ability was significantly correlated with mathematical achievement and spatial visualization. (grades 9, 10)

McTeer, Paul Malcolm. Math Anxiety: An Intervention Strategy to Reduce Math Anxiety. (Virginia Polytechnic Institute and State University, 1982.) DAI 43A: 3249; April 1983. [DA8304128]

Support groups and tutorial sessions helped reduce mathematics anxiety. (college)

Meeks, Burrelle Strickland. A Study of Children in Second Grade Who Were Predicted to be Ready for School While in Kindergarten. (University of Georgia, 1982.) DAI 43A: 2229; January 1983. [DA8228712] [grades K-2]

Mehdikhani, Nasser. The Relative Effects of Teacher Teaching Style, Teacher-Learning Style, and Student Learning Style upon Student Academic Achievement. (The Catholic University of America, 1983.) DAI 44A: 374; August 1983. [DA8314893] [college]

Merritt, Robert L. Achievement With and Without Computer-Assisted Instruction in the Middle School. (University of Southern Mississippi, 1982.) DAI 44A: 34-35; July 1983. [DA8311071] [grades 6, 7]

Meyer, LaVern James. Teaching Problem Solving in a College Level General Education Mathematics Class. (The University of Iowa, 1982.) DAI 43A: 2584; February 1983. [DA8229949]

No significant difference in scores was found between groups given or not given instruction on a problem-solving model, although attitudes improved with instruction. (college)

Miller, Kelly Flynn. Minimum-Competency Testing: The Impact on Learning Disabled Students. (University of Kansas, 1983.) DAI 44A: 1056; October 1983. [DA8317948] [?]

Miller, Kevin Francis. Measurement Procedures and the Development of Quantitative Concepts. (University of Minnesota, 1982.) DAI 43B: 3752-3753; May 1983. [DA8308098]

Tasks with number, length, area, and volume were given, and accuracy and strategies used were noted. (ages 3, 5, 7, 9)

Minsky, Shulamith K. Playing a Logic Game: From Childhood to Adolescence. (Rutgers University The State U. of New Jersey (New Brunswick), 1982.) DAI 43B: 2724; February 1983. [DA8301595] [grades 5, 8, 11]

Minter, Mary Louise Davis. Factors Associated with Changes in Academic Achievement and Adaptive Behavior. (The University of Texas at Austin, 1983.) DAI 44A: 1391; November 1983. [DA8319652] [ages 5-12]

Moller, Nancy J. The Impact of Gender, Masculinity, and Femininity on Math Achievement and Course Decisions. (Purdue University, 1982.) DAI 43A: 2584; February 1983. [DA8300943]

Sex differences favoring females were found in computation, but not concepts or problem solving. Both males and females based

mathematics course-taking on career usefulness and achievement score cues, but females ranked male friends as very influential. (grade 8)

Moore, JoAnne Ellen. A Comparative Analysis of the Structure of Two Versions of the Grade Ten Michigan Educational Assessment Program Mathematics Test. (Wayne State University, 1983.) DAI 43A: 1064; October 1983. [DA8315615]

The old form of the test yielded five factors while the new form yielded three. Objectives tended to cluster on factors based on the test form rather than content. (grade 10)

Moore, Susan Lee. A Study of the Effects of Cooperative Planning in Providing for Instruction Integration for Mildly Handicapped High School Students Mainstreamed in Mathematics and English Classes. (Wayne State University, 1982.) DAI 43A: 3568; May 1983. [DA8306921] [secondary]

Morningstar, Kay Gladys. Self-Teaching Enrichment Modules on Modern Applications of Mathematics for Talented Secondary Students and Evaluation of Effective Utilization Through an Original Prediction Model. (University of Delaware, 1983.) DAI 44A: 1715; December 1983. [DA8324117]

Students in Algebra II were able to comprehend the material presented in the modules. However, no significant difference in achievement was found in comparison with a control group who did not use the modules. (secondary)

Mosely, Fleming J., III. Bilingual-Multicultural Education: A Comparative Study of the Academic Growth of Bilingually Instructed Fourth and Sixth Grade Pupils to That of Monolingually Instructed Fourth and Sixth Grade Pupils. (The University of Akron, 1983.) DAI 43A: 2886; March 1983. [DA8303159] [grades 4, 6]

Mosley, Elaine S. Christian. The Effects of a Classroom Volunteer Program on Achievement, Self-Concept, and Behavior Among Primary Grade Pupils. (Oklahoma State University, 1982.) DAI 43A: 3175; April 1983. [DA8304875] [grades 1-3]

Moylan, Patricia Marie. Strategy Choice and Performance in Syllogistic Problem Solving in Female High School Students. (Boston University Graduate School, 1983.) DAI 43B: 1580; November 1983. [DA8320002]

High-math-aptitude students used symbolic strategies almost exclusively. High percentage of correct responses was due to strategy choice rather than mathematical ability. (secondary)

Nagarkatte, Shailaja Umesh. Nonstandard Analysis and Its Place in Undergraduate Education. (Columbia University Teachers College, 1983.) DAI 44A: 417; August 1983. [DA8313380]

The development and basic ideas of Nonstandard Analysis are traced, and applications in various areas are discussed. (college)

Napoli, Luigi. Instructional Television: The Effects of Different Types of Graphical Representation, in Color, of Quantitative Data on the Perception of Charts. (Indiana University, 1982.) DAI 43A: 3787; June 1983. [DA8308868] [adults]

Newman, Richard Stuart. Children's Skills and Self-Perceptions in Mathematics. (The University of Michigan, 1982.) DAI 43B: 3386-3387; April 1983. [DA8304559]

Between grades 2 and 5, mathematics achievement is causally related to self-ratings of ability; between grades 5 and 10, this relationship diminishes. Estimating was also explored. (grades 2, 5, 10)

Noll, Rhona Susan. Effects of Verbal Cueing and a Visual Representation on Percent Problem-Solving Performance of Remedial Adults. (Fordham University, 1983.) DAI 43A: 3833; June 1983. [DA8308487]

Verbal cueing plus visual representation had a greater effect on performance than verbal cueing alone. (college)

Nuzum, Margaret. The Effects of an Instructional Model Based on the Information Processing Paradigm on the Arithmetic Problem Solving Performance of Four Learning Disabled Students. (Columbia University Teachers College, 1983.) DAI 44A: 1421; November 1983. [DA8322231]

A method including mastery in analysis, task-specific information, and procedural knowledge was responsive to four students' needs. (elementary?)

Oldham, Ben Richard. The Longitudinal Effects of Pupil Retention Practices in the First Three Grades. (University of Kentucky, 1982.) DAI 43A: 3772; June 1983. [DA8309069] [grades 3, 6, 10]

Olsen, Jill Trousdale. Differences in Learning Modality as They Relate to Academic Achievement of Seventh Grade Students. (Northern Illinois University, 1983.) DAI 44A: 1035; October 1983. [DA8318311] [grade 7]

Ortiz, Ellen Goldman. Mathematical Reasoning and Economic Cognition of Third and Fourth Grade Students: A Case Study of the Mini-Society Instructional System. (University of California, Los Angeles, 1982.) DAI 43A: 3283; April 1983. [DA8306099] [grades 3, 4]

Owen, Mary Scott. The Effects of the ITV Series "Figure Out" on the Mathematics Achievement of Fifth-Grade Students in Mississippi. (The University of Mississippi, 1983.) DAI 44A: 1688; December 1983. [DA8323349]

The television series was just as effective as traditional instruction for teaching five mathematics skills. (grade 5)

Pao, Po-Huen Lee. Effects of Goal Setting by Chinese-American Children and Their Parents. (Boston University School of Education, 1983.) DAI 43A: 3873; June 1983. [DA8309734] [elementary?]

Parham, Jaynie Loftin. A Meta-Analysis of the Use of Manipulative Materials and Student Achievement in Elementary School Mathematics. (Auburn University, 1983.) DAI 44A: 96; July 1983. [DA8312477]

Students using manipulative materials scored at approximately the 85th percentile; students not using manipulatives scored at the 50th percentile. (elementary)

Parra, Elena B. Bias in IQ Test Predictions of Subtraction Skills Learning and Achievement. (The University of Arizona, 1983.) DAI 44A: 1429; November 1983. [DA8319727]

IQ test scores were not suitable predictors of subtraction scores for Mexican-American pupils. (elementary)

Peeples, Lilla Kirk. Second Language Learning Ability and Mathematical Ability: The Correlation of These Two Variables and the Extent to Which Ability in One May Be Used to Predict Ability in the Other. (Georgia State University-College of Education, 1983.) DAI 44B: 596; August 1983. [DA8312330]

A moderate, positive correlation was found between second language learning ability and mathematical ability. (secondary)

Pelfrey, Ronald Stephen. Factors Influencing High Ability Students in Fayette County to Pursue Four Years of Mathematics After Eighth Grade Algebra. (University of Kentucky, 1982.) DAI 43A: 3773-3774; June 1983. [DA8309071]

The time from grades 5 through 8 appeared to be the most critical period for these students. Correlations with enrollment were also explored. (grade 12)

Perez, William Augustin. Mental Arithmetic: The Processing and Maintenance of Information in Working Memory. (Miami University, 1982.) DAI 44B: 348; July 1983. [DA8311275]

Arithmetic notation affected the way information was retrieved and updated. Reaction times were related to the number of operations to be performed. (college?)

Perunko, Marie Ann. The Relationships Among Mental Imagery, Spatial Ability, Analytic-Synthetic Processing and Performance on Mathematics Problems. (University of Maryland, 1982.) DAI 44A: 1716; December 1983. [DA8323573]

The processing of both visual and verbal material in an analytic or synthetic fashion is correlated. Other relationships were also found. (community college)

Peters, Carole Eswine. A Comparison of Treatments for the Reduction of Math Anxiety Among Eighth Grade Girls. (The Ohio State University, 1982.) DAI 43A: 2559; February 1983. [DA8300322]

No significant differences were found between tutoring, self-instruction training, or study-skills training for mathematics anxiety. (grade 8)

Pogatshnik, Lee Wolfram. Influential Factors in the Decision to

Enroll in Advanced High School Mathematics Courses. (Cornell University, 1983.) DAI 44B: 626; August 1983. [DA8309467]

No sex difference was found in the amount of mathematics elected. However, girls chose to take mathematics because of college or career needs; boys chose it who had more confidence in themselves as learners of mathematics. (grades 9, 12)

Prasitsak, Prapa Poowaton. A Study of the Relationship Between Piagetian Conservation of Number Tasks and the Ability in Counting of Young Children. (University of Houston, 1983.) DAI 44A: 1364-1365; November 1983. [DA8322125]

Conservers could perform rote, rational, and reproduction counting up to 20. Some did not understand the meaning of "less". (ages 5-7)

Pratt, Donald Lynn. Responsibility for Student Achievement Among Secondary Science and Mathematics Teachers and Its Relation to Student Ability Grouping and Selected Teaching Styles. (University of South Florida, 1983.) DAI 44A: 721-722; September 1983. [DA8316531]

Significant differences were found in the beliefs and behaviors of teachers in basic or advanced classes. (secondary)

Pratton, Jerry Dee. A Study of the Effects of Active Participation in Instruction upon Learning. (Portland State University, 1982.) DAI 43A: 3774; June 1983. [DA8310674]

Teaching was more effective when active student participation was incorporated. (grade 5)

Price, Charles Alden. The Uses of Microcomputers in the Public Schools Within the East Texas School Study Council. (East Texas State University, 1983.) DAI 44A: 1632; December 1983. [DA8323503]
[grades K-12]

Prillwitz, Barbara Ellen. The Correlates of Success Among Women in Mathematics and Mathematics-Related Fields: Implications in Educational Program Development. (University of Southern California, 1983.) DAI 44A: 349-350; August 1983. [--]

Characteristics of women mathematicians were noted. (adults)

Quam, Johanna Marie. An Experimental Comparison of the Effects of Hutchings' Low-Stress Algorithm and the Conventional Algorithm for Subtraction on the Computational Rate and Accuracy of Elementary Special Education Students. (University of Washington, 1983.) DAI 44A: 139; July 1983. [DA8312167]

Both treatments were effective in increasing subtraction scores, with no significant difference between them. (ages 8-11)

Rambally, Gerard Krishnarine. Interactive Computer Graphics in Mathematics Education. (University of Oregon, 1982.) DAI 43A: 2915; March 1983. [DA8301814]

A graphics system was developed and methods outlined for its use

with a variety of mathematical topics. (secondary)

Rapport, Frances Rosemary. An Investigation of Sex Differences in Causal Attributions for Math Performance. (University of California, Berkeley, 1982.) DAI 44A: 120; July 1983. [DA8312943]

No significant sex differences were found in expectancy of success in mathematics nor in attribution patterns. (grades 3, 5, 7, 9, 11)

Reed, Beverly Woods. Incremental, Continuous-Review Versus Conventional Teaching of Algebra. (University of Arkansas, 1983.) DAI 44A: 1716; December 1983. [DA8322883]

The group having incremental, continuous review significantly outperformed the control group. No attitude difference was found. (college)

Regan, Madelyn K. An Analysis of Multiplication Computation Errors of High-School Learning Disabled and Regular-Class Students. (University of Kansas, 1982.) DAI 43A: 3874; June 1983. [DA8309369]

Learning disabled students made significantly more errors in many categories. They consistently used ineffective and inefficient procedures. (secondary)

Reid, Maria Archer. A Study of the Effects of Bilingual Instruction and Self-Review on Achievement in Elementary Descriptive Statistics by Spanish-Speaking Bilingual Students at the Intermediate School Level. (New York University, 1982.) DAI 43A: 3833-3834; June 1983. [DA8307695]

Spanish-speaking bilingual students achieved at a higher level when taught in a bilingual program. They retained significantly more when they used self-review. (grade 8)

Rickman, Claude Meredith. An Investigation of Third and Fourth Grade Students' Understanding of a Decomposition Subtraction Algorithm Based on Individual Interviews. (University of Georgia, 1983.) DAI 44A: 1365; November 1983. [DA8320135]

Only 45 per cent of third graders' responses and 66 per cent of fourth graders' responses were correct. Few fourth graders gave meaningful explanations of the decomposition algorithm. (grades 3, 4)

Ricks, James Daigh. The Impact of the Instructional Game "Equations" upon Mathematics Achievement of Middle-School Students. (The University of Michigan, 1983.) DAI 44A: 1716; December 1983. [DA8324272]

No significant differences in achievement were found between players of the Equations game and non-players. (grades 7, 8)

Rin, Hadas. Linguistic Barriers to Students' Understanding of Definitions in a College Mathematics Course. (University of California, Berkeley, 1982.) DAI 43A: 2584; February 1983. [DA8300632]

Inadequate understanding of formal definitions was a major source of difficulty. (college sophomores)

Robertson, Laurel Dawn. Integrated Goal Structuring in the Elementary School: Cognitive Growth in Mathematics. (Rutgers University The State U. of New Jersey (New Brunswick), 1982.) DAI 43A: 2549; February 1983. [DA8301603]

No significant difference in achievement was found between groups using integrated goal structures or competitive, individualistic structures. (grades 2-3)

Robinson, Donna Regina. A Criterion Referenced Instrument of Functional Mathematics Skills in Moderately and Severely Retarded Adults. (Kent State University, 1982.) DAI 44A: 147; July 1983. [DA8311450]

The test appears to be valid and reliable as a measure of premath and mathematics content for retarded adults. (adults)

Ross, Kenneth Scott. A Status Study of Mathematics Education in Adult Basic Education. (The University of Tennessee, 1982.) DAI 43A: 2915; March 1983. [DA8303715]

Teachers appeared to be inadequately prepared to teach ABE courses. (adults)

Roth, Duane Dennis. An Experimental Study to Investigate the Effects on Achievement of Sixth Graders in Mathematical Problem Solving Using Textbook Problems Compared to Problems Constructed by the Teacher. (University of Northern Colorado, 1982.) DAI 43A: 2915-2916; March 1983. [DA8301172]

No significant differences in achievement or attitude were found between groups using teacher-made or textbook problems. (grade 6)

Rubenstein, Rheta Norma Pollock. Mathematical Variables Related to Computational Estimation. (Wayne State University, 1982.) DAI 44A: 695; September 1983. [DA8306935]

Students performed differently on three types of estimation; order of magnitude was most difficult, followed by reference number and open-ended. (grade 8)

Rule, Judy Gayle. Effects of Multigrade Grouping on Elementary Student Achievement in Reading and Mathematics. (Northern Arizona University, 1983.) DAI 44A: 662-663; September 1983. [DA8315672] [grades 3-6]

Rycek, Robert Francis. Conditional Logic Problem Solving: Developmental Relationships and the Role of Content Interference. (Northern Illinois University, 1983.) DAI 44B: 1262-1263; October 1983. [DA8318288]

Formal operations appeared to be necessary but not sufficient for conditional reasoning. (college)

Ryoo, Wan Yung. Supply and Demand for Teachers of Physics/Chemistry, Mathematics, Special Education, and Social Science in Kansas, 1974-1982. (University of Kansas, 1983.) DAI 44A: 1048; October 1983. [DA8317952] [secondary teachers]

- Saab, Nouredine. Study of the Relationship Between Acculturation and Academic Achievement of Arab Students in an Elementary School Setting. (Wayne State University, 1982.) DAI 43A: 3502; May 1983. [DA8306937] [grades 3-5]
- Sacks, Bernard. A Study to Investigate Whether Navajo Special Education Elementary Students Develop Differences in Cognitive Abilities from Regularly Placed Navajo Elementary Children. (Northern Arizona University, 1982.) DAI 43A: 3250-3251; April 1983. [DA8305290] [ages 7-13]
- Samuels, Willis Dean. Mathematics Achievement and Attitude in Grades Six Through Eight in Lebanon, Oregon. (Brigham Young University, 1983.) DAI 44A: 96; July 1983. [DA8313057]
- Attitudes toward mathematics were positive and correlated with achievement. (grades 6-8)
- Sass, Margaret Ann. The Relationships Among Age, Sex, and Level of Cognitive Development to Mathematics Achievement Among Selected Emerging Adolescents. (University of Georgia, 1982.) DAI 43A: 2266; January 1983. [DA8228725]
- The formal operational students scored moderately higher in mathematics achievement than the concrete operational students. (ages 11-13)
- Sasscer, Monica Flynn. An Exploratory Study of the Relationship Between Learner Control Patterns and Course Completion in Computer Assisted Instruction. (Virginia Polytechnic Institute and State University, 1982.) DAI 44A: 376-377; August 1983. [DA8313773] [community college]
- Schielack, Vincent Paul, Jr. A Personalized System of Instruction Versus a Conventional Method in a Mathematics Course for Elementary Education Majors. (The University of Texas at Austin, 1982.) DAI 43A: 2267; January 1983. [DA8227717]
- PSI students performed significantly higher than lecture students on the final examination and had significantly more positive attitudes toward mathematics. (elementary preservice)
- Schmitt, Rita Therese. The Achievement and Adjustment of Children from Open and Traditional Elementary Schools in Grade Six of Traditional Middle Schools. (Temple University, 1983.) DAI 44A: 1334; November 1983. [DA8321275] [elementary]
- Schroeder, Thomas Leonard. An Assessment of Elementary School Students' Development and Application of Probability Concepts While Playing and Discussing Two Strategy Games on a Microcomputer. (Indiana University, 1983.) DAI 44A: 1365; November 1983. [DA8321392]
- Some students had little difficulty applying probability concepts and explaining their strategies, while others could not relate moves to probability. (grades 4-6)

Senk, Sharon Louise. Proof-Writing Achievement and Van Hiele Levels Among Secondary School Geometry Students. (The University of Chicago, 1983.) DAI 44A: 417; August 1983. [---]

Virtually no competence in proof-writing was found in 30 per cent of the students; 40 per cent had some, while about 30 per cent achieved a 75 per cent mastery level. (grade 10)

Service, Jolayne Williams. Implicit Intuitive Statistical Description: Perceptions That May Impede or Facilitate Statistical Instruction. (North Carolina State University at Raleigh, 1982.) DAI 43A: 3803; June 1983. [DA8308571]

A location dimension and a dispersion dimension were identified. (grades 2, 5, adults)

Shearn, Elizabeth Louise. Adapting the Developmental Instruction Model, Based on Perry's Theory, to a Mathematics Content Course for Preservice Elementary Teachers to Enhance Attitudes Toward Mathematics, Cognitive Development, and Achievement. (University of Maryland, 1982.) DAI 44A: 1716-1717; December 1983. [DA8323585]

No significant differences in achievement or attitude were found between groups using or not using the model. (elementary preservice)

Shilling, Harry Frederick. The Relationship Between Family Structure and Academic Achievement in Selected Variables of the Educational Quality Assessment. (The Pennsylvania State University, 1982.) DAI 43A: 3179; April 1983. [DA8305697] [grade 8]

Shipstead, Susan Gaede. Individual Differences in Second Graders' Mathematical Problem Solving. (Stanford University, 1983.) DAI 43A: 3551; May 1983. [DA8307216]

Sources of difficulty were the operation involved, the quantity of numbers to process, and blanks and their placement, with wide individual differences found. (grade 2)

Shoemaker, Beverley Montandon. Application of a Composition Technique to Correct Choice of Operations in Mathematical Word Problems. (Auburn University, 1982.) DAI 43A: 3209; April 1983. [DA8305002]

More than 80 per cent of the errors in the computational response mode were attributable to selection of inappropriate operations. Writing a paragraph explaining the solution process resulted in significantly fewer errors in selecting appropriate operations. (grade 8)

Sichel, Arthur Gutman. Effects of Varied Mediation on Spatial Concepts in Young Children. (Yeshiva University, 1982.) DAI 44B: 340-341; July 1983. [DA8311704] [ages 3-6]

Siegel, Ross Garris. A Study of Alternative Models for Predicting Mathematics Performance. (The University of North Carolina at Chapel Hill, 1982.) DAI 43B: 3722; May 1983. [DA8308348]

Skills (average previous course grade) accounted for 49 per cent of the variance. (college)

Sigda, Edward Joseph. The Development and Evaluation of a Method for Teaching Basic Multiplication Combinations, Array Translation, and Operation Identification with Third Grade Students. (Temple University, 1983.) DAI 44A: 1717; December 1983. [DA8322597]

The use of the sequential-modal approach resulted in significantly higher acquisition and retention scores than the use of the textbook lesson plans. (grade 3)

Simon, Rona Friedlander. Teachers' Predictions of Students' Performance on Michigan Educational Assessment Program Mathematics Tests. (The University of Toledo, 1982.) DAI 43A: 2324; January 1983. [DA8227818]

On the average, teachers' predictions of pupils' performance by objectives were accurate. (teachers in grades 3, 6, 9)

Sinicrope, Rose. Conceptual Development of the Part-Whole and Operator Sub-Constructs of Rational Numbers. (Virginia Polytechnic Institute and State University, 1983.) DAI 44A: 1717; December 1983. [DA8324389]

Conceptualization of the part-whole and operator interpretations of fraction preceded the ratio interpretation. (grades 5-9)

Smalley, Shelia Yvette. The Effect of Cooperative and Competitive Games with Learning Disabled Adolescents on Arithmetic Performance and On-Task Behavior. (The University of Florida, 1982.) DAI 44A: 463; August 1983. [DA8313694]

Worksheets were significantly better than cooperative games; competitive games did not differ significantly. (adolescents)

Smedlaw, Shelley Helene. Attributions for Failure Among Low and High Self-Concept Learning Disabled and Nondisabled Students. (University of Houston, 1982.) DAI 43A: 3855-3856; June 1983. [DA8307029] [grades 4, 5]

Smedley, Linda Kay. Bilingual Education: An Assessment of Its Effect on Academic Achievement and Self-Concepts. (University of Southern California, 1983.) DAI 43A: 3804; June 1983. [--] [secondary]

Smith, Gregory Paul. On the Decision to Enroll in Optional High School Mathematics Courses. (University of Denver, 1983.) DAI 44B: 1643; November 1983. [DA8321077]

The model, incorporating probability of success and perceived utility of and liking for mathematics, was found to fit the data "reasonably well". (grades 9, 10)

Smith, Thomas H. The Effects of a Self-Paced College Algebra Program on Mathematics Achievement and Mathematics Anxiety. (Temple University, 1983.) DAI 44A: 96-97; July 1983. [DA8311567]

Students using a self-paced approach did not differ significantly

in performance or anxiety from those having traditional instruction. (community college)

Sonnabend, Thomas Andrew. Holland Personality Types, Student Attitudes, and Other Factors Which Affect the Preferences of Preservice Elementary Teachers in a Mathematics Content Course. (University of Maryland, 1982.) DAI 43A: 3834; June 1983. [DA8308773]

The five factors best explaining students' mathematical preferences were usefulness, informativeness, novelty, interest level, and clarity. (elementary preservice)

Speck, Royce Allen. A Laboratory Activities Textbook Versus Traditional General Mathematics Textbooks for Teaching Computational Skills to Tenth Grade Low Achievers. (University of Kentucky, 1982.) DAI 43A: 3834; June 1983. [DA8309080]

"Geometry without Proofs" was found to be more effective for teaching computational skills and how to choose the correct operation than a general mathematics textbook. (grade 10)

Spencer, Helen Patricia. The Relationship Between Cardiorespiratory Fitness and Performance in Basic Arithmetic Skills in Fifth-Grade Students. (University of LaVerne, 1983.) DAI 44A: 1726; December 1983. [DA8318863]

A correlation was found between improvement in cardiorespiratory fitness and improvement in arithmetic performance. (grade 5)

Spires, Roger Dewain. The Effect of Teacher In-Service About Learning Styles on Students' Mathematics and Reading Achievement. (Bowling Green State University, 1983.) DAI 44A: 1325; November 1983. [DA8318640] [grades K-6]

Springs, Violet Evelyn. The Influence of Conceptual Development Training on Rate of Learning, Conceptual Skill and Achievement in Learning Disabled Students. (University of San Francisco, 1982.) DAI 43A: 3275; April 1983. [DA8302708] [elementary, secondary]

Stigler, James Walton. Abacus Skills in Chinese Children: Imagery in Mental Calculation. (The University of Michigan, 1982.) DAI 43B: 3387; April 1983. [DA8304606] [age 11]

Stomper, Connie Marie. A Correlational Study of Effective Teaching Behaviors for Remedial College Mathematics. (Columbia University Teachers College, 1982.) DAI 43A: 3209; April 1983. [DA8304048]

An interrogative format, questions requiring performance, substantive discourse, ongoing feedback, and implicit sanctioning of correct answers were found to be effective strategies. (college teachers)

Stone, Anthony Paul. A Clinical Investigation of the Translation Process for Solving Word Problems in Elementary School Mathematics. (University of South Florida, 1983.) DAI 44A: 695; September 1983. [DA8316533]

The instructional sequence was successful in developing procedures

to aid learners in translating problems. (grade 6)

Stout, David Lee. The Effects of Negative Instances and Focusing Strategies on Conjunctive Concept Learning. (The Ohio State University, 1982.) DAI 43A: 2584-2585; February 1983. [DA8300357]

Negative instances were "powerful" in learning a seven-dimension focusing strategy, but no differences were found when a three- or five-dimension strategy was used. (?)

Stuker, Earl. Two Methods of Teaching Mathematics and Student Achievement Scores in Jordan School District. (Brigham Young University, 1982.) DAI 43A: 3249; April 1983. [DA8306263]

No significant difference was found between schools using GEMS materials (unexplained in abstract) or a traditional textbook. (elementary)

Sullenberger, Roger William. Algebraic Problem Solving: An Error Analysis Study. (University of Pittsburgh, 1982.) DAI 44A: 97; July 1983. [DA8312542]

Students' strategies were mostly content-specific; few general heuristic strategies were applied. In most cases, the use of curtailed processes contributed to failure. (grade 12)

Swoope, Regina Borinsky. The Development and Evaluation of an Instructional Program in Problem-Solving Strategies for Second Year Algebra Students. (Clark University, 1983.) DAI 44A: 1717-1718; December 1983. [DA8322686]

Instructing students in strategies and techniques for problem solving in Algebra II had no marked effect on their performance. (secondary)

Tamburino, Joseph Louis. The Effects of Knowledge-Based Instruction on the Abilities of Primary Grade Children in Arithmetic Word Problem Solving. (University of Pittsburgh, 1982.) DAI 43A: 2943; March 1983. [DA8303643]

Groups given instruction on word problem diagrams or on word problem and relationship diagrams both improved significantly. (primary)

Tanbanjong, Aurapun. A Comparison of the Effectiveness of Using and Not Using Manipulative Materials in Teaching Addition and Subtraction to First Grade Students in Bangkok, Thailand. (University of Houston, 1983.) DAI 44A: 1365; November 1983. [DA8322128] [grade 1]

Thayer, Constance Johnson. The Relationship of Skills in Arithmetic Computation, Word Recognition, and Interpersonal Relations to Job Performance. (The University of Connecticut, 1983.) DAI 44A: 980; October 1983. [DA8319203] [adults]

Themes, Ellen Patricia. Three Methods of Reducing Math Anxiety in Women. (Kent State University, 1982.) DAI 44A: 97; July 1983. [DA8311453]

All groups significantly reduced math anxiety scores. (ages 18-60)

Thomas, Betsy Hartness. Kindergarten Teachers' Elicitation and Utilization of Children's Prior Knowledge in the Teaching of Shape Concepts. (New York University, 1982.) DAI 43A: 3506; May 1983. [DA8307701]

Children had substantial knowledge of shapes before the teaching sessions; teachers focused on familiar content. (grade K)

Thomas, Dawn Frances. An Analysis of Sex Differences in Teacher-Student Interaction in Elementary/Secondary and Postsecondary Mathematics/Science and Composition/Literature/Language Arts Classrooms. (The American University, 1983.) DAI 44A: 1633; December 1983. [DA8322784] [grades 4, 6, 8, post-secondary]

Thompson, Alba Gonzalez. Teachers' Conceptions of Mathematics and Mathematics Teaching: Three Case Studies. (University of Georgia, 1982.) DAI 43A: 2267; January 1983. [DA8228729]

Teachers' beliefs, views, and preferences about mathematics and its teaching play a significant, albeit subtle, role in shaping their behavior. (junior high teachers)

Thompson, Albert Ray. The Teacher Perceiver Interview as Related to Student Achievement. (University of Northern Colorado, 1982.) DAI 43A: 2852; March 1983. [DA8301182] [teachers in grades 4, 5]

Thompson, Assad John. Programme for the Improvement of the Preservice Mathematics Education of Secondary Teachers at the Teachers College in Jamaica. (Columbia University Teachers College, 1982.) DAI 43A: 3249-3250; April 1983. [DA8304059] [secondary preservice]

Thompson, Tommy Joe. Interaction of General Reasoning Ability and Locus of Control as Predictors of Achievement in College Algebra. (The University of Texas at Austin, 1982.) DAI 43A: 3834-3835; June 1983. [DA8309204]

The high- and low-support treatments were not substantially different in producing learning among the students retained. The completion rate was 50 per cent in the low-support section and 81 per cent in the high-support section. (community college)

Tirre, William Charles. Associative Errors in Children's Analogical Reasoning: A Cognitive Process Analysis. (University of Illinois at Urbana-Champaign, 1983.) DAI 43A: 3856; June 1983. [DA8310018] [grades 5, 6]

Tiu, Paul Chi-Hung. Audio Tapes Use in Bilingual Multiplication Instruction. (University of the Pacific, 1983.) DAI 44A: 664; September 1983. [DA8316512]

No significant difference in achievement was found between pupils using Chinese bilingual tapes and pupils in a control group. (grade 3)

Tohidi, Nayereh Esfahlani. Sex Differences in Cognitive Performance

on Piaget-Like Tasks: A Meta-Analysis of Findings. (University of Illinois at Urbana-Champaign, 1982.) DAI 43A: 2943; March 1983. [DA8303006] [grades K-12?]

Toliver, Peggy Jean. Effects of an Anxiety Management Treatment on Mathematics Anxiety. (The University of Texas at Austin, 1982.) DAI 43A: 2267; January 1983. [DA8227730]

Significant reductions in mathematics anxiety and increases in mathematics performance were found in some groups, but not all. (elementary preservice, secondary)

Truckson, Erika B. The Effects of Heuristic Teaching and Instruction in Problem-Solving on the Problem-Solving Performance, Mathematics Achievement, and Attitudes of Junior College Arithmetic Students. (University of Cincinnati, 1982.) DAI 43A: 3532; May 1983. [DA8307537]

Students taught problem-solving by a heuristic or a conventional method showed substantial increases in problem-solving scores. Those taught heuristics were likely to be more successful in obtaining solutions. (junior college freshmen)

Tuleya-Payne, Helena. Mathematics Achievement and Cognitive Factors in Spina Bifida Children with Hydrocephalus. (The Pennsylvania State University, 1983.) DAI 44A: 1423; November 1983. [DA8320940]

Relatively weak mathematical skills were found. (ages 10-13)

Tuokko, Holly Anna. Cognitive Correlates of Arithmetic Performance in Clinic Referred Children. (University of Victoria (Canada), 1983.) DAI 44B: 930; September 1983. [--]

Pattern of cognitive ability had no relationship to pattern of arithmetic performance, but level of verbal and memory abilities differed in relation to pattern of arithmetic performance. (elementary)

Urman, Harold Neal. Ethnic Differences and the Effects of Test-Wiseness Training on Verbal and Math Achievement. (University of Southern California, 1982.) DAI 43A: 2612; February 1983. [--] [grades 3, 5]

Vasquez, Victor Manuel. Algebra Word Problems: Exploring High School Students' Conceptions Through Their Solution Strategies. (University of California, Berkeley, 1982.) DAI 44A: 97-98; July 1983. [DA8313004]

Students viewed solving algebra word problems as setting up equations; other strategies were only sporadically used. (grade 9)

Verbeke, Karen Ann. Sex-Related Differences in Mathematically Gifted Secondary Students: An Investigation of Selected Cognitive, Affective, and Educational Factors. (University of Maryland, 1982.) DAI 43A: 2267-2268; January 1983. [DA8228002]

A positive relationship was found between course-taking and spatial visualization skills and attitude toward the usefulness of

mathematics. Few sex-related differences were found. (grades 8, 10, 11)

Virostko, Joan. An Analysis of the Relationships Among Academic Achievement in Mathematics and Reading, Assigned Instructional Schedules, and the Learning Style Time Preferences of Third, Fourth, Fifth, and Sixth Grade Students. (St. John's University, 1983.)

DAI 44A: 1683-1684; December 1983. [DA8322770] [grades 3-6]

Waddell, Linda Hecht. Correlates of Math Anxiety in Female College Freshmen Students: A Predictive Study. (University of Missouri-Columbia, 1982.) DAI 43B: 4132-4133; June 1983. [DA8310437]

The four variables of greatest value in predicting math anxiety were confidence in learning mathematics, mathematics as a male domain, teachers' attitude, and usefulness of mathematics. (college freshmen)

Walker, Robert C. The Effects of Test Administration Procedures on Standardized Diagnostic Mathematics Test Results. (Lehigh University, 1983.) DAI 44A: 981; October 1983. [DA8317146]

The warm, spontaneous, animated testing treatment resulted in higher scores in grades 5 and 7 than the aloof, formal, mechanical treatment. (grades 5-8)

Walters, Joseph M. The Origins of Counting in Children. (Harvard University, 1982.) DAI 43B: 3755; May 1983. [DA8308503]

Incrementing skill appeared in children who could not count accurately, but counting skill did not appear in children who could not increment. (ages 4-5)

Ware, Dorothy Lee. The Relationship of Testosterone Concentration, Spatial Ability, and Sex Role Identification in Women Teaching Secondary Mathematics and Primary Grades. (University of Houston, 1982.) DAI 43A: 2321; January 1983. [DA8229085]

Significant positive correlations were found between spatial visualization, spatial orientation, level of masculinity, and teaching field choice among women teachers. (teachers in grades K-3, secondary)

Watson, Charles Daniel. An Analysis of Teacher and School Factors Influencing Computational Skills Achievement in Eighth Grade Mathematics in Arkansas Schools. (University of Arkansas, 1983.) DAI 44A: 1750; December 1983. [DA8322874]

Students in small school districts scored lower than students in larger districts. Other teacher and school factors were also related to achievement. (grade 8)

Watson, Jane Marie. Individualized Mathematics Instruction in an Australian University. (Kansas State University, 1982.) DAI 43A: 2268; January 1983. [DA8229205] [college]

Weinberg, Frederick Hunter. An Experimental Investigation of the Interaction Between Sensory Modality Preference and Mode of

Presentation in the Instruction of Arithmetic Concepts to Third Grade Underachievers. (St. John's University, 1983.) DAI 44A: 1740; December 1983. [DA8322771]

No one teaching method was best for all students. Some support was found for some aptitude-instruction interactions. (grade 3)

Weisbeck, Chrisanne. School Mathematics Lessons as a Collaborative Effort Between Teacher and Students in Two Ninth Grade Mathematics Classes - General Math and Algebra. (Michigan State University, 1982.) DAI 43A: 2916; March 1983. [DA8303872]

The two classes involved almost the same amounts of communication by teacher and students, but cooperation differed. (grade 9)

Welch, Carron Whitis. The Effects of Early Intervention on the Learning Rates of Learning Disabled Students in the Basic Skill Areas of Reading and Mathematics: A Longitudinal Study. (Texas Woman's University, 1982.) DAI 44A: 67; July 1983. [DA8312292] [elementary, secondary]

Whitney, Dixie Lynn. Retention vs. Assignment: Immediate and Longitudinal Effects on Student Performance. (Indiana State University, 1983.) DAI 44A: 1766; December 1983. [DA8322850] [middle school]

Wilcox, Dee Ann. The Transfer of Instruction in Arithmetic Problem Solving. (Washington University, 1982.) DAI 43A: 3858-3859; June 1983. [DA8310945]

Four problem-solving strategies did not differ significantly in their ability to foster transfer. (grade 4)

Williams, Kathryn Virginia. A Curriculum Model for Computer Literacy for Elementary School Teachers. (University of the Pacific, 1983.) DAI 44A: 1684; December 1983. [DA8322612] [elementary teachers]

Willott, Patricia Christina. The Use of Imagery as a Mnemonic to Teach Teach Basic Multiplication Facts to Students with Learning Disabilities. (West Virginia University, 1982.) DAI 43A: 2317; January 1983. [DA8226953]

More correct responses were made when facts were presented with both factors and product shown concretely (by pictures). (grades 4-6)

Willson, Katherine Joam. A Survey of the Conditions Surrounding the Introduction and First-Year Utilization of Microcomputers in Four Selected Elementary Schools of Edmonton, Alberta, Canada. (University of Oregon, 1982.) DAI 43A: 3810; June 1983. [DA8318415] [elementary]

Wilmot, Barbara Anne. The Design, Administration, and Analysis of an Instrument Which Identifies Mathematically Gifted Students in Grades Four, Five and Six. (University of Illinois at Urbana-Champaign, 1983.) DAI 44A: 1718; December 1983. [DA8324673]

The instrument identified as gifted some students already recognized and some not already recognized, but did not identify as

gifted others already recognized. (grades 4-6)

Wilson, Patricia Simmons. Frequency of Features of Irrelevant Dimensions in a Geometric Feature Identification Task. (The Ohio State University, 1982.) DAI 43A: 3250; April 1983. [DA8305412]

A significant interaction was found between sequence conditions and frequency conditions. (junior high)

Yaseen, Nawal Hamed. A Study of the Factors Relating to Admission and Academic Achievement of Female Students in the College of Education, Mecca, Saudi Arabia. (University of Northern Colorado, 1983.) DAI 44A: 378-379; August 1983. [DA8313983] [college]

Yim, Gloria Y. Interruptive School Attendance and Academic Achievement of Elementary School Students. (United States International University, 1982.) DAI 43A: 2551; February 1983. [DA8229642] [grade 6]

Yim, Roger (Ki-Song). An Investigation of Three Arithmetic Programs in the Development of Basic Arithmetic Skills of Specific Learning Disabled Fourth, Fifth, and Sixth Grade Students. (University of Southern Mississippi, 1982.) DAI 44A: 142; July 1983. [DA8311090]

The three programs did not appear to affect achievement differentially. (grades 4-6)

Young, Eleanor Shafer. Time for Completion of Arithmetic Course as Predictor of Success in Follow-Up Elementary Algebra Course. (University of Cincinnati, 1982.) DAI 44A: 379; August 1983. [DA8313513]

Students who completed the learning task in less time were more likely to earn a satisfactory grade in the next mathematics course. (two-year college)

Zarnegar, Zohreh Taherem. The Relationship of Cognitive Measures to Affective Scales for a Sample of Gifted and Highly Gifted Pupils in Magnet and Non-Magnet Elementary Schools. (University of Southern California, 1983.) DAI 43A: 3553; May 1983. [---] [grades 4-6]

Zbyszynski, Her., Michael. Abstract Thought as a Component of Computer Programming. (Boston University School of Education, 1983.) DAI 44A: 1366; November 1983. [DA8319952] [college]

Zeh, Brenda Sue. The Effect of Selected Events of Instruction on Student Mastery of a Mathematics Rule. (The Florida State University, 1982.) DAI 43A: 3807; June 1983. [DA8309287]

Learner guidance, recall of prerequisite skill, and practice and feedback did not affect the proportion of students reaching mastery of the rule for dividing mixed fractions. (grades 5-8)

Zielke, Donald Henry. Solving Linear Equations on a Microcomputer: Thought Processes, Errors, and Guidance. (The University of Texas at Austin, 1982.) DAI 43A: 3835; June 1983. [DA8309221]

Different ability levels, use of different methods, and instruction with different levels of guidance resulted in use of different thought processes, different errors, and different requirements for guidance. (college)

Journals Searched

Journals indicated by an asterisk were searched page by page. For the remainder, either one or more issues could not be searched or articles were located through the use of Current Index to Journals in Education (CIJE) or Psychological Abstracts. The number in parentheses indicates the number of references listed.

- AEDS Journal (1)
- * Alberta Journal of Educational Research (7)
- * American Educational Research Journal (15)
- * American Journal of Mental Deficiency (0)
- * American Mathematical Monthly (1)
- * Arithmetic Teacher (10)
- * Australian Mathematics Teacher (2)
- Behavior Therapy (1)
- * British Journal of Educational Psychology (6)
- * Canadian Journal of Education (1)
- * Child Development (10)
- Child Study Journal (1)
- * Cognitive Psychology (1)
- * Cognitive Science (1)
- Community/Junior College Quarterly of Research and Practice (1)
- * Contemporary Education (0)
- Contemporary Educational Psychology (1)
- * Developmental Psychology (4)
- * ECTJ (1)
- Education Research and Perspectives (1)

- * Educational and Psychological Measurement (21)
- * Educational Research (4)
- * Educational Researcher (1)
- * Educational Studies in Mathematics (16)
- * Educational Technology (3)
- * Elementary School Journal (9)
- Exceptional Children (3)
- * Focus on Learning Problems in Mathematics (1)
- * For the Learning of Mathematics (0)
- * Genetic Psychology Monographs (4)
- Gifted Child Quarterly (1)
- High School Journal (1)
- * Intelligence (2)
- * Journal for Research in Mathematics Education (19)
- Journal of Clinical Child Psychology (1)
- * Journal of Computers in Mathematics and Science Teaching (0)
- Journal of Consulting and Clinical Psychology (1)
- Journal of Counseling Psychology (1)
- * Journal of Curriculum Studies (3)
- * Journal of Educational Measurement (5)
- Journal of Educational Psychology (6)
- * Journal of Educational Research (14)
- * Journal of Experimental Child Psychology (6)
- * Journal of Experimental Education (5)
- Journal of Experimental Psychology: General (1)
- Journal of General Psychology (1)
- * Journal of Genetic Psychology (5)
- Journal of Learning Disabilities (2)

- Journal of Research and Development in Education (1)
- * Journal of Research in Science Teaching (3)
- Journal of Science and Mathematics Education in Southeast Asia (2)
- * Journal of School Psychology (2)
- * Journal of Social Psychology (0)
- Journal of Special Education (1)
- Journal of Vocational Behavior (1)
- * Mathematics and Computer Education (2)
- * Mathematics in School (9)
- * Mathematics Teacher (4)
- * Phi Delta Kappan (1)
- * Psychological Bulletin (0)
- * Psychological Reports (12)
- * Psychology in the Schools (4)
- Research in Science and Technological Education (1)
- * Review of Educational Research (4)
- * School Science and Mathematics (16)
- Science Education (1)
- Sex Roles: A Journal of Research (1)
- * Two-Year College Mathematics Journal (2)

Index

This index is designed to help the reader locate references to designated mathematical topics. Not all studies are included, nor is the cross-referencing exhaustive. The studies have been grouped by articles and dissertations; level is indicated by E, elementary; S, secondary; and C, college and other postsecondary.

Achievement

Articles

Ansley and Forsyth	-
Ayres	C
Benbow et al. (a, b)	S/C
Carpenter et al. (b)	S
Collis	E/S
Cox	S
Darakjian and Michael	S
Derevensky et al.	E
Dickins and Wood	S
Duke	C
Elderveld	C
Friesen	S
Grossman and Johnson	E
Hanna et al. (b)	S
Hart	S
Heid	-
Hess et al.	C
Hollinger	S
Hogrebe et al.	C
Houston	C
Husén	S
Kissane	-
Lindquist et al.	E/S
Lund et al.	E
Miller and Bizzell	E/S
Mishra	E
Newcombe and Bandura	E
Newfield and McElyea	S
Oakland	E/S
Osborn	S
Pallas and Alexander	E/S
Parke	E
Pinneau et al.	E
Powers et al.	E/S
Pravica and McLean	E

(Achievement - continued)

Ridley-Johnson et al.	E/S
Roe et al.	S
Rovet and Netley	E
Scarr and Weinberg	S
Schmidt (a)	S
Schroth	C
Snyder and Elmore	C
Snyder and Michael	E
Solano	S
Souviney	E
Suddick et al.	C
Tsai and Walberg	S
Walberg and Shanahan	S
Wang and Walberg	E
White and Bigham	C
Willig et al.	E/S
Zelevnik et al.	C

Dissertations

Abbate	E
Alfred	E
Bedi	E
Bhattacharya	S
Bower	S
Brimlow	C
Burrowes	S
Buscavage	E
Byanski	E
Canady	E
Carrington	E
Case	C
Casper	E
Colon Colon	S
Cramond	S
Culbreath	S
Danley	E
Davenport	E/S
Davis, B.	E
Davis, M.	E
DeGuire	-
Dennis	E
Dettloff	C
Duggar	C
Faust	E
Fremouw	S
Halderman	E
Helmick	C
Hersberger	E
Janes	S
Johnston, G.	S

(Achievement - continued)

Kasilus	S
Keinig	C
Kvet	E
Larkin	C
Lilly	E/S
Lindskog	E
Maddocks	E
Martell	S
Maspons	C
McEvoy	E/S
McGee	E
Meeks	E
Rinter	E
Morningstar	S
Parra	E
Peeples	S
Pelfrey	S
Pogatshnik	S
Saab	E
Siegel	C
Simon	E/S
Sonnabend	E
Spencer	E
Tirre	E
Verbeke	S
Waddell	C
Watson, C.	S
Wilmot	E
Young	C
Zarnegar	E

Algebra

Articles

Hanna et al. (b)	S
Ibe	S
Jesson	S
Küchemann	S
McCauley and Colberg	S
Prawat et al.	S
Shumway et al.	S
Signer	S

Dissertations

Bhartiya	S
Bull	C
Friske	S
Hartzler	S

(Algebra - continued)

Johnston, G.	S
Leyton Soto	S
McKee	S
Morringstar	S
Reed	C
Sullenberger	S
Swoope	S
Vasquez	S
Weisbeck	S
Wilson	S

Arithmetic Operations

Articles

Baroody et al.	E
Barr	E/S/C
Bidwell	E
Carpenter et al. (a)	E
Easley and Easley	E
Grossman, A.	C
Hannafin (b)	E
Hart	S
Hudson	E
Hunting	E
Kalin	E
Lindquist et al.	E/S
Matthews (a, b)	E
O'Brien (a, b)	E
Pothier and Sawada	E
Schunk (a, b, c)	E
Secada et al.	E
Shaw and Pelosi	C
Steele et al.	E
Steffe	E
Szynal-Brown and Morgan	E
Thompson and Hendrickson	E
Thornton et al.	E
Wearne-Hiebert and Hiebert	E/S
Whitman and Johnston	E/S
Zawojewski	E

Dissertations

Aviv	E
Breault	E
Clarke	E
Darch	E
Dews	E
Dudley	E

(Arithmetic Operations - continued)

Foster	E
Gailey	E
Garofalo	E
Garofano	E
Gill	E
Golden	S
Haus	S
Horine	E
James	E
Langbort	E
Lindskog	E
Mars:all	E
Maxim	S
McDermitt	E
Nagarkatte	C
Owen	E
Parra	E
Quam	E
Regan	S
Rickman	E
Shipstead	E
Shoemaker	S
Sigda	E
Sinicrope	E/S
Smedlaw	E
Speck	S
Tanbanjong	E
Tiu	E
Watson, C.	S
Willott	E
Zeh	E/S

Attitudes and Anxiety

Articles

Backhouse	S
Brunson	C
Carpenter et al. (b)	S
Clark and Richmond	E
Dew and Galassi	C
Dolan	E/S
Frary and Ling	C
Gayton et al.	C
Getzels and Smilansky	S
Haladyna et al.	E/S
Hanna et al. (a)	S
Hollinger	S
Maqsud	S
Marsh et al. (a, b)	E
Menis	S

(Attitudes and Anxiety - continued)

Minato	S
Newfield and McElyea	S
Patten	E
Penick	E
Peterson et al.	E
Prawat et al.	S
Raymond and Roberts	C
Robinson	C
Saigh and Khouri	S
Saigh and Mukallid	S
Schoenfeld	C
Shaughnessy et al.	E/S
Snyder and Michael	E
Solano	S
Stones et al.	C
Tsai and Walberg	S
Watson	C

Dissertations

Ast	C
Ben-Haim	E/S
Blackwell	C
Brimlow	C
Byanski	E
Byrd	C
Colon Colon	S
Cramond	S
Danley	E
Dennis	R
Fee-Fulkerson	C
Ferguson	C
Frye	C
Glenn	E
Gourgey	C
Haines	C
Handler	C
Knopp	C
Lilly	E/S
Ling	C
Martin, M. K.	E
McEvoy	E/S
McTeer	C
Newman	E/S
Oldham	E/S
Peters	S
Pogatshnik	S
Rapoport	E/S
Samuels	E/S
Smith, G.	S
Smith, T.	C
Themes	C
Toliver	E/S
Verbeke	S
Waddell	C

Calculators and Computers

Articles

Bright (a)	E/S/C
Clark	--
Carpenter et al. (b)	S
Cole and Hannafin	S
Fowler	C
Grossnickle et al.	S
McDermott and Watkins	E
Morris	E
Signer	S
Steele et al.	E
Steinberg	C
Suydam (c)	E

Dissertations

Alberding	C
Benson	E
Blum	E/S
Bone	S
Burke	E/S
Burrowes	S
Clark	E
Collenback	S
Crenshaw	E
Duggar	C
Easterling	E
Edens	E
Foster	E
Friel	S
Fuchs	S
Golden	S
Green	S
Haus	S
Hersberger	E
Kasilus	S
Koontz	E
Langbort	E
Merritt	E/S
Price	E/S
Rambally	S
Sasscer	C
Schroeder	E
Sonnabend	E
Williams	E
Willson	E
Zbyszynski	C
Zielke	C

Cognitive Style

Articles

Linn and Pulos	S
Roberge and Flexer	E/S

Dissertations

DiFabio	E
Heller	C
Johnston, G.	S
Lindskog	E
Moylan	S
Olsen	S
Perunko	C
Virostka	E
Weinberg	E

Diagnosis and Remediation

Articles

Birenbaum and Tatsuoka	S
Brainerd	E
Clarkson	E
Fogel and Nelson	E
Hart	S
Knoff	E
Leon and Pe e	E
Madden and Slavin	-
Marshall	E
Matthews (a, b)	E
McDermott and Watkins	E
Mevarech	C
Meyer et al.	E
Nairne and Healy	C
Newfield and McElyea	S
O'Brien (b)	E
Orton (b)	S/C
Parke	E
Salend	E
Schunk (b)	E
Charpley et al.	E
Shaw and Pelosi	C
Suydam (d)	E
Szynal-Brown and Morgan	E
Tatsuoka	-
Thornton et al.	E
Wearne-Hiebert and Hiebert	E/S
Whitman and Johnston	E/S
Wollman	C
Ziomek and Schoenenberger	E

(Diagnosis and Remediation - continued)

Dissertations

Alberding	C
Alfred	E
Bedi	E
Brunson	S
Buscavage	E
Clark	E
Darch	E
Davis, B.	E
DiFabio	E
Flinter	S
Franca	E/S
Frye	C
Golden	S
Hathaway	S
Haus	S
High	E/S
Jones	E
Kinney	E
Lindskog	E
McGuire	E
Morningstar	S
Peters	S
Quarr	E
Regan	S
Robinson	C
Shipstead	E
Shoemaker	S
Speck	S
Sullenberger	S
Weinberg	E
Whitney	E/S
Zielke	C

Ethnic and Social Variables

Articles

Ayres	C
Ball et al.	S
Carpenter et al. (b)	S
Cox	S
Fennell et al.	E
Fulkerson et al.	E/S
Goldstein	E/S
Hannafin (a)	E
Hogrebe et al.	C
Houston	C
Kuntz and Lyczak	E/S

(Ethnic and Social Variables -- continued)

Llabre and Cuevas	E
Madden and Slavin	-
Maqsd	S
Marjoribanks (a)	S
Mishra	E
Oakland	E/S
Pinneau et al.	E
Powers et al.	E/S
Rovet and Netley	E
Scarr and Weinberg	S
Sheppard et al.	E/S
Smith and Dittmann	E
Snyder and Michael	E
Stanley and Greenwood	E
Taylor	S
Tsai and Walberg	S
Veldman and Worsham	S
Walberg and Shanahan	S
Wang and Walberg	E
Willig et al.	E/S
Ziomek and Schoenenberger	E

Dissertations

Bhartiya	S
Bujan-Delgado	E
Colon Colon	S
Culbreath	E
Czerwinski	E/S
Daniele	E/S
Davis, M.	E
Deery	E
Donovan	E
Exezidis	E/S
Franca	E/S
Fremouw	S
Gates	E
H-lderman	E
Hammer	E
Hign	E/S
Kim	E
Knopp	C
Koh	E/S
Long	E
Maddocks	E
Maspons	C
McEvoy	E/S
Moller	S
Moore, S.	S
Mosely	E

(Ethnic and Social Variables - continued)

Pao	E
Parra	E
Prillwitz	C
Saab	E
Sacks	E/S
Spencer	E
Tuleya-Payne	E/S
Tuokko	E

Geometry and Measurement

Articles

Auaburn and Ausburn	C
Cherkes	E/S
Clark and Richmond	E
Collia	E/S
Gayton et al.	C
Gold	E
Hildreth	E/S/C
Jolicoeur	C
Leeds et al.	E/S
Light and Gilmour	E
Lindquist et al.	E/S
Mayberry	E
Morris	E
Newcombe and Bandura	E
Newcombe et al.	C
Peterson et al.	S
Schipper	-
Schoenfeld	C
Schultz and Austin	E
Tegano and Faulkender	C
Webb and Cullian	S
Woodward and Byrd	S

Dissertations

Ben-Haim	E/S
Cramond	S
Foster	E
Friske	S
Glenn	E
Immers	E
Johnson, M. A.	C
Johnson, M. R.	S
Kinney	E
Liu	S
Martell	S
McGalliard	S
McKee	S

(Geometry and Measurement - continued)

Miller, Kevin	E
Perunko	C
Senk	S
Sichel	E
Speck	S
Thomas, B.	E
Verbeke	S
Ware	E/S
Wilson	S

Learning

Articles

Ayabe et al.	C
Brainerd	E
Bright et al.	E/S
Dawe	S
Holzman et al.	E/C
Hunt and Randhawa	E
Hunting	E
Jolicoeur	C
Küchemann	S
Kuntz and Lyczak	E/S
Lawson	S/C
Linn and Pulos	S
Maloney	C
Mayberry	E
Maqsud	S
Oren	E
Roberge and Craven	E/S
Roberge and Flexer	E/S
Schvuk (a, b, c)	E
Shumway et al.	S
Steffe	E
Steinberg	C
Strang and Rourke	E/S
Szynal-Brown and Morgan	E
Willig et al.	E/S

Dissertations

Benson	E
Berkeman	S
Brunson	S
Burzlér	E/S
Clark	E
Cramond	S
DeGuire	-
Doll	E
Eskstrand	E/S
Fajemidagba	S

(Learning - continued)

Fremouw	S
Friel	S
Frye	C
Gailey	E
Garofalo	E
Horine	E
Koh	E/S
Leyton Soto	S
McGuire	E
Mylan	S
Ngil	C
Pao	E
Perez	C
Robertson	E
Rycek	C
Shipstead	E
Springs	E/S
Stout	-
Thompson, T. J.	C
Tirre	E
Tiu	E
Wilcox	E
Wilson	S
Zbyszynski	C
Zeh	E/S
Zielke	C

Learning Disabilities

Articles

Ball et al.	S
Cherkes	E/S
Fogel and Nelson	E
Labercane	E
Leon and Pepe	E
Linn and Pulos	S
Lund et al.	E
McDermott and Watkins	E
Ozawa and Michael	E
Patten	E
Salend	E
Shepard et al.	E/S
Strang and Rourke	E/S
Wilkinson and Spinelli	E

Dissertations

Abbate	E
Breault	E
Brunson	S
Davenport	E/S
Garofano	E

(Learning Disabilities -- continued)

McCormick	E
McGuire	E
Miller, Kelly	-
Moore, S.	S
Nuzum	E
Regan	S
Sacks	E/S
Smalley	S
Smedlaw	E
Spraings	E/S
Tuleya-Payne	E/S
Tuokko	E
Welch	E/S
Willott	E
Yim, R.	E

Materials

Articles

Baker and Griffith	E/S
Barody et al.	E
Bright et al.	E/S
Clark	-
Freeman et al. (a, b)	E
Green and Smith	-
Jackson and Phillips	S
Labercane	E
Moskowitz et al.	E
Myers et al.	C
Pothier and Sawada	E
Ridley-Johnson et al.	E/S
Roberge and Craven	E/S
Scott	E
Thornton et al.	E

Dissertations

Al-Saloom	E
Aviv	E
Durham	S
Gill	E
Hartzler	S
Mateja	E
McDermitt	E
Minsky	E/S
Napoli	C
Owen	E
Parham	E
Rickman	E
Ricks	S
Schroeder	E

(Materials - continued)

Sigda	E
Smalley	S
Speck	S
Stigler	E
Stucker	E
Tanbanjong	E
Tiu	E

Number and Numeration

Articles

Baroody and Ginsburg	E
Baroody and White	E
Baroody et al.	E
Blume and Mitchell	S
Collis	E/S
Fuson et al.	E
Hudson	E
Hunting	E
Miller and Gelman	E/C
Nairne and Healy	C
Secada et al.	E
Steffe	E
Svenson and Sjoberg	E/S/C
Wheeler and Feghali	E

Dissertations

Coburn	E
Miller, Kevin	E
Prasiasak	E
Walters	E

Organizing for Instruction

Articles

Baker and Griffith	E/S
Bangert et al.	S
Baroody and Ginsburg	E
Brophy	E/S
Conrad and Eash	E
Dawe	S
Dodendorf	E/S
Doyle	E/S
Genesee and Lambert	E
Graden et al.	E
Hannafin (a, b)	E
Hirsch et al.	C
Leon and Pepe	E
Llabre and Cuevas	E

(Organizing for Instruction - continued)

Marrett and Gates	S
Meyer et al.	E
Moskowitz et al.	E
Myers et al.	C
Newfield and McElyea	C
Palmer et al.	S
Parke	E
Pravica and McLean	E
Purkey and Smith	E/S
Sanford and Evertson	S
Schmidt (a, b)	S
Schunk (a)	E
Walberg and Shanahan	S
Wang and Walberg	E
Webb and Cullian	S
Wilkinson and Spinelli	E
Williams	C

"

Dissertations

Byanski	E
Casper	E
Crenshaw	E
Darch	E
Dews	E
Edelman	-
Ferro	S
Flanagan	E
Friske	S
Gohs	S
Grinstead	E
Harsher	S
Harvey	E
Higab	S
Hurley	C
James	E
Johnston, M.	E
Kasilus	S
Layton Soto	S
Long	E
Martin, M. J.	E/S
McCormick	E
McDonald	-
Moore, S.	S
Mosely	E
Owen	E
Peters	S
Pratton	S
Reed	C
Reid	S
Rule	E
Saab	E
Sack	E/S

(Organizing for Instruction - continued)

Schielack	S
Schmitt	E
Shearn	E
Sigda	E
Smedley	E
Smith, T.	C
Stucker	E
Thompson, T. J.	C
Watson, J.	C
Weinberg	E

Problem Solving

Articles

Af Ekenstam and Greger	S
Bidwell	E
Carpenter et al. (a, b)	E/S
Ibe	S
Karplus et al.	E/S
Lindquist et al.	E/S
Myers et al.	C
O'Brien (a, b)	E
Quintero	E/S
Schoenfeld	C
Schroth	C
Sherrill	S
Steinberg	C
Svenson et al.	C
Thompson and Hendrickson	E
Threadgill-Sowder	C
Trelinski	C
Walters	E

Dissertations

Blackwell	C
Breault	E
Bujan-Delgado	E
Bull	C
Burzler	E/S
Collenback	S
Darch	E
Dudley	E
Exezidis	E/S
Fee-Fulkerson	C
Fisher	S
Friel	S
Garofalo	E
Heller	C
Hersberger	E
Johnston, M.	E

(Problem Solving - continued)

Langbort	E
Liu	S
Marshall	E
McGee	E
McKee	S
Meyer	C
Moylan	S
Noll	C
Nuzum	E
Perunko	C
Roth	E
Rycek	C
Shipstead	E
Shoemaker	S
Stone	E
Sullenberger	S
Swoope	S
Tamburino	E
Truckson	C
Vasquez	S
Wilcox	E

Sequencing

Articles

Backhouse	S
Bright (a)	E/S/C
Brophy et al.	E
Dekkers et al.	S
Derevensky et al.	E
Freeman et al. (a, b)	E
Fuson et al.	E
Gore and Roumagoux	E
Graden et al.	E
Hudson	E
Leitzel	S/C
McIntyre et al.	E/S
Miller and Gelman	E/S
Miller and Bizzell	E/S
Stanford and Evertson	S
Schmidt and Buchmann	E
Stanley and Greenwood	E

Dissertations

Bone	S
Buscavage	E
Daniele	E/S
Deery	E
Donovan	E
Goiran	S
Gutierrez	E

(Sequencing - continued)

Hinton	C
Johnson, M. R.	S
Koontz	E
Loase	S/C
Maddocks	E
Martin, M. K.	E
Maxim	S
McDermic	E
Meeks	E
Morningstar	S
Nagarkatte	C
Oldham	E/S
Pelfrey	S
Rambally	S
Roth	E
Smith, G.	S
Virostko	E
Whitney	E/S
Yim, G.	E
Young	C

Sex Differences

Articles

Bidwell	E
Bright (b)	C
Brunson	C
Carpenter et al. (b)	S
Dew and Galassi	C
Entwisle and Baker	E
Freed	S
Friesen	S
Fulkerson et al.	E/S
Gayton et al.	C
Gore and Roumagoux	E
Hannafin (a)	E
Hogrebe et al.	C
Levine and Ornstein	E/S/C
Marrett and Gates	S
Marshall	E
Minato	S
Newcombe and Bandura	E
Newcombe et al.	C
Pallas and Alexander	E/S
Paulson and Johnson	E/S
Peterson et al.	S
Powers et al.	E/S
Ridley and Novak	S
Solaho	S
Taylor	S
Tegano and Faulkender	C
Tsai and Walberg	S

(Sex Differences - continued)

Dissertations

Ast	S
Baker	C
Ben-Haim	E/S
Berkovitz	C
Blake	C
Curtin	S
Edelman	-
Exezidas	E/S
Fee-Fulkerson	C
Halderman	E
Janes	S
Johnson, M. A.	C
Kaczala	E/S
Knopp	C
Lilly	E/S
Ling	C
Moller	S
Moylan	S
Perunko	C
Pogatshnik	S
Prillwitz	C
Rapoport	E/S
Sass	E/S
Siegel	C
Smedlaw	E
Thomas, D.	E/S
Tohidi	E/S
Verbeke	S
Ware	E/S
Yaseen	C

Test Analysis

Articles

Baker and Griffith	E/S
Birenbaum and Tatsuoka	S
Blair et al.	E/S
Collis	E/S
Darakjian and Michael	S
Dew and Galassi	C
Dolan	E/S
Frary and Ling	C
Freeman et al. (a, b)	E
Grossman and Johnson	E
Ibe	S
Jesson	S
Marsh et al. (b)	E
Marshall	E
McCauley and Colberg	S

(Test Analysis - continued)

Ozawa and Michael	E
Popovics	C
Powers and Alderman	S
Raymond and Roberts	C
Robitaille and O'Shea	E/S
Saigh and Khouri	S
Saigh and Mukallid	S
Stones et al.	C
Tatsuoka	-
Watson	C
Zeleznik et al.	C

Dissertations

Abbate	E
Alberding	C
Blake	C
Brimlow	C
Dallman	S
Ferguson	C
Kim	E
Ling	C
Maspons	C
Miller, Kelly	-
Moore, J.	S
Robinson	C
Urman	E
Walker	E/S
Wilmot	E