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ABSTRACT

Over 30 books, articles, and reports published between 1981 and 1983 and cited in "Resources in Education" and "Current Index to Journals in Education" are listed in this bibliography for those introducing computers into the classroom and for curriculum development using microcomputers. Entries are arranged according to the following topics: (1) a general overview of microcomputer issues; (2) computer literacy; (3) appropriate hardware for schools; (4) appropriate software for schools; (5) microcomputers in elementary and secondary school classrooms; and (6) specific applications. Publications about special projects using microcomputers include "micro-literacy" workshops at the University of Mississippi, the development of Computer Towns (Menlo Park), microcomputer labs run by the University of Kansas School of Education, a Kansas project designed to provide isolated rural areas with microcomputer systems, the ILIAD system for deaf learners, and use of computers at the Children's Museum in Washington, D.C. In addition to bibliographical information and the annotations, ERIC accession numbers are also provided. (LH)

# INFORMATION RESOURCES ON. . .

## MICROCOMPUTERS: A SAMPLING OF THE ERIC DATABASE



Citations in this bibliography were selected from the Educational Resources Information Center (ERIC) indexes Resources in Education and the Current Index to Journals in Education for 1983. Subject headings used to locate them were Microcomputers, Computer Literacy, and Computer Programs.

### Overview

Becker, H. J. Microcomputers: Dreams and realities. Curriculum Review, October 1982, 21(4), 381-385. (Available UMI: EJ 270 073)

> Discusses the value of the microcomputer in education and questions whether or not the hardware now available is a cost-effective method for the type of learning it provides. Microcomputer use in schools in the future is also examined.

The computer: Extension of the human mind. Proceedings, annual summer conference, College of Education, University of Oregon (3rd, Eugene, Oregon, July 21-23, 1981). Eugene, OR: ERIC Clearinghouse on Educational Management, 1982. (ERIC Document Reproduction Service No. ED 219 859; MF-$.97/PC-$17.90; also available in PC from ERIC/EA, Editor, University of Oregon, Eugene, OR 97403 for $10.00)

> A conference proceedings containing 22 papers on speculative or theoretical issues such as computer literacy, educational change, and learner control; on specific applications in special education, program evaluation, elementary and secondary mathematics and science instruction, literature searches, computer programming, career information systems, and home computer-based learning systems; and about professional associations and research materials.

Computers in the schools: What's really happening around the country. Learning, October 1982, 11(3), 30-31, 34, 36, 38, 42, 46. (EJ 269 207)

> Reports are given on the use of computers in elementary and secondary schools in five states. An analysis of the reports discusses various educational trends and implications evolving from computer use, including misapplied technology and the proper amount of learning and teaching via computers.

Wilson, K. G. Administrative guidelines for introducing computers into the curriculum. NASSP Bulletin, September 1982, 66(455), 6-11. (Available UMI: EJ 268 220)

> Intended for those who are introducing computers into the classroom and those who need help with curriculum development in this area, this article explains key ingredients for successful coordination: identify interested personnel, start small, shop around, assess available space, avoid exclusivity, involve faculty, become a resource, and plan ahead.

Wrege, R., & Watt, D. Forum on educational computing. Popular Computing, November 1982, 2(1), 132-134, 136, 139-141. (Available UMI: EJ 268 702)

> Reports on an informal round-table discussion with educators and computer science experts about computer literacy and the role of computers in education, which was conducted at the National Educational Computing Conference.

### Computer Literacy

Bell, F. H. Implementing instructional computing and computer literacy in a school or college. AEDS Journal, Summer 1982, 15(4), 169-176. (Available UMI: EJ 270 068)

> These guidelines for setting up instructional computing and computer literacy programs using microcomputers include consideration of program planning, hardware selection and purchase, and faculty development.



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School of Education, Syracuse, N.Y. 13210, (315) 423-3640

Cutts, D. E., et al. Administrator microliteracy: A challenge for the '80s. NASSP Bulletin, September 1982, 66(455), 53-59. (Available UMI: EJ 268 227)

Explains why principals must be knowledgeable about microcomputers and describes a workshop put on at the University of Mississippi aimed at increasing "microliteracy."

Loop, L., & Anton, J. Bringing computers to the people. Classroom Computer News, September-October 1982, 3(1), 29-30, 86. (EJ 268 832)

ComputerTowns are local, volunteer organizations providing learning opportunities for interested individuals and fostering computer literacy. ComputerTown Menlo Park is currently being developed (with NSF funding) into a demonstration computer literacy project to disseminate the model to libraries and other institutions. Program activities/implementation efforts are discussed.

Martin, C. D., & Heller, R. S. Computer literacy for teachers. Educational Leadership, October 1982, 40(1), 46-47. (Available UMI: EJ 269 899)

Reviews the range of contextual factors, possible content orientations, training models (from one-day overviews to courses offering college credits), and follow-up mechanisms which must be considered by administrators who have committed their districts to providing inservice programs to develop teachers' computer literacy.

McDonald, G., & Holloway, W. H. Computer awareness: Teaching different age groups. NASSP Bulletin, September 1982, 66(455), 92-98. (Available UMI: EJ 268 235)

Describes a microcomputer laboratory run by the University of Kansas School of Education that offers courses in computer literacy to elementary students, university students, teachers, and administrators. Laboratory sheets used are included.

**Hardware**

Auten, A. So you want to buy a microcomputer: A guide to purchasing. English Journal, October 1982, 71(6), 56-57. (Available UMI: EJ 268 158)

Suggests practical measures for evaluating computer hardware.

Becker, G. Memorandum to beleaguered buyers; Topic: Microcomputer purchases. Electronic Education, October 1982, 2(2), 28-29. (EJ 270 081)

A brief checklist of relevant issues for school board members, school administrators, and others purchasing microcomputers for use in the schools.

Botterell, A. Which micro for me? Educational Computer, Jan-Feb 1982, 2(1), 30-31, 50-51. (EJ 268 625)

A brief guide on how to choose a microcomputer for use in the schools. Microcomputer components, applications, and programming languages are discussed.

Smith, R. A., & Spokony, M. Selecting and evaluating a computer system: A guide for educators. Electronic Education, March-April 1982, 1(7), 7-9. (EJ 268 692)

The importance of user needs and computer software is stressed in a series of questions designed to aid in the selection and evaluation of computer systems for use in schools.

Stevens, D. J., & Sybouts, W. Computers in the classroom. Clearing House, October 1982, 56(2), 82-85. (Available UMI: EJ 269 786)

Summarizes information gained from experienced teachers about what kinds of computer equipment schools should purchase, how the computer can be used in the classroom, and for what subject areas and grade levels they work best.

**Software**

Crovello, T. J. Computer center: Computer software evaluation: Who, when, where, why? American Biology Teacher, October 1982, 44(7), 429-433, 446. (Available UMI: EJ 268 924)

Computer software should be evaluated by teachers, students, or administrators before and after (ongoing) purchase. Reliable evaluations are performed in the educational context in which students will be using the

computer. Such evaluations are performed because poor programs may negatively affect teachers and/or student attitudes toward computers in education.

Dearborn, D. E. A process for selecting computer software. NASSP Bulletin, September 1982, 66(455), 26-30. (Available UMI: EJ 268 224)

Describes one school district's system for evaluating and selecting microcomputer software for computer assisted instruction. The process includes a computer technology council in charge of evaluation and a software evaluation form.

Microcomputer courseware/microprocessor games. EPIE materials report 98/99m. Stony Brook, NY: Educational Products Information Exchange Institute, 1981. (ERIC Document Reproduction Service No. ED 221 349; MF-$.97/PC-$9.15)

Part I of this EPIE quarterly report is divided into "Defining Effective Microcomputer Courseware" and "Courseware Analyses and Evaluations"; Part II contains "The Educational Impact and Potential of Microprocessor Games: A Field Study" and "Product Descriptions."

"My favorite software." Electronic Learning, October 1982, 2(2), 50-55. (EJ 270 063)

Lists 93 computer software programs favored by educators for use in school administration or computer assisted instruction in mathematics, social studies, and English. Information was compiled from a questionnaire sent to 2,000 teachers and administrators. Includes ordering information and comments on program use.

Neumann, R. How to find good software. Electronic Learning, October 1982, 2(2), 40-43. (EJ 270 061)

Discusses selection and purchase of computer software for use in educational settings. Evaluative criteria such as reviews, publisher reputation, evidence of field-testing, and publishing company attitude toward previewing and software backup are examined. A chart of purchasing policies of 29 companies is included.

Price, R. V. Selecting free and inexpensive computer software. Educational Computer, May-June 1982, 2(3), 24-26. (EJ 268 631)

Sources of information on free and low-cost software for computer assisted instruction include books, journals, clubs, agencies, and software exchanges. Evaluating educational software is discussed and a sample checklist is included.

## Elementary/Secondary Education

Bradley, V. N. Improving students' writing with microcomputers. Language Arts, October 1982, 59(7), 732-738. (EJ 269 739)

Discusses how microcomputers can stimulate invention in composition, through electronic mail, text analysis, and word processing program. Describes two exploratory studies designed to examine the feasibility of using a word processor for language experience and sentence-combining activities in the elementary school classroom.

Collis, B. Simulation and the microcomputer: An approach to teaching probability. Mathematics Teacher, October 1982, 75(7), 584-587. (Available UMI: EJ 270 151)

Details of an 18-lesson unit of instruction that has been used successfully with eighth-, ninth-, and tenth-grade classes are presented. Each lesson centers around individual computer programs written in Applesoft BASIC. Copies of two programs are provided, and ways to acquire the other 16 are noted.

Doyle, J. J., & Lunetta, V. N. Class, open your microcomputers. Science Teacher, November 1982, 49(8), 24-30. (Available UMI: EJ 270 278)

Describes three main areas of computer application in science classrooms, discusses problems of selecting microcomputers and programs for classroom use, and evaluates the prospects for successful use of computers in science teaching.

Lindsay, R. M. A comparative study of teaching typing skills on microcomputers. Vancouver, British Columbia: Educational Research Institute of British Columbia, 1982. (ERIC Document Reproduction Service No. ED 220 597; MF-$.97/PC-$7.40)

Describes a study conducted to compare the effectiveness of teaching the skill-building components of typewriting speed and accuracy using either the microcomputer or the electric typewriter. Subjects were 105

high school students in four introductory typewriting classes in a large, urban school in British Columbia.

Piestrup, A. M. Early learning of logic and geometry using microcomputers: Final report. Portola Valley, CA: Learning Company, 1982. (ERIC Document Reproduction Service No. ED 221 359; MF-$.97/PC-$16.15)

Mathematics educators and programmers created logic and geometry programs for use by young gifted children. This document contains the source code listings for the software for the following learning games: Turn and Match; Logic Arcade; and Logic Gates.

Rockhold, H. Development of strategies for implementing microcomputer career education and vocational delivery systems for isolated school areas, 1980-81. Final report of special vocational project. Lawrence, KS: Lawrence Unified School District 497, 1981. (ERIC Document Reproduction Service No. ED 221 650; MF-$.97/PC-$14.40)

Describes a project designed to provide students of isolated rural school areas with a microcomputer system that includes career education, prevocational, and vocational experiences, which is to be incorporated into the Kansas Computerized Career Information System.

Specific Applications

Bates, M., & Wilson, K. ILIAD: Interactive language instruction assistance for the deaf. Final report, September 1980-September 1981. Report no. 4771. Cambridge, MA: Bolt, Beranek and Newman, 1981. (ERIC Document Reproduction Service No. ED 219 918; MF-$.97/PC-$5.65)

Describes the syntactic, semantic, and tutorial components of the ILIAD system and steps that have been taken to implement it on a microcomputer. The system allows for highly interactive tutorials in which the deaf learner specifies the content of each lesson, and ILIAD creates individualized lessons according to the learner's specifications.

Graves, M. A day at the Capital Children's Museum. Classroom Computer News, September-October 1982, 3(1), 37-38, 74-75. (EJ 268 834)

Computers at the Children's Museum, Washington, DC, are used for exhibits, classroom teaching, and development of educational software. Describes computer exhibits in the museum including the "Future Center," a room equipped with 20 Atari 800s used for instructional purposes, and several computer programs used in the museum.

Marshall, D. G. Purchasing a microprocessor system for administrative use in schools. AEDS Journal, Summer 1982, 15(4), 183-197. (Available UMI: EJ 270 070)

Describes a series of decision-making steps regarding the purchase of microcomputers for administrative use in schools. Includes such topics as defining information needs and purchasing computer hardware and software.

Miller, I. Microcomputers and the media specialist: An annotated bibliography. Syracuse, NY: ERIC Clearinghouse on Information Resources, 1981. (ERIC Document Reproduction Service No. ED 222 182; MF-$.97/PC-$5.65; also available in PC from Information Resources Publications, 130 Huntington Hall, Syracuse University, Syracuse, NY 13210 as IR-57 for $4.25 plus $1.00 postage and handling)

An overview of the literature reflecting the rapid development of interest in microcomputer use in education since 1978 is followed by an annotated bibliography which lists books, articles, and ERIC documents in nine categories.

Schiffman, G., et al. Personal computers for the learning disabled. Journal of Learning Disabilities, August-September 1982, 15(7), 422-425. (EJ 268 398)

The use of computers in the field of special education is discussed in terms of barriers to implementation, suggested solutions, and usefulness in managing the individualized education program.

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Citations with EJ accession numbers are journal articles from CIJE, which can be obtained from a library; borrowed through interlibrary loan; or if so indicated, ordered through UMI, 300 N. Zeeb Rd., Ann Arbor, MI 48106. Citations with ED accession numbers are documents from RIE, which can be read at an ERIC microfiche collection site; ordered through EDRS, PO Box 190, Arlington, VA 22210; or ordered from the alternative source listed with the citation.