EDUCATIONAL TECHNOLOGY: AN ANNOTATED BIBLIOGRAPHY[1]

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Annotations of recent literature in the field of educational technology are presented in this bibliography. The 99 references provide a cursory survey of general topics related to various technologies. The objective of the bibliography is to sensitize educators to the role of media and technology in instructional design.

Within recent years, technological developments outside of education have impacted on the media resources which classroom teachers use to complement instruction. Traditional print media have been influenced by audio technology such as radio and audio cassettes. The latter, in turn, has been influenced by the incorporation of visual and animation features resulting first in film and, more recently, in video cassettes, videodiscs, and laserdiscs. Lately, computer technology has further accelerated the potential changes to traditional instructional technology through its capability to create a multifaceted, interactive environment. In addition, parallel shifts in epistemological positions have taken the spotlight from the teacher and instruction. Emphasis is now placed on the learner and ways of learning. Consequently, the thrust is to explore multiple representations in multimedia environments so as to acknowledge both learner differences and the peculiarities of discipline-related content.

The annotated bibliography provided in this review of literature on educational technology seeks to create a consciousness of the contribution which media and technology can make in redirecting the instructional process towards the learner. The listing has been divided into three sections - general issues, newer technologies, and traditional technologies.

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1 The authors would like to acknowledge the contributions of the 1994 and 1995 B.Ed. students in identifying most of the references.

It does not claim to be complete as the search was limited mainly to the sources available at the library of the Faculty of Education, UWI, St. Augustine.

GENERAL

Beck, C. R. (1991). Strategies for cueing visual information: Research findings and instructional design implications. *Educational Technology, 31*(3), 16-20.

Investigates the effectiveness of basic cueing strategies on young learners. States the purpose of each variable, reports on findings, and offers tentative guidelines for instructional designers.

Cooper, P. A. (1993). Paradigm shifts in designed instruction: From behaviorism to cognitivism to constructivism. *Educational Technology, 33*(5), 12-19.

Examines the history, characteristics, and value of designed instruction which is grounded in behaviourism, cognitive science, and constructivist theory. Attempts to connect these theories to the prevailing technological paradigms.

Daiute, C. (1992). Multimedia composing: Extending the resources of kindergarten to writers across the grades. *Language Arts, 69*(4), 250-260.

Addresses the issue of children who have difficulty in the transition from writing in the context of drawing to writing that stands on its own. Introduces multimedia composing. Includes success story which uses the approach.

Drosdeck, C. C. (1995). Promoting calculator use in elementary classrooms. *Teaching Children Mathematics, 1*(5), 300-305.

Promotes the use of calculators in mathematics instruction. Suggests activities to encourage meaningful use by students and to educate parents about the calculator's place in mathematics.

Duttweiler, P. C. (1992). Engaging at-risk students with technology. *Media & Methods, 29*(2), 6-8.

Lists the learning environments that have been identified as having the best results with students in at-risk situations. Focuses on the successful use of technology with these students.

Dwyer, F. M. (1988). Examining the symbiotic relationship between verbal and visual literacy in terms of facilitating student achievement. *Reading Psychology, 9*(4), 365-380.

Cites studies that support the use of visualization in the instructional process. Identifies problems encountered by practitioners in an attempt to find answers to those questions. Lists general conclusions obtained from the research.

Glasgow, J. N. (1994). Teaching visual literacy for the 21st century. *Journal of Reading, 37*(6), 494-500.

Emphasizes the importance of visual literacy in the contemporary world. Explains how visual literacy could be taught using the technique of deconstruction.

Hartley, J. R. (1994). Multimedia views of science education. *Studies in Science Education, 23*(1), 75-87.

Interactive Multimedia (IMM) is defined and explained. The advantages of using multimedia materials in the sciences are listed, together with the potential value of using visual and multimedia in learning. Notes that IMM introduces greater complexity into the design of materials and their use in the classroom.

Kuboni, O. (1993). Teachers' treatment of content in the design of instructional materials. *Educational Technology, 33*(1), 38-43.

Explores issues related to teachers' treatment of content in the design of instructional materials in a course taught by the writer.

Kurshan, B. (1991). Creating the global classroom for the 21st century. *Educational Technology, 31*(4), 47-50.

Addresses pedagogical issues for teaching in the global classroom, such as a new vision of education for the 21st century and a new structure for learning. Identifies a variety of communication technologies for use in global classroom projects.

McMeen, G. R. (1986). The impact of technological change on education. *Educational Technology, 26*(2), 42-45.

Discusses the issue of rapidly changing technology in relation to the time taken by educators to change. Cites issues that should be re-examined by educators to narrow the gap between change and under-utilization of technology in the context of improving instruction.

Means, B., & Olson, K. (1994). The link between technology and authentic learning. *Educational Leadership, 51*(7), 15-18.

Credits the progress in educational reform as the force behind the impact of technology as a viable tool in learning. Demonstrates how a teacher uses technology to help orchestrate a project. Illustrates five features of reformed classrooms.

Meyer, S. R., & Crawford, V. A. (1994). Distance learning: Multimedia equipment at work. *Media & Methods, 31*(2), 14-15.

Advocates the benefits of integrated interactive distance learning. Offers suggestions for setting up a distance learning network.

Munday, R. , Windham, R., & Stamper, J. (1991). Technology for learning: Are teachers being prepared? *Educational Technology, 31*(3), 29-32.

Suggests two ways to incorporate technology into teacher education programmes. Identifies considerations that must be recognized if educators are to receive information on electronic and communications technology. Suggests a computer integration course with suitable topics that would make knowledge about technology and its uses available.

Parker, J., & Widmer, C. (1992). Teaching mathematics with technology. *Arithmetic Teacher, 40*(1), 48-52.

Promotes some advantages of technology for computation, estimation, and mental mathematics. Introduces the T-E-M-T-T (Trial, error, and modified trial through technology) mode for problem solving. Gives details of some problem solving activities for students.

Persky, S. E. (1990). What contributes to teacher development in technology? *Educational Technology, 30*(4), 34-38.

Reports on a case study of a teacher's experiences in integrating a piece of software into the curriculum. Concludes with specific recommendations about what supports and promotes teacher development at the organization and instruction levels.

Rothe, J. P. (1983). Critical evaluation of educational software from a social perspective: Uncovering some hidden assumptions. *Educational Technology, 23*(9), 9-15.

Features a sociological analysis of educational software. Discusses language usage, knowledge, ideology, profit, culture, and ethics as six categories under which educational software should be critically examined.

Seidman, S. A. (1986). A survey of schoolteachers' utilization of media. *Educational Technology, 26*(10), 19-23.

Investigates the extent to which 11 media were utilized by teachers. Reports on related literature and details research process and findings.

Stinson, J. (1993). Technology outlook on math & science: Conversations with experts. *Media & Methods, 29*(4), 24-27.

Six curriculum specialists and administrators describe the technology used in the teaching of math and science in different schools and school districts. Teachers' and students' responses to the new technology are reported.

Sweeters, W. (1994). Multimedia electronic tools for learning. *Educational Technology, 34*(5), 47-52.

Describes popular electronic learning tools, such as tutorials, educational databases, learning nodes, simulations, and educational games. Indicates how each functions as part of a learning system. States the advantages and limitations of each tool.

Thompson, N. S. (1988). Media and mind: Imaging as an active process. *English Journal, 77*(7), 47-49.

Discusses the influence of visual media on the mind with the emphasis on imaging. Suggests how the media can be used in the classroom.

Wall, M. (1986). Technological options for rural schools. *Educational Leadership, 43*(6), 50-52.

Outlines the technological options available to rural schools for expanding their curriculum. Explores the use of technologies such as low power television, computer networks, and videodiscs.

Wedman, J. F. (1988). Increasing the use of instructional media in the schools. *Educational Technology, 28*(10), 26-31.

Describes a framework for identifying factors which affect teachers' use of instructional media. Demonstrates a model which postulates that attempts to change instructional practices should concentrate on those instructional performance variables which can be directly influenced.

Weiser, C. (1991). The literacy challenge: Options and solutions. *Media & Methods, 27*(3), 24-25, 32-33.

Statistical reports in the US indicate that many reading programmes incorporate technology to promote functional literacy skills. Factors to consider when evaluating software for a reading programme are recommended. Six educational institutions report on their programmes for promoting literacy.

Wepner, S. (1990). Holistic computer applications in literature-based classrooms. *Reading Teacher, 44*(1), 12-19.

Suggests how software written from an holistic perspective can complement efforts to help students develop as readers and writers.

Whitten, W. B., II (1992). The hurdles of technology transfer. *Educational Technology, 32*(5), 19-24.

Describes sponsorship and organizational and timing hurdles that may be encountered in the process of transferring technology from 'possibility' to 'product'. Gives advice on how to overcome these hurdles.

THE NEWER TECHNOLOGIES

Adams, D., & Hamm, M. (1988). Video technology and moral development. *Social Studies, 79*(2), 81-83.

Describes the effects of increasing technology and information on moral issues. Highlights the need to bridge the gap between technology and moral development. Suggests some procedures for helping children and young adults develop critical viewing skills.

Allan, M. S. (1991). Preparing for interactive video. *ELT Journal, 45*(1), 54-60.

Compares the properties of the video cassette recorder and the videodisc player. Points out the advantages of the interactive videodisc as a medium for the storage and playback of video signals. Applications of interactive video in education and language study are described.

Atkins, M., & Blissett, G. (1992). Interactive video and cognitive problem-solving skills. *Educational Technology, 32*(1), 44-50.

Investigates the relationship between certain features of interactive video design and the deployment and development of cognitive problem-solving skills. Presents the procedure and results of an experimental interactive videodisc.

Bangert-Drowns, R. L. (1993). The word processor as an instructional tool: A meta-analysis of word processing in writing instruction. *Review of Educational Research, 63*(1), 69-93.

Reviews 32 studies that compare two groups of students receiving identical writing instruction but allowing only one group to use word processing for writing assignments.

Barr, H. (1994). Social studies by electronic mail. *Social Studies, 85*(4), 170-173.

Introduces electronic mail as a solution to effective learning in social studies. Addresses problems and strengths of this technology. Gives ideas for a project.

Beasley, A. (1993). Camcorders and cameras: Important instructional partners. *Media & Methods, 30*(1), 26.

Describes how a group of high school students edited a professional looking videotape using a variety of audio-visual components. Explains procedures when using in-camera, crunch, and still video image editing. Lists ideas for camcorder and camera video projects.

Berwick, B. (1994). Kids behind the camera: Education for the video age. *Educational Leadership, 51*(7), 52-54.

Describes the creation of a media institute for juniors and seniors in a low socio-economic community. Lists the different courses offered and the types of skills learnt at the institute. Provides an insight to the types of exposure offered to the students.

Branscum, D. (1992, September). Educators need support to make computing meaningful. *Macworld*, 83-84, 86, 88.

Raises issues such as lack of integration of computers in public schools, the difference computers can make in the future lives of students, and the needs related to technology in education.

Brown, J. L. (1986). Getting kids on keys: Introducing word processing. *Media & Methods, 22*(4), 10-11.

Lists suggestions for introducing students to the word processor by teaching them what they need to know to write more capably. Explains how to make optimal use of the word processor.

Butzin, S. M. (1992). Integrating technology into the classroom: Lessons from the project CHILD experience. *Phi Delta Kappan, 74*(4), 330-333.

Presents a snapshot of how a new approach to the use of technology in the classroom is structured and executed for computer integration. Identifies key components: classroom environment, long-term continuous progress, the role of the teacher, student empowerment, curriculum materials, classroom management techniques and materials, multiple assessment, and parental involvement.

Callister, T. A., & Dunne, F. (1992). The computer as doorstop: Technology as disempowerment. *Phi Delta Kappan, 74*(4), 324-326.

Gives examples of misguided applications of computer technology in the classroom.

Cavalier, R., & Reeves, T. C. (1993). International perspectives on the impact of computing in education: Introduction to special issue. *Educational Technology, 33*(9), 7-11.

One of the difficulties in attempting to gain a global perspective on the impact of computing in education is the challenge of delineating exactly what computing in education means. Suggests that the focus be on defining computing in education as related to hardware, software or application, and the use of computing.

Chiodo, J. J., & Flaim, M. L. (1993). The link between computer simulations, and social studies learning: Debriefing. *Social Studies, 84*(3), 119-121.

States the importance of debriefing as a critical phase in learning, in the link between computer simulations, and social studies learning. Explains two debriefing models. Demonstrates the process of a computer simulation with the application of a debriefing model. Gives benefits of debriefing.

Cochran-Smith, M. (1991). Word processing and writing in elementary classrooms: A critical review of related literature. *Review of Educational Research, 61*(1), 107-155.

Reviews the literature that pertains to word processing and writing in elementary classrooms by constructing five major propositions that cut across individual studies and methods. Propositions center around the inter-relationships of word processing; the social process of classrooms and teachers' goals; the effects of word processing on students' composing processes, written products and attitudes; and students' abilities to master keyboarding and system skills.

Cole, G. (1993, October 1). Studio students set for action. *Times Educational Supplement*, 4031, 25.

Discusses the uses of the camcorder for teaching and learning across the curriculum.

Cuban, L. (1994). Computers meet classrooms: Who wins? *Educational Digest, 59*(7), 50-53.

Gives a brief overview of the introduction of computers in the classroom. Discusses why the computer has still not been fully utilized.

Curcio, F. R., & McNeece, J. L. (1993). The case of video viewing, reading, and writing in mathematics class: Solving the mystery. *Mathematics Teacher, 86*(8), 682-685.

A problem solving seminar for heterogeneous groups of seventh graders was designed so that students would see the connection between solving a mystery and solving a mathematics problem. It incorporates the use of technology, cooperative learning, and reading and writing in the mathematics class.

Edinger, M. (1994). Empowering young writers with technology. *Educational Leadership, 51*(7), 58-60.

Discusses the advantages of word processing. Gives a review of the benefits and changes in children's writing after being provided with word processors.

English, R. (1993). Introducing spreadsheets in mathematics. *Mathematics in School, 22*(5), 38-40.

Outlines stages of development for the introduction of spreadsheets in mathematics using computer spreadsheet programmes.

Filliman, P. K. (1983). Guidelines for introducing microcomputers in the schools. *Arithmetic Teacher, 30*(6), 16-17, 56.

Presents a list of questions, concerns, and needs to be addressed when introducing microcomputers into the classroom. Aspects such as key persons, needs assessment, goals, information collecting, and in-service training are elaborated.

Genishi, C. (1988). Kindergartners and computers: A case study of six children. *Elementary School Journal, 89*(2), 185-201.

Describes aspects of the computer curriculum of one class in a public elementary school. Provides a basis for considering the appropriateness of computers at this level.

Haigh, W. (1993). Using the computer to solve problems by the guess-and-test method. *School Science and Mathematics, 93*(2), 92-95.

Describes and gives the advantages of the guess-and-test method for solving word problems at the junior and senior high school levels, with an emphasis on computer and estimation skills. Demonstrates how a computer can be used to solve these problems.

Hannafin, R. D., & Savenye, W. C. (1993). Technology in the classroom: The teacher's new role and resistance to it. *Educational Technology, 33*(6), 26-31.

Gives an historical perspective of the use of technology in the classroom and suggests possible explanations for teacher resistance to using microcomputers.

Higgins, J. (1984). Reading and risk-taking: A role for the computer. *ELT Journal, 38*(3), 192-198.

Discusses the special reading techniques used by good readers as well as methods to develop reading skills. Introduces a computer programme designed to develop, in learners, skills at prediction and risk-taking aimed at improving their reading competence.

Hill, S. (1983). The microcomputer in the instructional program. *Arithmetic Teacher, 30*(6), 14-15, 54-55.

Argues for the inclusion of microcomputers in the instructional programmes in schools. Lists and describes a variety of instructional and management uses and role delineation of the teacher in a computer-furnished classroom.

Holmes, G. (1982). Computer-assisted instruction: A discussion of some of the issues for would-be implementors. *Educational Technology,* 22(9), 7-13.

Addresses some considerations that implementors of computer-assisted instruction (CAI) must be cognizant of when contemplating the implementation of a CAI facility.

Howson, B. A., & Davis, H. (1992). Enhancing comprehension with videodiscs. *Media & Methods, 28*(3), 12-14.

Relates successful experiences of science students who were allowed to analyze a series of visuals from a videodisc. Gives benefits of visual examples on videodiscs. Suggests ways in which students can be engaged in effective use of videodiscs.

Johnson, M. (1993). Networks: The basics and beyond. *Media & Methods, 30*(1), 30, 32.

Describes telecomputing or networking as a branch of telecommunications which uses the computer as an input device and the modem as a translator. Discusses the components of telecomputing. Describes project and unit ideas in different areas. Gives benefits of telecomputing.

Joseph, H. (1993). Teaching mathematics with technology. *Arithmetic Teacher, 40*(7), 412-415.

Describes an educational program that involves the family coming together and learning mathematics on a computer. Suggests how a family computer class can be offered. Discusses software selection and suggests software that meet requirements. Outlines a lesson plan for grades 4-8.

Kadrmas, S. (1994). Teaching global studies with technology. *Media & Methods, 30*(4), 24-25.

Describes the integrated approach by which six graders access information globally and through further research become resources themselves. Shows how complex studies can be simplified in a manner concomitant with one's learning style and intellectual/emotional needs.

Kincaid, J. P., Mullally, D., & Kincaid, J. F. (1992). Language training using computers with voice interface. *Educational Technology, 32*(1), 24-30.

Describes the Language Technology project which develops, evaluates, and commercially produces language courseware and training techniques for personal computers equipped with voice interfaces.

Klapper, J. (1991). The role of the video camera in communicative language teaching and evaluation. *Language Learning Journal,* No. 4, 12-15.

Proposes a rationale for the use of the video camera in the classroom. Elaborates on the range of language activities that lend themselves to video recording. Gives ideas on the organizational structure of a playback session and how these sessions can be made more effective. Discusses the importance of assessment and outlines the aspects to be considered in formulating assessment criteria.

Koskinen, P. S. , Wilson, R. M. , Gambrell, L B., & Neuman, S. B. (1993). Captioned video and vocabulary learning: An innovative practice in literacy instruction. *Reading Teacher, 47*(1), 36-43.

Reviews literature that supports the view that captioned video can be used to motivate vocabulary learning. Demonstrates one teacher's use of the technology to focus on vocabulary development. Offers suggestions for getting started.

Kulik, J., & Bangert-Drowns, R. (1990). Computer-assisted learning. In N. Entwistle (Ed.), *Handbook of educational ideas and practices.* (pp. 833-841). London: Routledge.

Details the major types of computer-assisted instruction (CAI) and describes the variety of current uses of computers in the instructional process. Suggests evaluative guidelines for teachers when using materials in CAI.

Louie, R., Sweatt, S., Gresham, R., & Smith, L. (1991). Interactive video: Disseminating vital science and math information. *Media & Methods, 27*(5), 22-23.

States what videodisc technology can offer teachers and students. Gives the advantages of this technology. Identifies schools' success levels with videodiscs in science and math classes.

Madian, J. (1986). New flexibility in curriculum development through word processing. *Educational Leadership, 43*(6), 22-23.

Suggests that an integrated and expressive curriculum can evolve through word processing. Highlights two projects that used word processing to develop an integrated language arts programme.

McBane, F. (1993). Management systems keep students on track. *Media & Methods, 29*(5), 20.

Computer management systems help teachers keep track of their students as they progress through exercises and software programs. Two types of management systems are explained. Lists companies that publish management systems which provide detailed student tracking components.

Merron, M. W. (1991). Monitoring instructional performance. *Media and Methods, 28*(1), 18, 42.

States various components of a management system that can assist in the organization and monitoring of instructional performance. Gives requirements for its operation. Lists the benefits of the system and provides advice in selecting software.

Moore, M. A. (1991). Electronic dialoguing: An avenue to literacy. *Reading Teacher, 45*(4), 280-286.

Defines interactive telecommunications and explains the function of the components that facilitate this form of communication. Cites reasons for the use of this technology. Elaborates on how interactive telecommunication is implemented within one school. Outlines the benefits to teachers and students of electronic dialogues.

Paddington, B. (1994). Teaching Social Studies through student video production. *Social Studies Education, 26,* 34-43.

Describes a video production on juvenile delinquency by form four students in a school in Trinidad. States the benefits to students in terms of the knowledge, concepts, and skills acquired.

Padgett, H. L. (1993). All you need to know about videodiscs: One easy lessson. *Media & Methods, 29*(4), 22-23.

Explains how the videodisc is produced and operated. Outlines two of its formats, lists three levels of interactivity, and explains how to locate segments on a videodisc by using frames, chapters and time.

Phillips, R. J. (1986). Computer graphics as a memory aid and a thinking aid. *Journal of Computer Assisted Learning,* 2(1), 37-44.

Gives details of the principles of parsimony, accessibility, and reflection for the program designer so that the graphical display can function as a memory and thinking aid. Explains how "progressive graphics" may be suitably implemented on a computer.

Piper, A. (1987). Helping learners to write: A role for the word processor. *ELT Journal, 41*(2), 119-125.

Explains the value of the processor in teaching writing to foreign language students. Twelve advantages of using this computer application to motivate students to develop their writing skills in English are listed.

Polin, L. G. (1990). Word processing: Untapped learning adventure. *Media & Methods, 26*(5), 34-37, 51.

Describes software packages that would assist in the various aspects of the writing process. Outlines ways that schools may organize different computing resources that are available. Relates how high school students learn about the writing process in a computer lab.

Poling, D. J. (1994). E-mail as an effective teaching supplement. *Educational Technology, 34*(5), 53-55.

Describes how electronic mail is used to promote communication and class cohesiveness at a university.

Reeves, T. C., Harmon, S. W., & Jones, M. G. (1993). Computer-based instruction in developing countries: A feasibility assessment model. *Educational Technology, 33*(9), 58-64.

Presents a model for analysis of the potential for computer-based instruction in the education and training systems of third world countries. Investigates ten factors that determine the extent to which a developing country can implement computer-based instruction.

Sgroi, R. J. (1992). Systematizing trial and error using spreadsheets. *Arithmetic Teacher, 39*(7), 8-12.

Presents a detailed account of two spreadsheets which help develop number sense, reasoning abilities, and problem solving skills. A method to systematize trial and error skills is outlined.

Shank, G., Ross, J. M., Covalt, W., Terry, S., & Weiss, E. (1994). Improving creative thinking using instructional technology: Computer-aided abductive reasoning. *Educational Technology, 34*(9), 33-42.

Explains the tenets of abductive reasoning and highlights the merits of this mode of logic to instructional design. Discusses the creation of a computer program - Abductive Reasoning Tool (ART) - and discusses the problems, the tools, and initial feedback and findings from early adopters.

Siegel, M. A., & Sousa, G. A. (1994). Inventing the virtual textbook: Changing the nature of schooling. *Educational Technology, 34*(7), 49-54.

Compares the traditional textbook with the virtual textbook, a software product which encourages a multidisciplinary approach to learning.

Snider, R. C. (1992). The machine in the classroom. *Phi Delta Kappan, 74*(4), 316-323.

Discusses the past and present lack of effectiveness of the computer and other technologies in the classroom.

Solomon, G. (1992). The computer as electronic doorway: Technology and the promise of empowerment. *Phi Delta Kappan, 74*(4), 327-329.

Responds to an article that focuses on poor practices of computer technology in the classroom. Shows how to realize the potential of the technology and points out how it can help to restructure the learning environment.

Stueben, S., & Vockell, E. L. (1993). Reformattingn text for learners with disabillities. *Educational Technology, 33*(6), 46-50.

Explains ways in which the mocrocomputer can be used to improve the reading of learners with visual and auditory disabilities.

Strommen, E. F. (1992). Formative studies in the development of a new computer pointing device for young children. *Educational Technology, 32*(4), 43-51.

Reports the results of two formative research studies conducted during the design process for a new portable trackball-like computer input device for small children. Discusses the advantages of formative research.

Stroschein, T. M. (1991). Use a video camera to get to know your students. *Social Studies, 82*(1), 32-33.

Highlights problems which teachers experience in recognizing students at the beginning of the school year. Gives advantages of using a video camera to get to know students.

Swick, K. J. (1989). Appropriate uses of computers with young children. *Educational Technology, 29*(1), 7-13.

Discusses the issue of computers in early childhood education by answering questions on the role of computers in a quality programme, the major criteria to be considered on acquiring a computer, appropriate and effective ways of introducing young children to computers, and major considerations to be examined in integrating computers into early childhood programmes.

Taylor, R. P., & Cunniff, N. (1988). Moving computing and education beyond rhetoric. In R. McClintock (Ed.), *Computing and Education: The second frontier* (pp. 9-21). New York: Teachers' College Press.

Puts forward the argument that computing provides an effective and powerful way of presenting alternatives for learners. Describes specific research and suggests how that research fits into the larger picture of what is needed to move beyond rhetoric.

Valdez, G. (1986). Realizing the potential of educational technology. *Educational Leadership, 43*(6), 4-6.

Refutes the view that integrating computers into education has lost much of its power by presenting a more optimistic viewpoint. Highlights the use of utility and content software.

Velayo, R. S. (1994). Supplementary classroom instruction via computer conferencing. *Educational Technology, 34*(5), 20-26.

Promotes the use of computer conferencing as a supplement to classroom instruction.

Vockell, E. L., & Hall, J. (1989). Computerized test construction. *Social Studies, 80*(3), 114-121.

Gives a comprehensive description of the features, capacities, and limitations of the major test-generating programs available. Expands on the advantages and limitations of TESTWORKS.

Vosso, R. (1994). Camcorders in the classroom. *Media & Methods, 31*(1), 18.

Reveals the usefulness of camcorders in the classroom and describes the operational and technological features of these machines.

Webb, M. (1993). Computer-based modelling in school science. *School Science Review, 74*(269), 33-47.

Shows how modelling could be valuable in a constructivist teaching sequence in the teaching of science.

Wepner, S. B. (1991). Linking technology to genre-based reading. *Reading Teacher, 45*(1), 68-70.

Provides several perspectives for connecting software applications to trade book reading. Describes eight software packages which can extend and enhance students' reading of different genres.

Wheeler, R., & Davoust, D. (1994). Using film and video in the curriculum. *Media & Methods, 30*(3), 8, 50.

Describes how popular films on video can be used to teach subjects across the curriculum. Gives outlets and sources where such material can be obtained.

TRADITIONAL TECHNOLOGIES

Allan, D. (1991). Tape journals: Bridging the gap between communication and correction. *ELT Journal, 45*(1), 61-66.

Examines the technique of using tape journals to give non-threatening feedback. Gives advantages and disadvantages of the technique.

Felton, R. G., & Allen, R. F. (1990). Using visual materials as historical sources: A model for studying state and local history. *Social Studies, 81*(2): 84-87.

Suggests that social studies teachers select rich, high-interest pictures and use them as raw, historical, source materials.

Fulford, C. P. (1993). Can learning be more efficient? Using compressed speech audio tapes to enhance systematically designed text. *Educational Technology, 33*(2), 51-59.

Examines the use of compressed speech audio in increasing the efficiency of systematically designed text and audio programs. Discusses a theory of cognitive speed.

Hammond, M. F. (1989). Use of film in the classroom. In M. Eraut (Ed.), *The international encyclopedia of educational technology* (pp. 197-200). New York: Pergamon Press.

Film was viewed as possessing the potential for motivation, enrichment, and instruction in the education system. This hypothesis was based on the three interdependent variables of the process of communication - design, utilization, and audience. Discusses these variables with the aim of enlightening educators on the advantages of the use of film in the instructional process.

Pett, D. W. (1989). Visual design for projected still materials. *Educational Technology, 29*(1), 30-32.

States the attributes of projected still materials as being carefully planned and incorporating general and visual design principles. Reviews the steps of planning; summarizes the general design principles; and focuses on visual design principles as they relate to pictures, letters, and colour.

Rickelman, R. J., & Henk, W. A. (1990). Children's literature and audio/visual technologies. *Reading Teacher, 43*(9), 682-684.

Proposes that audio and visual technology can make a significant contribution to a literature-based reading curriculum. States the advantages of audio/visual technologies over traditional methods, and provides samples of children's literature available on audio recordings and compact discs.

Rockman, S., & Burke, R. (1989). Use of television in the classroom. In M. Eraut (Ed.), *The international encyclopedia of educational technology* (pp. 189-197). New York: Pergamon Press.

Provides an historical review of the use of television in the classroom. Lists the variety of roles played by the television in educational instruction and describes these roles. Defines patterns of use necessary for obtaining maximum efficiency as an educational tool. Presents specific examples of the use of classroom television. Evaluates the general benefits of television to education.

Shannon, P., & Fernie, D. E. (1985). Print and television: Children's use of the medium is the message. *Elementary School Journal, 85*(5), 663-672.

Print and television are the two media that seem to compete for children's time and attention. The paper presents an explanation for beliefs about reading books and watching television. Reviews research that contradicts this. Offers suggestions for improving children's regular use of print and television.

Small, M. Y., Lovett, S. B., & Scher, M. S. (1993). Pictures facilitate children's recall of unillustrated expository prose. *Journal of Educational Psychology, 85*(3), 520-528.

Presents the method, results, and discussion of four experiments that investigated the effect of pictures on the recall of expository prose by first and third graders.