

Classified Index

Volumes 7 and 8, 1976-77

Author Index

- Allen, L. E., & Main, D. B. The effect of instructional gaming on absenteeism: The first step. 7: 113-128, Mar. 1976.
- Barszcz, E. L., & Gentile, J. R. Retroactive interference of similar methods to teach translation of base systems in mathematics. 7: 176-182, May 1976.
- Bassler, O. C., Beers, M. I., & Richardson, L. I. Response to Kulm's critique. 8: 155-156, Mar. 1977.
- Beers, M. I., Bassler, O. C., & Richardson, L. I. Response to Kulm's critique. 8: 155-156, Mar. 1977.
- Behr, M. J., & Eastman, P. M. Interaction between structure of intellect factors and two methods of presenting concepts of logic. 8: 379-381, Nov. 1977.
- Blankenship, C. S., & Lovitt, T. C. Story problems: Merely confusing or downright befuddling? 7: 290-298, Nov. 1976.
- Brennan, M. L., & Post, T. R. An experimental study of the effectiveness of a formal versus an informal presentation of a general heuristic process on problem solving in tenth-grade geometry. 7: 59-64, Jan. 1976.
- Brennan, M. L., & Post, T. R. Teaching problem-solving heuristics: A response. 8: 156-159, Mar. 1977.
- Bright, G. W. Use and recall of advance organizers in mathematics instruction. 7: 321-324, Nov. 1976.
- Campbell, N. J., & Schoen, H. L. Relationships between selected teacher behaviors of prealgebra teachers and selected characteristics of their students. 8: 369-375, Nov. 1977.
- Carpenter, T. P., Coburn, T. G., Reys, R. E., & Wilson, J. W. Research implications and questions from the year 04 NAEP mathematics assessment. 7: 327-336, Nov. 1976.
- Carpenter, T. P., & Lewis, R. The development of the concept of a standard unit of measure in young children. 7: 53-58, Jan. 1976.
- Carroll, C. D. The relative effectiveness of three geometric proof construction strategies. 8: 62-67, Jan. 1977.
- Catanzano, R., & Godwin, W. Comparative effectiveness of three sequences of moves for teaching conjunctive and relational mathematical concepts to college students. 8: 33-47, Jan. 1977.
- Catanzano, R., & Godwin, W. Comparative effects of three sequences of moves for teaching selected mathematical concepts to college students. 7: 276-289, Nov. 1976.
- Clark, R. C. A note on the power of statistical tests. 8: 385-389, Nov. 1977.
- Coburn, T. G., Carpenter, T. P., Reys, R. E., & Wilson, J. W. Research implications and questions from the year 04 NAEP mathematics assessment. 7: 327-336, Nov. 1976.
- Cooney, T. J., & Ensey, L. F. The effects of two methods of presenting a pedagogical model to preservice teachers. 8: 107-114, Mar. 1977.
- Coulson, W. F., & Howe, T. G. Certain school and pupil characteristics and mathematics test results in Wisconsin. 8: 223-227, May 1977.
- Damarin, S. K. Conjunctive interpretations of logical connectives: Replication of results using a new type of task. 8: 231-233, May 1977.
- Damarin, S. K. The interpretation of statements in standard logical form by preservice elementary teachers. 8: 123-131, Mar. 1977.
- Dossey, J. A. The relative effectiveness of four strategies for teaching algebraic and geometric disjunctive concepts and for teaching inclusive and exclusive disjunctive concepts. 7: 92-105, Mar. 1976.
- Drapac, G. L., & Schoen, H. L. An annotated bibliography of research on self-paced mathematics instruction (1965-1976). 8: 144-145, Mar. 1977.
- Eastman, P. M., & Behr, M. J. Interaction between structure of intellect factors and two methods of presenting concepts of logic. 8: 379-381, Nov. 1977.
- Eisenberg, T. A. Begle revisited: Teacher knowledge and student achievement in algebra. 8: 216-222, May 1977.
- Ellsworth, R., & Isakson, R. L. A useful statistical technique for replication studies. 8: 74-77, Jan. 1977.
- Ensey, L. F., & Cooney, T. J. The effects of two methods of presenting a pedagogical model to preservice teachers. 8: 107-114, Mar. 1977.
- Fennell, F., & Trueblood, C. R. The elementary school as a training laboratory and its effect on low-achieving sixth graders. 8: 97-106, Mar. 1977.
- Fennema, E., & Sherman, J. A. Fennema-Sherman mathematics attitudes scales: Instruments designed to measure attitudes toward the learning of mathematics by females and males. 7: 324-326, Nov. 1976.
- Flora, J. A., Van Wageningen, R. K., & Walker, A. A. The introduction of mathematics through measurement or through set theory: A comparison. 7: 299-307, 1976.
- Friedman, M. Cognitive emphasis of geometry teachers' questions. 7: 259-263, Nov. 1976.
- Gentile, J. R., & Barszcz, E. L. Retroactive interference of similar methods to teach translation of base systems in mathematics. 7: 176-182, May 1976.
- Godwin, W., & Catanzano, R. Comparative effectiveness of three sequences of moves for teaching conjunctive and relational mathematical concepts to college students. 8: 33-47, Jan. 1977.
- Godwin, W., & Catanzano, R. Comparative effects of three sequences of moves for teaching selected mathematical concepts to college students. 7: 276-289, Nov. 1976.
- Good, T. L., & Grouws, D. A. Factors associated with third- and fourth-grade children's performance in solving multiplication and division sentences. 7: 155-171, May 1976.
- Gordon, M. Mathematics presentation as a function of cognitive/personality variables. 8: 205-210, May 1977.
- Grouws, D. A., & Good, T. L. Factors associated with third- and fourth-grade children's performance in solving multiplication and division sentences. 7: 155-171, May 1976.
- Guay, R. B., & McDaniel, E. D. The relationship between mathematics achievement and spatial abilities among elementary school children. 8: 211-215, May 1977.
- Hart, A., & Talmage, H. Investigative teaching of mathematics and its effect on the classroom learning environment. 8: 345-358, Nov. 1977.
- Hirsch, C. R. The effects of guided discovery and individualized instructional packages on initial learning, transfer, and retention in second-year algebra. 8: 359-368, Nov. 1977.
- Hogan, T. P. Students' interests in particular mathematics topics. 8: 115-122, Mar. 1977.

- Holtan, B. D., & Knifong, J. D. A search for reading difficulties among erred word problems. *8*: 227-230, May 1977.
- Holtan, B. D., & Knifong, J. D. An analysis of children's written solutions to word problems. *7*: 106-112, Mar. 1976.
- Howe, T. G., & Coulson, W. F. Certain school and pupil characteristics and mathematics test results in Wisconsin. *8*: 223-227, May 1977.
- Isakson, R. L., & Ellsworth, R. A useful statistical technique for replication studies. *8*: 74-77, Jan. 1977.
- Johnson, H., & Lesh, R. A., Jr. Models and applications as advanced organizers. *7*: 75-81, Mar. 1976.
- Johnson, M. L. The effects of instruction on length relations on the qualitative seriation behavior of first- and second-grade children. *8*: 145-147, Mar. 1977.
- Jones, R. C., Maertens, N. W., & Waite, A. Elemental groupings help children perceive cardinality: A two-phase research study. *8*: 181-193, May 1977.
- Kantowski, M. G. Processes involved in mathematical problem solving. *8*: 163-180, May 1977.
- Kaufman, D. M., Robitaille, D. F., & Sherrill, J. M. The effect of computer utilization on the achievement and attitudes of ninth-grade mathematics students. *8*: 26-32, Jan. 1977.
- Kelley, J., Price, J., & Kelley, J. L. "New math" implementation: A look inside the classroom. *8*: 323-331, Nov. 1977.
- Kelley, J. L., Price, J., & Kelley, J. L. "New math" implementation: A look inside the classroom. *8*: 323-331, Nov. 1977.
- Kidder, F. R. Elementary and middle school children's comprehension of Euclidean transformations. *7*: 40-52, Jan. 1976.
- Kilpatrick, J., & Weaver, J. F. The place of William A. Brownell in mathematics education. *8*: 382-384, Nov. 1977.
- Knifong, J. D., & Holtan, B. D. A search for reading difficulties among erred word problems. *8*: 227-230, May 1977.
- Knifong, J. D., & Holtan, B. D. An analysis of children's written solutions to word problems. *7*: 106-112, Mar. 1976.
- Kuehls, E. A. Effect of interspersed questions on learning from mathematical text. *7*: 172-175, May 1976.
- Kulm, G. Teaching problem-solving heuristics: A critique of two studies. *8*: 153-155, Mar. 1977.
- Lesh, R. Recent cooperative research concerning the acquisition of spatial and geometric concepts. *8*: 317-320, July 1977.
- Lesh, R. A., Jr. An interpretation of advanced organizers. *7*: 69-74, Mar. 1976.
- Lesh, R. A., Jr. The influence of an advanced organizer on two types of instructional units about finite geometries. *7*: 82-86, Mar. 1976.
- Lesh, R. A., Jr. The influence of two types of advanced organizers on an instructional unit about finite groups. *7*: 87-91, Mar. 1976.
- Lesh, R. A., Jr., & Johnson, H. Models and applications as advanced organizers. *7*: 75-81, Mar. 1976.
- Lewis, R., & Carpenter, T. P. The development of the concept of a standard unit of measure in young children. *7*: 53-58, Jan. 1976.
- Lovitt, T. C., & Blankenship, C. S. Story problems: Merely confusing or downright befudding? *7*: 290-298, Nov. 1976.
- McBride, C. C., & Rollins, J. H. The effects of history of mathematics on attitudes toward mathematics of college algebra students. *8*: 57-61, Jan. 1977.
- McDaniel, E. D., & Guay, R. B. The relationship between mathematics achievement and spatial abilities among elementary school children. *8*: 211-215, May 1977.
- McGinty, R. L. The effects of instruction in sentential logic on selected abilities of second- and third-grade children. *8*: 88-96, Mar. 1977.
- McHugh, D. O., & Wheatley, G. H. A comparison of two methods of column addition for pupils at three grade levels. *8*: 376-378, Nov. 1977.
- Maertens, N. W., Jones, R. C., & Waite, A. Elemental groupings help children perceive cardinality: A two-phase research study. *8*: 181-193, May 1977.
- Main, D. B., & Allen, L. E. The effect of instructional gaming on absenteeism: The first step. *7*: 113-128, Mar. 1976.
- Martin, J. L. A test with selected topological properties of Piaget's hypothesis concerning the spatial representation of the young child. *7*: 26-38, Jan. 1976.
- Martin, J. L. An analysis of some of Piaget's topological tasks from a mathematical point of view. *7*: 8-24, Jan. 1976.
- Mein, L., & Ohlson, E. L. The difference in level of anxiety in undergraduate mathematics and nonmathematics majors. *8*: 48-56, Jan. 1977.
- Mick, H. W., & Williams, E. R. Measuring the effectiveness of using slide-tape lessons in teaching basic algebra to mathematically disadvantaged students. *7*: 183-192, May 1976.
- Nelson, L. D., & Riggs, F. T. Verbal-nonverbal conservation and primary mathematics. *7*: 315-320, Nov. 1976.
- Novillis, C. F. An analysis of the fraction concept into a hierarchy of selected subconcepts and the testing of the hierarchical dependencies. *7*: 131-144, May 1976.
- O'Brien, T. C., & Shapiro, B. J. Number patterns: Discovery versus reception learning. *8*: 83-87, May 1977.
- Ohlson, E. L., & Mein, L. The difference in level of anxiety in undergraduate mathematics and nonmathematics majors. *8*: 48-56, Jan. 1977.
- Phillips, E. R., & Uprichard, A. E. An intraconcept analysis of rational number addition: A validation study. *8*: 7-16, Jan. 1977.
- Post, T. R., & Brennan, M. L. An experimental study of the effectiveness of a formal versus an informal presentation of a general heuristic process on problem solving in tenth-grade geometry. *7*: 59-64, Jan. 1976.
- Post, T. R., & Brennan, M. L. Teaching problem-solving heuristics: A response. *8*: 156-159, Mar. 1977.
- Post, T. R., Ward, W. H., Jr., & Willson, V. L. Teachers', principals', and university faculties' views of mathematics learning and instruction as measured by a mathematics inventory. *8*: 332-344, Nov. 1977.
- Price, J., Kelley, J. L., & Kelley, J. L. "New math" implementation: A look inside the classroom. *8*: 323-331, Nov. 1977.
- Reys, R. E., Carpenter, T. P., Coburn, T. G., & Wilson, J. W. Research implications and questions from the year 04 NAEP mathematics assessment. *7*: 327-336, Nov. 1976.
- Richardson, L. I., Bassler, O. C., & Beers, M. I. Response to Kulm's critique. *8*: 155-156, Mar. 1977.
- Riggs, F. T., & Nelson, L. D. Verbal-nonverbal conservation and primary mathematics. *7*: 315-320, Nov. 1976.
- Robitaille, D. F., Sherrill, J. M., & Kaufman, D. M. The effect of computer utilization on the achievement and attitudes of ninth-grade mathematics students. *8*: 26-32, Jan. 1977.
- Rollins, J. H., & McBride, C. C. The effects of history of mathematics on attitudes toward mathematics of college algebra students. *8*: 57-61, Jan. 1977.
- Schoen, H. L., & Campbell, N. J. Relationships between selected teacher behaviors of prealgebra teachers and selected characteristics of their students. *8*: 369-375, Nov. 1977.
- Schoen, H. L., & Drapac, G. L. An annotated bibliography of research on self-paced mathematics instruction (1965-1976). *8*: 144-145, Mar. 1977.
- Scott, N. C. Inquiry strategy, cognitive style, and mathematics achievement. *8*: 132-143, Mar. 1977.
- Shapiro, B. J., & O'Brien, T. C. Number patterns: Discovery versus reception learning. *8*: 83-87, Mar. 1977.
- Sherman, J. A., & Fennema, E. Fennema-Sherman mathematics attitudes scales: Instruments designed to measure attitudes toward the learning of mathematics by females and males. *7*: 324-326, Nov. 1976.
- Sherrill, J. M., Robitaille, D. F., & Kaufman, D. M. The effect of computer utilization on the achievement and attitudes of ninth-grade mathematics students. *8*: 26-32, Jan. 1977.
- Silver, E. Relations among Piagetian grouping structures: A training study. *7*: 308-314, Nov. 1976.
- Smith, L. R. Aspects of teacher discourse and student achievement in mathematics. *8*: 195-204, May 1977.
- Suydam, M. N., & Weaver, J. F. Research on mathematics education reported in 1975. *7*: 193-257, July 1976.
- Suydam, M. N., & Weaver, J. F. Research on mathematics education reported in 1976. *8*: 242-316, July 1977.
- Talmage, H., & Hart, A. Investigative teaching of mathematics and its effect on the classroom learning environment. *8*: 345-358, Nov. 1977.
- Thornton, C. D. An evaluation of the mathematics-methods program involving the study of teaching characteristics and pupil achievement in mathematics. *8*: 17-25, Jan. 1977.
- Travers, K. J. The second international survey of mathematics achievement: A case for U.S. participation. *8*: 77-81, Jan. 1977.

- Trueblood, C. R., & Fennell, F. The elementary school as a training laboratory and its effect on low-achieving sixth graders. *8*: 97-106, Mar. 1977.
- Uprichard, A. E., & Phillips, E. R. An intraconcept analysis of rational number addition: A validation study. *8*: 7-16, Jan. 1977.
- Van Wagenen, R. K., Flora, J. A., & Walker, A. A. The introduction of mathematics through measurement or through set theory: A comparison. *7*: 299-307, Nov. 1976.
- Vos, K. E. The effects of three instructional strategies on problem-solving behaviors in secondary school mathematics. *7*: 264-275, Nov. 1976.
- Waite, A., Maertens, N. W., & Jones, R. C. Elemental groupings help children perceive cardinality: A two-phase research study. *8*: 181-193, May 1977.
- Walker, A. A., Van Wagenen, R. K., & Flora, J. A. The introduction of mathematics through measurement or through set theory: A comparison. *7*: 299-307, Nov. 1976.
- Ward, W. H., Jr., Post, T. R., & Willson, V. L. Teachers', principals', and university faculties' views of mathematics learning and instruction as measured by a mathematics inventory. *8*: 332-344, Nov. 1977.
- Weaver, J. F., & Kilpatrick, J. The place of William A. Brownell in mathematics education. *8*: 382-384, Nov. 1977.
- Weaver, J. F., & Suydam, M. N. Research on mathematics education reported in 1975. *7*: 193-257, July 1976.
- Weaver, J. F., & Suydam, M. N. Research on mathematics education reported in 1976. *8*: 242-316, July 1977.
- Wheatley, G. H. A comparison of two methods of column addition. *7*: 145-154, May 1976.
- Wheatley, G. H., & McHugh, D. O. A comparison of two methods of column addition for pupils at three grade levels. *8*: 376-378, Nov. 1977.
- Wheeler, D. Reactions to the third international congress on mathematical education. *8*: 234-236, May 1977.
- Williams, E. R., & Mick, H. N. Measuring the effectiveness of using slide-tape lessons in teaching basic algebra to mathematically disadvantaged students. *7*: 183-192, May 1976.
- Willson, V. L., Post, T. R., & Ward, W. H., Jr., Teachers', principals', and university faculties' views of mathematics learning and instruction as measured by a mathematics inventory. *8*: 332-344, Nov. 1977.
- Wilson, J. W., Carpenter, T. P., Coburn, T. G., & Reys, R. E. Research implications and questions from the year 04 NAEP mathematics assessment. *7*: 327-336, Nov. 1976.

Subject Index

ACHIEVEMENT

- Aspects of teacher discourse and student achievement in mathematics. *8*: 195-204, May 1977.
- Begle revisited: Teacher knowledge and student achievement in algebra. *8*: 216-222, May 1977.
- Certain school and pupil characteristics and mathematics test results in Wisconsin. *8*: 223-227, May 1977.
- The effect of computer utilization on the achievement and attitudes of ninth-grade mathematics students. *8*: 26-32, Jan. 1977.
- The elementary school as a training laboratory and its effect on low-achieving sixth graders. *8*: 97-106, Mar. 1977.
- An evaluation of the mathematics-methods program involving the study of teaching characteristics and pupil achievement in mathematics. *8*: 17-25, Jan. 1977.
- Factors associated with third- and fourth-grade children's performance in solving multiplication and division sentences. *7*: 155-171, May 1976.
- Inquiry strategy, cognitive style, and mathematics achievement. *8*: 132-143, Mar. 1977.
- An intraconcept analysis of rational number addition: A validation study. *8*: 7-16, Jan. 1977.
- The relationship between mathematics achievement and spatial abilities among elementary school children. *8*: 211-215, May 1977.
- Research implications and questions from the year 04 NAEP mathematics assessment. *7*: 327-336, Nov. 1976.
- The second international survey of mathematics achievement: A case for U.S. participation. *8*: 77-81, Jan. 1977.
- Verbal-nonverbal conservation and primary mathematics. *7*: 315-320, Nov. 1976.

ADDITION-SUBTRACTION

- A comparison of two methods of column addition. *7*: 145-154, May 1976.
- A comparison of two methods of column addition for pupils at three grade levels. *8*: 376-378, Nov. 1977.

ADVANCE ORGANIZERS

- The influence of an advanced organizer on two types of instructional units about finite geometries. *7*: 82-86, Mar. 1976.
- The influence of two types of advanced organizers on an instructional unit about finite groups. *7*: 87-91, Mar. 1976.
- An interpretation of advanced organizers. *7*: 69-74, Mar. 1976.
- Models and applications as advanced organizers. *7*: 75-81, Mar. 1976.
- Use and recall of advance organizers in mathematics instruction. *7*: 321-324, Nov. 1976.

ALGEBRA

- Aspects of teacher discourse and student achievement in mathematics. *8*: 195-204, May 1977.
- Begle revisited: Teacher knowledge and student achievement in algebra. *8*: 216-222, May 1977.
- The effect of computer utilization on the achievement and attitudes of ninth-grade mathematics students. *8*: 26-32, Jan. 1977.
- Effect of interspersed questions on learning from mathematical text. *7*: 172-175, May 1976.
- The effects of guided discovery and individualized instructional packages on initial learning, transfer, and retention in second-year algebra. *8*: 359-368, Nov. 1977.
- The influence of two types of advanced organizers on an instructional unit about finite groups. *7*: 87-91, Mar. 1976.
- Inquiry strategy, cognitive style, and mathematics achievement. *8*: 132-143, Mar. 1977.
- Measuring the effectiveness of using slide-tape lessons in teaching basic algebra to mathematically disadvantaged students. *7*: 183-192, May 1976.
- The relative effectiveness of four strategies for teaching algebraic and geometric disjunctive concepts and for teaching inclusive and exclusive disjunctive concepts. *7*: 92-105, Mar. 1976.

APTITUDE AND ABILITY

- The effects of instruction in sentential logic on selected abilities of second- and third-grade children. *8*: 88-96, Mar. 1977.
- Interaction between structure of intellect factors and two methods of presenting concepts of logic. *8*: 379-381, Nov. 1977.
- The relationship between mathematics achievement and spatial abilities among elementary school children. *8*: 211-215, May 1977.

ATTITUDE

- The difference in level of anxiety in undergraduate mathematics and nonmathematics majors. *8*: 48-56, Jan. 1977.
- The effect of computer utilization on the achievement and attitudes of ninth-grade mathematics students. *8*: 26-32, Jan. 1977.

- The effect of instructional gaming on absenteeism: The first step. 7: 113-128, Mar. 1976.
 The effects of history of mathematics on attitudes towards mathematics of college algebra students. 8: 57-61, Jan. 1977.
 Fennema-Sherman mathematics attitudes scales: Instruments designed to measure attitudes toward the learning of mathematics by females and males. 7: 324-326, Nov. 1976.
 Relationships between selected teacher behaviors of prealgebra teachers and selected characteristics of their students. 8: 369-375, Nov. 1977.
 Students' interests in particular mathematics topics. 8: 115-122, Mar. 1977.
 Teachers', principals', and university faculties' views of mathematics learning and instruction as measured by a mathematics inventory. 8: 332-344, Nov. 1977.

COLLEGE MATHEMATICS

- Comparative effectiveness of three sequences of moves for teaching conjunctive and relational mathematical concepts to college students. 8: 33-47, Jan. 1977.
 The difference in level of anxiety in undergraduate mathematics and nonmathematics majors. 8: 48-56, Jan. 1977.
 Effect of interspersed questions on learning from mathematical text. 7: 172-175, May 1976.
 The effects of history of mathematics on attitudes toward mathematics of college algebra students. 8: 57-61, Jan. 1977.
 The influence of an advanced organizer on two types of instructional units about finite geometries. 7: 82-86, Mar. 1976.
 The influence of two types of advanced organizers on an instructional unit about finite groups. 7: 87-91, Mar. 1976.
 Measuring the effectiveness of using slide-tape lessons in teaching basic algebra to mathematically disadvantaged students. 7: 183-192, May 1976.

COMPUTATIONAL ALGORITHMS

- A comparison of two methods of column addition. 7: 145-154, May 1976.
 A comparison of two methods of column addition for pupils at three grade levels. 8: 376-378, Nov. 1977.

CONCEPT FORMATION

- Elemental groupings help children perceive cardinality: A two-phase research study. 8: 181-193, May 1977.
 Recent cooperative research concerning the acquisition of spatial and geometric concepts. 8: 317-320, July 1977.
 A test with selected topological properties of Piaget's hypothesis concerning the spatial representation of the young child. 7: 26-38, Jan. 1976.

CONSERVATION (CONCEPT)

- Relations among Piagetian grouping structures: A training study. 7: 308-314, Nov. 1976.
 Verbal-nonverbal conservation and primary mathematics. 7: 315-320, Nov. 1976.

ELEMENTARY SCHOOL MATHEMATICS

- An analysis of children's written solutions to word problems. 7: 106-112, Mar. 1976.
 Certain school and pupil characteristics and mathematics test results in Wisconsin. 8: 223-227, May 1977.
 The introduction of mathematics through measurement or through set theory: A comparison. 7: 299-307, Nov. 1976.
 "New math" implementation: A look inside the classroom. 8: 323-331, Nov. 1977.
 Research on mathematics education reported in 1975. 7: 193-257, July 1976.
 Research on mathematics education reported in 1976. 8: 242-316, July 1977.
 Students' interests in particular mathematics topics. 8: 115-122, Mar. 1977.

ERROR PATTERNS

- An analysis of children's written solutions to word problems. 7: 106-112, Mar. 1976.
 A search for reading difficulties among erred word problems. 8: 227-230, May 1977.
 Story problems: Merely confusing or downright befuddling? 7: 290-298, Nov. 1976.

FRACTIONS

- An analysis of the fraction concept into a hierarchy of selected subconcepts and the testing of the hierarchical dependencies. 7: 131-144, May 1976.
 An intraconcept analysis of rational number addition: A validation study. 8: 7-16, Jan. 1977.

GAMES

- The effect of instructional gaming on absenteeism: The first step. 7: 113-128, Mar. 1976.

GEOMETRY

- An analysis of some of Piaget's topological tasks from a mathematical point of view. 7: 8-24, Jan. 1976.
 Cognitive emphasis of geometry teachers' questions. 7: 259-263, Nov. 1976.
 The effects of history of mathematics on attitudes toward mathematics of college algebra students. 8: 57-61, Jan. 1977.
 The effects of two methods of presenting a pedagogical model to preservice teachers. 8: 107-114, Mar. 1977.
 Elementary and middle school children's comprehension of Euclidean transformations. 7: 40-52, Jan. 1976.
 An experimental study of the effectiveness of a formal versus an informal presentation of a general heuristic process on problem solving in tenth-grade geometry. 7: 59-64, Jan. 1976.
 The influence of an advanced organizer on two types of instructional units about finite geometries. 7: 82-86, Mar. 1976.
 Inquiry strategy, cognitive style, and mathematics achievement. 8: 132-143, Mar. 1977.
 Models and applications as advanced organizers. 7: 75-81, Mar. 1976.
 Processes involved in mathematical problem solving. 8: 163-180, May 1977.
 Recent cooperative research concerning the acquisition of spatial and geometric concepts. 8: 317-320, July 1977.
 The relationship between mathematics achievement and spatial abilities among elementary school children. 8: 211-215, May 1977.
 The relative effectiveness of four strategies for teaching algebraic and geometric disjunctive concepts and for teaching inclusive and exclusive disjunctive concepts. 7: 92-105, Mar. 1976.
 A test with selected topological properties of Piaget's hypothesis concerning the spatial representation of the young child. 7: 26-38, Jan. 1976.

INSTRUCTION (see also Teaching Methods)

- The effects of instruction on length relations on the qualitative seriation behavior of first- and second-grade children. 8: 145-147, Mar. 1977.
 Retroactive interference of similar methods to teach translation of base systems in mathematics. 7: 176-182, May 1976.

INTERACTION

- Interaction between structure of intellect factors and two methods of presenting concepts of logic. 8: 379-381, Nov. 1977.

LEARNING

- An analysis of the fraction concept into a hierarchy of selected subconcepts and the testing of the hierarchical dependencies. 7: 131-144, May 1976.
The development of the concept of a standard unit of measure in young children. 7: 53-58, Jan. 1976.
The effects of guided discovery and individualized instructional packages on initial learning, transfer, and retention in second-year algebra. 8: 359-368, Nov. 1977.
Inquiry strategy, cognitive style, and mathematics achievement. 8: 132-143, Mar. 1977.
An intraconcept analysis of rational number addition: A validation study. 8: 7-16, Jan. 1977.
Retroactive interference of similar methods to teach translation of base systems in mathematics. 7: 176-182, May 1976.

LOGIC

- Comparative effectiveness of three sequences of moves for teaching conjunctive and relational mathematical concepts to college students. 8: 33-47, Jan. 1977.
Conjunctive interpretations of logical connectives: Replication of results using a new type of task. 8: 231-233, May 1977.
The effects of instruction in sentential logic on selected abilities of second- and third-grade children. 8: 88-96, Mar. 1977.
Interaction between structure of intellect factors and two methods of presenting concepts of logic. 8: 379-381, Nov. 1977.
The interpretation of statements in standard logical form by preservice elementary teachers. 8: 123-131, Mar. 1977.

MANIPULATIVE MATERIALS

- Investigative teaching of mathematics and its effect on the classroom learning environment. 8: 345-358, Nov. 1977.

MEASUREMENT

- The development of the concept of a standard unit of measure in young children. 7: 53-58, Jan. 1976.
The effects of instruction on length relations on the qualitative seriation behavior of first- and second-grade children. 8: 145-147, Mar. 1977.
The introduction of mathematics through measurement or through set theory: A comparison. 7: 299-307, Nov. 1976.

MODELS (RESEARCH)

- An analysis of some of Piaget's topological tasks from a mathematical point of view. 7: 8-24, Jan. 1976.
A note on the power of statistical tests. 8: 385-389, Nov. 1977.
Recent cooperative research concerning the acquisition of spatial and geometric concepts. 8: 317-320, July 1977.
The second international survey of mathematics achievement: A case for U.S. participation. 8: 77-81, Jan. 1977.
A useful statistical technique for replication studies. 8: 74-77, Jan. 1977.

MULTIPLICATION-DIVISION

- Factors associated with third- and fourth-grade children's performance in solving multiplication and division sentences. 7: 155-171, May 1976.

NUMBER CONCEPTS AND SYSTEMS

- Elemental groupings help children perceive cardinality: A two-phase research study. 8: 181-193, May 1977.
The introduction of mathematics through measurement or through set theory: A comparison. 7: 299-307, Nov. 1976.
Number patterns: Discovery versus reception learning. 8: 83-87, Mar. 1977.
Retroactive interference of similar methods to teach translation of base systems in mathematics. 7: 176-182, May 1976.

PIAGETIAN RESEARCH

- An analysis of some of Piaget's topological tasks from a mathematical point of view. 7: 8-24, Jan. 1976.
The effects of instruction on length relations on the qualitative seriation behavior of first- and second-grade children. 8: 145-147, Mar. 1977.
Elementary and middle school children's comprehension of Euclidean transformations. 7: 40-52, Jan. 1976.
The development of the concept of a standard unit of measure in young children. 7: 53-58, Jan. 1976.
Relations among Piagetian grouping structures: A training study. 7: 308-314, Nov. 1976.
A test with selected topological properties of Piaget's hypothesis concerning the spatial representation of the young child. 7: 26-38, Jan. 1976.
Verbal-nonverbal conservation and primary mathematics. 7: 315-320, Nov. 1976.

PROBLEM SOLVING

- An analysis of children's written solutions to word problems. 7: 106-112, Mar. 1976.
The effects of three instructional strategies on problem-solving behaviors in secondary school mathematics. 7: 264-275, Nov. 1976.
An experimental study of the effectiveness of a formal versus an informal presentation of a general heuristic process on problem solving in tenth-grade geometry. 7: 59-64, Jan. 1976.
Processes involved in mathematical problem solving. 8: 163-180, May 1977.
Response to Kulm's critique. 8: 155-156, Mar. 1977.
A search for reading difficulties among erred word problems. 8: 227-230, May 1977.
Story problems: Merely confusing or downright befuddling? 7: 290-298, Nov. 1976.
Teaching problem-solving heuristics: A critique of two studies. 8: 153-155, Mar. 1977.
Teaching problem-solving heuristics: A response. 8: 156-159, Mar. 1977.

PROOF

- The relative effectiveness of three geometric proof construction strategies. 8: 62-67, Jan. 1977.

READING

- A search for reading difficulties among erred word problems. 8: 227-230, May 1977.

RESEARCH METHODOLOGY

- A note on the power of statistical tests. 8: 385-389, Nov. 1977.
The place of William A. Brownell in mathematics education. 8: 382-385, Nov. 1977.
Reactions to the third international congress on mathematical education. 8: 234-236, May 1977.
Research implications and questions from the year 04 NAEP mathematics assessment. 7: 327-336, Nov. 1976.
Response to Kulm's critique. 8: 155-156, Mar. 1977.
Teaching problem-solving heuristics: A critique of two studies. 8: 153-155, Mar. 1977.
Teaching problem-solving heuristics: A response. 8: 156-159, Mar. 1977.
A useful statistical technique for replication studies. 8: 74-77, Jan. 1977.

RESEARCH REVIEWS

- An annotated bibliography of research on self-paced mathematics instruction (1965-1976). 8: 144-145, Mar. 1977.
An interpretation of advanced organizers. 7: 69-74, Mar. 1976.
The place of William A. Brownell in mathematics education. 8: 382-385, Nov. 1977.
Research on mathematics education reported in 1975. 7: 193-257, July 1976.
Research on mathematics education reported in 1976. 8: 242-316, July 1977.

SECONDARY SCHOOL MATHEMATICS

- The effects of three instructional strategies on problem-solving behaviors in secondary school mathematics. 7: 264-275, Nov. 1976.
Research on mathematics education reported in 1975. 7: 193-257, July 1976.
Research on mathematics education reported in 1976. 8: 242-316, July 1977.

SEQUENCING

- An analysis of the fraction concept into a hierarchy of selected subconcepts and the testing of the hierarchical dependencies. 7: 131-144, May 1976.

STUDENT CHARACTERISTICS

- Certain school and pupil characteristics and mathematics test results in Wisconsin. 8: 223-227, May 1977.
The difference in level of anxiety in undergraduate mathematics and nonmathematics majors. 8: 48-56, Jan. 1977.
Factors associated with third- and fourth-grade children's performance in solving multiplication and division sentences. 7: 155-171, May 1976.
Relationships between selected teacher behaviors of prealgebra teachers and selected characteristics of their students. 8: 369-375, Nov. 1977.

TEACHER BEHAVIORS

- Relationships between selected teacher behaviors of prealgebra teachers and selected characteristics of their students. 8: 369-375, Nov. 1977.
An evaluation of the mathematics-methods program involving the study of teaching characteristics and pupil achievement in mathematics. 8: 17-25, Jan. 1977.
The effects of two methods of presenting a pedagogical model to preservice teachers. 8: 107-114, Mar. 1977.
Aspects of teacher discourse and student achievement in mathematics. 8: 195-204, May 1977.
Mathematics presentation as a function of cognitive/personality variables. 8: 205-210, May 1977.

TEACHER CHARACTERISTICS

- Aspects of teacher discourse and student achievement in mathematics. 8: 195-204, May 1977.
Begle revisited: Teacher knowledge and student achievement in algebra. 8: 216-222, May 1977.
Cognitive emphasis of geometry teachers' questions. 7: 259-263, Nov. 1976.
An evaluation of the mathematics-methods program involving the study of teaching characteristics and pupil achievement in mathematics. 8: 17-25, Jan. 1977.
Mathematics presentation as a function of cognitive/personality variables. 8: 205-210, May 1977.
"New math" implementation: A look inside the classroom. 8: 323-331, Nov. 1977.
Teachers', principals', and university faculties' views of mathematics learning and instruction as measured by a mathematics inventory. 8: 332-344, Nov. 1977.

TEACHER TRAINING

- Comparative effects of three sequences of moves for teaching selected mathematical concepts to college students. 7: 276-289, Nov. 1976.
Conjunctive interpretations of logical connectives: Replication of results using a new type of task. 8: 231-233, May 1977.
The effects of two methods of presenting a pedagogical model to preservice teachers. 8: 107-114, Mar. 1977.
The elementary school as a training laboratory and its effect on low-achieving sixth graders. 8: 97-106, Mar. 1977.
An evaluation of the mathematics-methods program involving the study of teaching characteristics and pupil achievement in mathematics. 8: 17-25, Jan. 1977.
The interpretation of statements in standard logical form by preservice elementary teachers. 8: 123-131, Mar. 1977.
Investigative teaching of mathematics and its effect on the classroom learning environment. 8: 345-358, Nov. 1977.
Mathematics presentation as a function of cognitive/personality variables. 8: 205-210, May 1977.
Number patterns: Discovery versus reception learning. 8: 83-87, Mar. 1977.
Reactions to the third international congress on mathematical education. 8: 234-236, May 1977.
Use and recall of advance organizers in mathematics instruction. 7: 321-324, Nov. 1976.

TEACHING METHODS

- An annotated bibliography of research on self-paced mathematics instruction (1965-1976). 8: 144-145, Mar. 1977.
Cognitive emphasis of geometry teachers' questions. 7: 259-263, Nov. 1976.
Comparative effectiveness of three sequences of moves for teaching conjunctive and relational mathematical concepts to college students. 8: 33-47, Jan. 1977.
Comparative effects of three sequences of moves for teaching selected mathematical concepts to college students. 7: 276-289, Nov. 1976.
Effect of interspersed questions on learning from mathematical text. 7: 172-175, May 1976.
The effects of guided discovery and individualized instructional packages on initial learning, transfer, and retention in second-year algebra. 8: 359-368, Nov. 1977.
The effects of instruction in sentential logic on selected abilities of second- and third-grade children. 8: 88-96, Mar. 1977.
The effects of three instructional strategies on problem-solving behaviors in secondary school mathematics. 7: 264-275, Nov. 1976.
The elementary school as a training laboratory and its effect on low-achieving sixth graders. 8: 97-106, Mar. 1977.
An experimental study of the effectiveness of a formal versus an informal presentation of a general heuristic process on problem solving in tenth-grade geometry. 7: 59-64, Jan. 1976.
Investigative teaching of mathematics and its effect on the classroom learning environment. 8: 345-358, Nov. 1977.
Measuring the effectiveness of using slide-tape lessons in teaching basic algebra to mathematically disadvantaged students. 7: 183-192, May 1976.
"New math" implementation: A look inside the classroom. 8: 323-331, Nov. 1977.
Number patterns: Discovery versus reception learning. 8: 83-87, Mar. 1977.
The relative effectiveness of four strategies for teaching algebraic and geometric disjunctive concepts and for teaching inclusive and exclusive disjunctive concepts. 7: 92-105, Mar. 1976.
Story problems: Merely confusing or downright befudding? 7: 290-298, Nov. 1976.

TESTS

Fennema-Sherman mathematics attitudes scales: Instruments designed to measure attitudes toward the learning of mathematics by females and males. 7: 324-326, Nov. 1976.
 Research implications and questions from the year 04 NAEP mathematics assessment. 7: 327-336, Nov. 1976.

TRANSFER OF TRAINING

Relations among Piagetian grouping structures: A training study. 7: 308-314, Nov. 1976.

3 VOLUMES OF A BIBLIOGRAPHY OF RECREATIONAL MATHEMATICS

Whether you are an amateur or a professional, the three volumes of **A BIBLIOGRAPHY OF RECREATIONAL MATHEMATICS** by William L. Schaaf will serve you well. The NCTM has published these three books to keep up with the steadily proliferating literature of recreational mathematics and to provide comprehensive coverage of the amazing number of resources on the field.



Volume 1, first published almost 20 years ago, has been twice revised and updated. It includes listings of books from the early twentieth century through more recent times. There are five chapters on various topics such as arithmetic and algebraic recreations, famous problems of antiquity, and so forth. 1970, 148 pp.

Volume 2 lists the best of the literature up to 1970. It contains none of the material in the first volume but generally follows it in format, so that consulting both volumes regarding a certain topic may be relatively easy. It includes many references to "specialized" books on a single topic—mazes, tangrams, dissections, and the like. 1970, 191 pp.

Volume 3 is more than an updating of the previous monographs. Two new sections on classroom games and recreational activities have been added, and these will no doubt appeal specially to teachers. This volume also features a chronological synopsis of Martin Gardner's popular column in *Scientific American* and a glossary of terms related to recreational mathematics. 1973, 187 pp.

National Council
of Teachers
of Mathematics



1906 Association Drive
Reston, Virginia 22091

Please send me the following volumes of **A BIBLIOGRAPHY OF RECREATIONAL MATHEMATICS**:

Quantity	Title	Each	Total
_____	Volume 1	\$6.50 (\$5.85*)	_____
_____	Volume 2	\$6.50 (\$5.85*)	_____
_____	Volume 3	\$6.50 (\$5.85*)	_____

Remittance enclosed Bill me *Special price for NCTM members

Name _____

Address _____ City _____

State or province _____ ZIP code _____

All orders totaling \$20 or less must be accompanied by full payment in U. S. currency or equivalent. Make checks payable to the NCTM. Shipping and handling charges will be added to all billed orders.

An annotated listing of NCTM publications is free on request.