

BIBLIOGRAPHY

BIBLIOGRAPHY

- Abdi, S .Wali. (1987). Science interests of sixth grade students. *Dissertation Abstracts International*. Vol. 49 No. 10.
- Adinarayana, K. (1979). A Teaching Strategy for Developing Appropriate Skills Required in Students for Conducting Scientific Investigations. An unpublished Ph.D thesis. M. S. University, Baroda.
- Adinarayana, K. (1987). Scientific Investigation in Schools. Dindigul: New - ED Publications.
- Agarkar, S. C. (1997). Programme to Improve Teaching of Science and Mathematics in Rural Secondary Schools. *Indian Journal of Education*. 73(2). 60-68.
- Agarkar, S. C., & Deshmukh, N. D. (2002). How the Teachers in Ashram Schools Perceive Science Curriculum at the Upper Primary Stage, *School Science*, Vol.XL, No.3. Pp.68-81.
- Agarwal, J. P. (Ed.). (1990). Unit test in Science for Class Sixth. Department of Measurement and Evaluation. New Delhi : NCERT.
- Ajitha, Nair K., & Shankar, Subha (1999). Self-learning Instructional Materials in Teaching Biology: An experimental study. *School Science*. Vol. XXXVII (1). 48-52.
- Alka & Krishna Maitra (1997). To Explore the Attitudes Towards Laboratories and Other Related Practical work in Science, *School Science*. Vol.XXXV, No.2. Pp.44-51.
- Allison, R. W. (1971). Readings in Science Education for the Elementary School. New York: Macmillan Company.
- Bagchi, J. P. (1997). Let Students Unlearn Before They Learn: A pragmatic approach to science teaching. *Indian Education Review*. Vol.32. No.1. Pp.133-142.
- Balasubramanian, N. (1995). A Study in Cognitive Attainment of School Children in Computer Education. *In quest of Bharatiya Shikshan*, 5, 39-42.
- Banyal, S. P. (2002). Teaching Aids. *The Primary Teacher*. Vol.XXVII. No.4, Pp.30-36.

Barbara M. Strawitz. (1989). Effect of Testing of Science Practical Skill Achievement. *Journal of Research in Science Teaching*. Vol.26. No.8. Pp.659-664.

Barge, Zane Lee. (1987). Effect of group size, gender, and ability grouping on learning science process skills using microcomputers. *Dissertation Abstracts International*. Vol. 49 No. 10.

Baskara Rao, D., & Ediger, Marlow (Ed.) (1996). Scientific Attitude vis-à-vis Scientific Aptitude. New Delhi: Discovery Publishing House.

Best, J. W., & Kahn, J. V. (1996). Research in Education. New Delhi: Prentice Hall & India Ltd.

Bhatia, K. K. (1985). Measurement and Evaluation in Education, Ludhiana: Prakash Brothers.

Bhatt, R. D., & Ravi Prakash (1994). (Eds). Modern Encyclopedia of Educational Technology. Vol.1. New Delhi: Kanishka Publishing Distributors.

Bishop, Ronald Dean. (1990). The Effect of laboratory activity ordering on achievement and retention. *Dissertation Abstracts International* Vol. 51 No. 7.

Blakely, Raymond Edward. (1987). A Comparative study of Georgia Middle School Teachers' Understanding of the Nature of Science. *Dissertation Abstracts International*. Vol. 48 No. 2.

Bloom, Benjamin S. et.al. (1956). Taxonomy of Educational Objectives. Handbook I, Cognitive Domain.

Blough, G. O., & Schwartz, J. (1979). Elementary School Science and How to teach it. (6th ed.). New York: Holt, Rinehart and Winston.

Boone, William John, (1991). Improving Elementary School science by application of item Calibration Mapping. *Dissertation Abstracts International*. Vol. 52 No. 10.

Boorman, Joan Marie. (1990). The development and testing of laboratory performance tasks for the assessment of achievement in high school physics. *Dissertation Abstracts International* Vol. 52 No. 2.

Borg, W. R., & Gall, M. D. (1985). Educational Research. White Plains. New York: Longman.

- Bruner, J. S. (1966). *The Process of Education*. Cambridge, M. A.: Harvard University Press.
- Buch, M. B. (1974). *A Survey of Research in Education*. Baroda: Centre for Advanced Studies in Education. M.S.University.
- Buch, M. B. (1979). *Second Survey of Research in Education*. Baroda: SERD.
- Buch, M. B. (1986). *Third Survey of Research in Education*. New Delhi: NCERT.
- Buch, M. B. (Ed.) (1991). *Fourth Survey of Research in Education*. New Delhi: NCERT.
- Burns, J. Okey, J., & Wise, K. (1985). Development of an Integrated Process Skill Test. *Journal of Research in Science Teaching*. Vol.22. No.2. Pp.169-177.
- Butts, D. (1974). *The teaching of Science: A self-directed planning guide*. New York: Harper & Row Publishers.
- Carin, A. A., & Sund, R. B. (1985). *Teaching Science Through Discovery* (5th Ed). Ohio: Charles E. Merrill Publishing Co.
- Carl. F. Berger. & Paul R. Pintrich. (1986). Attainment of Skill in Using Science Processes II - Grade and task effects. *Journal of Research in science teaching*. Vol.23, No.8. Pp.739-747.
- Carter, Earicine Brooks, (1991). The Effects of teaching the Learning Strategies Intervention Model in a sixth-grade science class. *Dissertation Abstracts International*. Vol. 53 No. 2.
- Chand, Tara. (1990). *Educational Technology*. New Delhi: Ammol Publications.
- Chattopadhyay. D et. al. (1996). *Experiments in Science Vol.I and II*. New Delhi: Learners Press (P) Ltd.
- Chauhan, P. (2002). Helping the Under Achievers in Science. *The Education review*. Vol.45. No.4. P.73.
- Chauhan, S. S. (1996). *Advanced Educational Psychology*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Coombs, B. (2001). *Successful Teaching*. Oxford: Heinemann Publishers.
- Creswell, W. (1994). *Research Design*. New Delhi: Sage Publication India Pvt. Ltd.

- Dale R. Banker. & Michael Piburn. (1991). Process Skill Acquisition, Cognitive Growth and Attitudinal Change of 9th Grade Students in a Scientific Literary Course. *Journal of Research in science teaching* Vol.28. No.5. Pp.423-436.
- Das, R. C. (1990). Science Teaching in Schools. New Delhi: Sterling publishers Pvt. Ltd.
- Dewal, O. S. et. al. (1999) (Eds.). A Handbook of Education Research. New Delhi: National Council for Teacher Education.
- Dhand, H (1995). Learning centres: An innovative Approach. New Delhi: APH Publishing Corporation.
- Ebel, Robert .L, & Frisbie, David .A (1991). Essentials of Educational Measurement. New Delhi: Prentice Hall.
- Ediger, Marlow & Bhaskara Rao, D. (1996). Science curriculum. New Delhi: Discovery Publishing House.
- Ediger, Marlow (1989). Hands on instruction in Teaching Science. *School science*. Vol. XXVII. No.1. P-13.
- Ediger, Marlow. (1999). Learning Opportunities for Pupils in Science, *School science*. Vol.37. No.3. P.41.
- Ediger, Marlow. (2002). Recommendations in Education, Are there Weakness Here? *The Educational Review*. Vol.45. No.4. P-63.
- Esler, William K. (1989). Teaching Elementary Science. California: Wadsworth Publishing Company.
- Ferguson, G. (1976). Statistical Analysis in Psychology and Education. Tokyo: McGraw Hill Kogakusha Ltd.
- Finan, Mary Key, Kellye, (1990). A study of teacher perception of the elementary science program in Allegany Country, Maryland. *Dissertation Abstracts International* Vol. 52 No. 2.
- Fitz-Gibbon, & Carol Taylor. (1987). How to Design a Programme Evaluation. New Delhi: Sage Publications.
- Friedl, A. E. (1972). Teaching of Science to Children: The Inquiry Approach Applied. New York: Random House.

- Gangoli, S. G. (2000). Transaction of Science Curriculum Using Textbooks Based on Open-ended Approach. *Journal of Indian Education*. Vol.26. No.1. Pp.88-96.
- Gangoli, S. G., & Gurumurthy, C. (1995). A Study of the Effectiveness of a Guided Open-ended Approach to Physics Experiments. *International Journal of Science Education*. Vol.17, No.2. Pp.233-241.
- Garg, C. L. (1994). 71 Science Projects. New Delhi: Pustak Mahal.
- Garrett, H., & Woodworth (1979). Statistics in Psychology and Education. Mumbai: Vakils, Feffer and Simons Ltd.
- Gay, L. R. (1992). Educational Research (4th Ed.). New York: Merrill.
- Gough, J. (1997). Developing Learning Materials. Hyderabad: Universities Press.
- Guilford, J. P. (1982). Psychometric Methods. New Delhi: Tata McGraw Hill.
- Gupta, J. K. (1989). Teaching Physical Science in Secondary Schools. Bangalore: Sterling Publishers.
- Harris, Richard. J. (1975). A Primer of Multivariate Statistics. New York: Academic Press, Inc.
- Henry, G. T. (1990). Practical Sampling Newbury Park. CA: Sage publications.
- Hone, Joseph. & Victor- Harcourt. A Source Book for Elementary Science. Brace & World, Inc.
- Hopper, W. A. F. (1982). Use of Modular Approach for Teaching Biology in Standard XI.
- Hsu, Shun-yi (1988). An analysis of a model for developing instructional material for teaching physical science concepts for grade 8 students in the republic of China. *Dissertation Abstracts International*. Vol. 51 No. 2.
- Ivar, Utial, (1994). 101 Science Experiments, New Delhi: Pushtak Mahal.
- Jackson Michael Conoly, (1991). An Evaluation of an instrument for assessing elementary school science program in North Carolina. *Dissertation Abstracts International*. Vol. 52 No. 7.
- Jacobson, W. J. (1970). The New Elementary School Science. New York: Van Nostrand Reinhold Company.

- Jacobson, W. J., & Bergman, A. E. (1980). *Science for Children*. New Jersey: Prentice Hall.
- Jaswal, S. S. (2002). Science Practicals Ignored. *School Science* Vol.XXXX. No.1. Pp.72-75.
- John, M., & Scott, S. J. (1970). *The Everyday living Approach to Teaching Elementary Science*. New York: Parker Publishing Company, Inc.
- John, S. Rigden. (1999). Training K-6 Teachers to teach science. *Education digest*. Vol.64. issue 9. P.59.
- Joice, B., & Weil .M (1997). *Models of Teaching*. New Delhi: Prentice Hall of India Ltd.
- Joseph, E. D. (1958). *The Teaching of Science in Tropical Primary Schools*. London: Oxford University Press.
- Kadhiravan, S. (1999). Effectiveness of Computer Assisted Instruction in Relation to Students' Use of Self-regulated Learning Strategies. Unpublished Ph.D., thesis, Bharathiar University, Coimbatore.
- Kalra, R. M. (1994). *Technology of teaching elementary school science in the 21st century*. New Delhi: Sterling publishers India Private Ltd.
- Kamen, Michael. (1991). Creative drama and the enhancement of elementary school students understanding of science concepts. *Dissertation Abstracts International*. Vol. 52 No. 7.
- Kanji, Gopal, K. (1997). *100 Statistical Tests*. New Delhi: Sage Publication India Pvt. Ltd.
- Karunashankar Misra, (1993). *Perspectives in science education*. Agra: Vinod Pustak Mandir.
- Kothari, C. R. (1990). *Research Methodology: Methods and Techniques*. New Delhi: Wiley Eastern Ltd.
- Koul, Lokesh. (1994). *Methodology of Educational Research*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Krishnaraj, R., & Jawahar, D. (2002). Perspectives of Integrating Educational Technology with Instruction. *National Conference on Integrating Technology into Teaching and Learning*. Trichirappalli: Society for Educational Technology Research and Development.

Kumar, K. L. (1996). Educational Technology, New Delhi: New Age International (P) Ltd.

Lakshmi, S. (1993). Innovation in Education. New Delhi: Sterling Publishers Pvt. Ltd.

Lalitha, P. R., and Lakshminarayana, U. (2002). Study of +2 Students Towards Physics Laboratory Work. *School science*. Vol.XL. No.2. Pp.45-53.

Lock, R. (1992). Gender and Practical Skill Performance in Science. *Journal of Research in Science Teaching*. 29: 227-241.

Mangal, S. K. (1990). Statistics in Psychology and Education. New Delhi: Tata McGraw Hill Publishing Company Ltd.

Manhar Thaker. (2002). Inquiry for the Science Laboratory Effectiveness. A secondary school. *School science* Vol.XXXX. No.1. Pp.18-23.

Maurer, William Paul. (1991). The effectiveness of a Mastery learning strategy in enhancing cognitive achievement and problem solving skills in an introductory chemistry programme. *Dissertation Abstracts International*. Vol. 53 No. 2.

May, Patricia Nell, (1991). Field analysis of the Integrated Activity Learning Sequence approach to science instruction at the elementary school level. Part 1: Student Performance. *Dissertation Abstracts International* Vol. 52 No. 7.

McConaghy, Robert M. (1991). Field Analysis of the Integrated Activity Learning Sequence approach to science instruction at the elementary school level. Part 3: Teacher responses to the IALS approach. *Dissertation Abstracts International*. Vol. 52 No. 7.

Meenakshi, (1994). Modern Trends in Educational Evaluation and Measurement. Chandigarh : Arun Publishing House Pvt. Ltd.

Meera, S. (2000). Relative Effectiveness Among Different Modes of Computer Based Instruction in Relation to Students' Personality Traits. Unpublished Ph.D. thesis. Bharathiar University, Coimbatore.

Meera, S., & Hemamalini, V. (2002). Integration of Technology in Education. *National Conference on Integrating Technology into Teaching and Learning*.

Trichirappalli: Society for Educational Technology Research and Development.

Mertens, M. (1998). *Research Methods in Education and Psychology*. New Delhi: Sage Publications.

Michael Dunny. (1986). Science Practicals: What do pupils think. *European Journal of science education*. Vol.8. No.3. Pp.325-336.

Miller, Anne-Courtney Seigler. (1990). Effects of hands-on, activity-based science and a supportive instructional environment on at-risk sixth-grade students' attitude toward science, achievement in science, goal orientation, and cognitive engagement in science. *Dissertation Abstracts International* Vol. 52 No. 5.

Ministry of Human Resource Development. (1986). *National Policy on Education*. New Delhi: Government of India.

Ministry of Human Resource Development. (1990). *Science Teaching - Guidelines for Educational Functionaries of States (Upper primary and Secondary Stage)* New Delhi : NCERT.

Ministry of Human Resource Development. (1992). *National Policy on Education. Programme of Action*, New Delhi: Government of India.

Ministry of Human Resource Development. (1999). *A Handbook on Educational Research*, New Delhi: National Council for Teacher Education.

Ministry of Human Resource Development. (2000). *SARVA SHIKSHA ABHIYAN - Framework for implementation*. New Delhi: Government of India.

Mohanty, J. (1992). *Educational Technology*. New Delhi: Deep and Deep publication.

Mohapatra, J. K. (1988). A Pragmatic Approach to Teach Process of Experimental Work in Physics to Pupils of Rural Schools. *School science*. Vol.XXVI. No.3. Pp.7-11.

Mohapatra, J. K., & Mohapatra, M. (1999). *New Dimensions of Science Curriculum : An operational approach*. New Delhi: Common wealth publishers.

- Moore, Patricia Ann. (1990). The effect of science inservice programs on the self-efficacy belief of elementary school teachers. *Dissertation Abstracts International* Vol. 51 No. 3.
- Mujibul Hasan Siddiqui, (Ed.) (1993). Research in Teaching of Science & Mathematics. New Delhi: Asish Publishing House.
- Muruganandam, S. (1990). Development of Teaching-Learning Strategies in Teaching Science for Visually Impaired Children. Unpublished M.Phil. thesis, Madurai Kamaraj University.
- Nair, C. P. S. (1989). Teaching Science in our School. New Delhi: S. Chand and Company.
- Naresh Kumar Gupta. (1997). Research in Science Teaching. New Delhi: ABH Publishing Corporation.
- NCERT, (1986). General Science – Handbook of Activities, Class I-VIII. New Delhi: NCERT.
- NCERT. (1996). Fifth survey of Research in Education. New Delhi: NCERT.
- NCERT. (2001). National Curriculum for School education. New Delhi: NCERT.
- Nolt, Sally K. (1991). Field Analysis of the Integrated Activity Learning Sequence approach to science instructions at the elementary school level. Part 2: Student responses to the IALS approach. *Dissertation Abstracts International*. Vol. 52 No. 7.
- Nuffield Chemistry. (1976). Teachers Guide I & II – The basic course. Nuffield Foundation: Longmans/ Penguin books.
- Nuffield Physics. (1966). Teachers Guide I & II. Nuffield Foundation: Longmans/ Penguin books.
- Ogunniyi, M. B. (1983). An Analysis of Laboratory Activities in Selected Nigerian Secondary Schools. *European Journal of Science Education*. Vol.5. No.2. Pp.195-201.
- O-Saki, Kalafunja Mlang'a, (1991). Factors Influencing the use of the environment in science teaching : A study of biology teaching in Tanzania. *Dissertation Abstracts International*. Vol. 53 No. 2.
- Padilla, M., Okey, J., & Garrard, K. (1984). The Effects of Instruction on Integrated Science Process Skill Achievement. *Journal of research in science teaching*. Vol.21. No.3. Pp.277-287.

- Patel, N. (1989). Education Evaluation - Theory and Practice. Mumbai: Himalaya Publishing House.
- Patnaik, Sabita & Seetharamappaa (Ed.) (1994). Handbook on Science Club Activities. Mysore: Regional Institute of Education.
- Piaget, Jean. (1970). Science Education and the Psychology of Child. New York: Orion press.
- Purohit, M. M. (1991). Educational Technology in Technical Education. *Media and Technology for Human Resource Development* 3(2). P.109.
- Rajammal P. Devadas. (1976). Handbook of Methodology of Research. Coimbatore: SRMV Publications.
- Rajput, J. S. (1994). Experiments and Expectations in Elementary Education. New Delhi: Anamika Prakashan.
- Rama, K. S. (2003). Effectiveness of play-way technique in teaching of science at upper primary stage - An experimental study. The Primary Teacher. Vol. XXVIII. No. 1. New Delhi: NCERT.
- Ramakrishnan, V. (1996). A Study of the Effectiveness of Various Instructional Strategies in Achievement in Science and Interaction of High School Students in Coimbatore District. Unpublished Ph.D., thesis. Bharathiar University, Coimbatore.
- Ramesh, R. (1998). Study of Individualised Instruction as an Alternative Strategy in Development of Cognitive Skills in Atomic Physics Among the Selected Matriculation Students. Unpublished Ph.D., Thesis, Bharathiar University.
- Rangaraj, K. R. (1995). Effectiveness of Computer Assisted Instruction in Teaching Physics at Higher Secondary Stage. Unpublished Ph.D., thesis, Bharathiar University.
- Rao, C. N. R. (1993). Indian Express. March 21. An eminent Scientist of India.
- Rao, V. K., & Reddy R. S. (2002). Instructional Objectives and Teacher Education. New Delhi: Common Wealth Publishers.
- Ravindra, G. (2001). RIEM, Newsletter. Vol.29. Nov.4
- Reeta Sharma. (2002). Assessment of Science Practical Skills of Students at Secondary level. *School science*. Vol.XL. No.3. Pp.103-106.

- Report of the Education Commission (Kothari Commission) 1964-66. Ministry of Education, Govt. of India.
- Robertson, I. J. (1987). Boys and Girls and Practical Science. *International Journal of Science Education* 9:505-518.
- Rod Wason, Teresa Prieto & Justin S. Dillan. (1995). Effect of Practical Work on Students' Understanding of Combustion. *Journal of Research in Science Teaching*. Vol.32. No.5. Pp.487-500.
- Romey, W. D. (1968). Inquiry Techniques for Teaching Science. New Jersey: Prentice Hall, Inc, Englewood.
- Rumer, Shirley Haynes, (1990). A case study of the effectiveness of concept mapping and vee diagramming in middle school science education. *Dissertation Abstracts International* Vol. 51 No. 10.
- Sampath, K., Panneerselvam, A., & Santhanam. S. (1998). Introduction to Educational Technology. New Delhi: Sterling Publishers Private Ltd.
- Saroja Sundararajan. (1995). Teaching Science in Middle School. A Resource Book. Chennai: Orient Longman.
- Saunders, A. N. (1955). The Teaching of General Science in Tropical Secondary Schools. London: Oxford University Press.
- Selvaraj, E. (1991). Revised Syllabus and Skill Development of 12th Students in Zoology. Unpublished M. Phil. Dissertation. Madurai Kamaraj University.
- Sharda, M. (1998). Activity based Teaching - Learning Strategies in a Large Sized Class at Primary Stage. *DPEP calling*. Vol.11. No.9. Pp.18-22.
- Sharma, M. S. R. (1992). An investigation into the effectiveness of Activity based approach in teaching primary school subjects. New Delhi: NCERT.
- Sharma, N. D. (1978). An experimental study of Teaching Natural Science at the primary level in central school.
- Singh, A. K. (1986). Tests, Measurements and Research Methods in Behavioural Sciences. New Delhi: Tata McGraw Hill Publishing Co.
- Singh, Pritam. (1983). A Monograph on Improving Practical Examination in Science. New Delhi: NCERT.

- Soundararaja Rao, T. R., & Kamala, C.S. (1976). Organisation and treatment of data and interpretation of results in "A Handbook of Methodology of Research" by Rajammal. P. Devedas. Ciombatore: SRMV Publication.
- Srivastava, V. P. (1997). Analysis and Interpretation skills in physics of Twelfth Grade students. *School science*. Vol.XXXV..No.3. Pp.16-22.
- Srivastava, V. P. (1997). Physics Practical Skills of Twelfth Grade students: An exploratory study. *Indian Education Review*. Vol.32. No.1. Pp.56-66.
- Subba Rao, C. S. (2002). The reality of Education. *Edutracks*. Vol.2. No.2. Pp.22.
- Swarnamma, G. (1978). An enquiry into the teaching of biology in the upper primary schools.
- Their, H. D. (1973). Teaching Elementary School Science - A Laboratory Approach. New Delhi: Streling Publishers Pvt. Ltd.
- Tjeerd Plomp & Donald P. Ely (Eds). (1996). International Encyclopedia of Educational Technology. Oxford: Pergamon.
- UNESCO. (1972). Learning to Be, UNESCO: Paris.
- UNESCO. (1976). Source Book for Science Teaching. UNESCO: Paris.
- Vaidya, N. (1971). The Impact of Science Teaching. New Delhi: Oxford TBH Publishing Co.
- Vaidya, N. (1996). Science Teaching for the 21st century. New Delhi: Deep & Deep Publications.
- Valsala, G. (2002). Instruction Strategy through Living Models: A study of Student's Programme in TBGRI. *National Conference on Integrating Technology into Teaching and Learning*. Trichirappalli: Society for Educational Technology Research and Development.
- Venkataiah, N. (Ed.) (1996). Educational Technology. New Delhi: APH Publishing Corporation.
- Venkatasubramanian, N. (1989). Mathematics Teaching - A training programme for upper primary teachers. Unpublished M.Phil, thesis. Madurai Kamaraj University.
- Vensel, George J. (1988). The effects of computer delivered science simulations on the acquisition of process skills for gifted and general population

fourth and fifth graders. *Dissertation Abstracts International* Vol. 49 No. 10.

Victor, E. (1980). *Science for the Elementary School*, (4th Ed.). New York: Macmillan.

Vijaya Kumari Kaushik & Sharma, S. R. (Ed.). (1997). *Teaching Science in Elementary Schools*. New Delhi: Anmol Publications Pvt. Ltd.

Wanchoo, V. N. (Ed.). (1982). *Science Education in Eighties, Policy Statements*. New Delhi: All India Science Teachers Association Doc.

Winer, B. J. (1971). *Statistical Principles in Experimental Design*. New York: McGraw Hill, Inc. Kogakusha Ltd.

Yadav, M. S. (1995). *Teaching of Science*. New Delhi: Anmol Publications.