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The Field of Educational Technology: Update

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THE FIELD OF EDUCATIONAL TECHNOLOGY: UPDATE 1997 A DOZEN
FREQUENTLY ASKED QUESTIONS

Educational technology is a term widely used in the field of education (and other areas),
but it is often used with different meanings. The word technology is used by some to
mean hardware--the devices that deliver information and serve as tools to accomplish a
task--but those working in the field use technology to refer to a systematic process of
solving problems by scientific means. Hence, educational technology properly refers to
a particular approach to achieving the ends of education. Instructional technology refers
to the use of such technological processes specifically for teaching and learning.

Other terms, such as instructional development or educational media, which refer to
particular parts of the field, are also used by some to refer to the field as a whole.

The purpose of this digest is to provide background information and sources that help
one to understand the concept of educational technology. This digest should serve as a
"pathfinder" to relevant and timely publications that view the field from a variety of
perspectives.

1. WHAT IS EDUCATIONAL TECHNOLOGY?

The most recent definition of the field (which uses the term, instructional technology)
has been published by the Association for Educational Communications and
Technology (AECT):

Instructional Technology is the theory and practice of design, development, utilization,
management, and evaluation of processes and resources for learning.

The complete definition, with its rationale, is presented in the AECT publication:

--Seels, B.B. & Richey, R.C. (1994). Instructional technology: The definition and
domains of the field. Washington, DC: Association for Educational Communications and
Technology.

An overview of the field can be found in:

--Gagne, Robert M. (Ed.). (1987). Instructional technology: Foundations. Hillsdale, NJ:

Lawrence Erlbaum.

--Anglin, Gary J. (Ed.). (1995). Instructional technology: Past, present, & future (2nd ed.). Englewood, CO: Libraries Unlimited.

2. WHAT ARE THE ROOTS OF EDUCATIONAL TECHNOLOGY?

The field is essentially a 20th century movement with the major developments occurring during and immediately after World War II. What began with an emphasis on audiovisual communications media gradually became focused on the systematic development of teaching and learning procedures which were based in behavioral psychology. Currently, major contributing fields are cognitive psychology, social psychology, psychometrics, perception psychology, and management. The basic history of the field was written by Saettler.

--Saettler, Paul E. (1990). The evolution of American educational technology. Englewood, CO: Libraries Unlimited.

A briefer history may be found in:

--Reiser, Robert. (1987). Instructional technology: A history. In Robert M. Gagne (Ed.), Instructional technology: Foundations. (pp. 11-48). Hillsdale, NJ: Lawrence Erlbaum.

3. WHAT IS A GOOD SOURCE OF RESEARCH FINDINGS?

--Thompson, Ann, Simonson, Michael, & Hargrave, Constance. (1996). Educational technology: A review of the research. 2nd ed. Washington, DC: Association for Educational Communications and Technology.

--Kozma, Robert. (1991). Learning with media. Review of Education Research, 61(2), 179-211.

4. WHAT DO EDUCATIONAL TECHNOLOGIST DO?

Most educational technologists carry out one or a few of the functions performed in the field. For example, some design instruction, some produce instructional materials, and others manage instructional computing services or learning resources collections. The competencies for instructional development specialists and material design and production specialists are published in:

--Hutchison, Cathleen. (1993). Instructor competencies: The standards. (Vol. 1). Batavia, IL: International Board of Standards for Training Performance and Instruction.

A comprehensive description of the functions of education technology personnel is given in:

--Silber, Kenneth. (Ed.) (1979). The definition of educational technology (pp. 55-79). Washington, DC: Association for Educational Communications and Technology.

5. WHERE ARE EDUCATIONAL TECHNOLOGISTS EMPLOYED?

Until recently, most educational technologists were employed in schools and colleges as directors of resource centers and developers of curriculum materials. Many are still employed in such positions, but increasing numbers are being employed by training agencies in business, industry, government, the military, and the health professions. Colleges and universities employ individuals who are involved in instructional improvement programs that use a variety of technologies.

6. WHERE DO EDUCATIONAL TECHNOLOGISTS OBTAIN PROFESSIONAL

EDUCATION?Professional programs are offered mostly at the graduate level, although there are a few two-year postsecondary programs in junior and community colleges. Lists of programs are found in:

--Branch, Robert M., & Minor, Barbara B. (Eds.). (1997). Doctoral programs in instructional technology (pp. 233-244), and Master's degree and six year programs in instructional technology (pp. 244-266). In Robert M. Branch & Barbara B. Minor (Eds.). (1997). Educational media and technology yearbook. Englewood, CO: Libraries Unlimited.

--Johnson, Jenny K. (Ed.). (1995). Degree curricula in educational communications and technology: A descriptive directory (5th ed.). Washington, DC: Association for Educational Communications and Technology.

7. WHAT FIELDS OFFER GOOD PREPARATION FOR EDUCATIONAL

TECHNOLOGY?Many people enter the field following an undergraduate program in teacher education. More people come from the basic disciplines of the arts and sciences--English, sociology, communications, psychology, the physical sciences, and mathematics. Although there seldom are prerequisites for study in the field, persons who have good preparation in psychology and mathematics seem to have a head start. Formal course work and experience in human relations are helpful.

8. WHAT ARE THE MAJOR PROFESSIONAL ORGANIZATIONS?

In the United States, most educational technologists would be a member of one or more

of the following associations:

--American Educational Research Association (AERA)

1230 17th St., NW, Washington, DC 20036-3078

--American Society for Training & Development (ASTD)

1630 Duke Street, Box 1443, Alexandria, VA 22313

--Association for Educational Communications & Technology (AECT) 1025 Vermont Avenue NW, Suite 820, Washington, DC 20005-3547

--International Society for Performance Improvement (ISPI)

1300 L Street NW, Suite 1250, Washington, DC 20005

--International Society for Technology in Education (ISTE)

1787 Agate Street, Eugene, OR 97403-1923

--Society for Applied Learning Technology (SALT)

50 Culpepper St., Warrenton, VA 22186. Major organizations in other parts of the world include:

--Association for Media & Technology in Education in Canada (AMTEC) 3-1750 The Queensway, Suite 1318, Etobicoke, Ontario M9C 5H5, Canada

--Association for Educational & Training Technology (AETT) Centre for Continuing Education The City University, Northampton Square

9. WHAT PUBLICATIONS DO EDUCATIONAL TECHNOLOGISTS READ?

The most frequently read journals include:

--"British Journal of Educational Technology," published by the National Council for Educational Technology, Sir William Lyons Road, Science Park, University of Warwick, Coventry CV4 7EZ, England, U.K.

--"Learning and Leading with Technology," published by ISTE.

--"Innovations in Education and Training International," published by AETT, Kogan Page Ltd., 120 Pentonville Rd., London N1 9JN, England, U.K.

--"Educational Technology," published by Educational Technology Publications, 700

Palisade Avenue, Englewood Cliffs, NJ 07632.

--"Educational Technology Research and Development," published by AECT.

--"Journal of Research on Computing in Education," published by ISTE.

--"TechTrends," published by AECT.

10. WHAT ARE THE COMPREHENSIVE REFERENCES FOR THE FIELD?

There are two major encyclopedias:

--Plomp, T. & Ely, D. P. (Eds.). (1996). "The international encyclopedia of educational technology" (2nd ed.). New York: Elsevier Science.

--Unwin, Derek, & McAleese, Ray (Eds.). (1988). "The encyclopedia of educational media communications and technology" (2nd ed.). Westport, CT: Greenwood Press.

There are two major yearbooks which offer articles on current issues and extensive lists of people, organizations, literature, and other resources:

--Branch, R. M., & Minor, Barbara B. (Eds.). (1997). "Educational media and technology yearbook." Englewood, CO: Libraries Unlimited.

--Osborne, Christopher W. (Ed.). (1993). "International yearbook of educational training and technology." London: Kogan Page, and NJ: Nichols Publishing Co.

11. WHAT TEXTBOOKS ARE COMMONLY USED?

There are dozens of books used in educational technology courses. Selection of titles depends upon the content of the course, the primary audience, and the instructor's objectives. General textbooks that have been used in a variety of courses are:

--Heinich, Robert, Molenda, Michael, Russell, James, & Smaldino, S. (1996). "Instructional media and technologies for learning" (5th ed.). New York: Macmillan.

--Dick, Walter, & Carey, Lou. (1996). The systematic design of instruction (4th ed.). Harper Collins College. Glenview, IL: Scott, Foresman and Co.

12. WHERE CAN MORE SPECIFIC INFORMATION ABOUT EDUCATIONAL

TECHNOLOGY BE FOUND?The ERIC (Educational Resources Information Center) system sponsored by the Office of Educational Research and Improvement of the U.S. Department of Education has been selecting documents on educational technology

since 1966 and indexing articles from key journals since 1969. Abstracts of the documents can be found in:

--"Resources in Education," published monthly by the U.S. Government Printing Office and available in more than 3,500 libraries throughout the world. Selected articles which have been indexed from educational technology journals are listed in:

--"Current Index to Journals in Education," found in many libraries or available from Oryx Press, 4041 North Central at Indian School Road, Suite 700, Phoenix, AZ 85012-3397. (800-279-6799)

ERIC Database. Computer searching of the ERIC database is available in many academic and some public libraries. The ERIC database can also be searched over the Internet and on some commercial networks. Specific questions can be addressed to:

--ERIC Clearinghouse on Information & Technology (ERIC/IT)

4-194 Center for Science and Technology

Syracuse University, Syracuse, NY 13244-4100

(315) 443-3640; (800) 464-9107

URL: http://ericir.syr.edu/ithome

There are World Wide Web sites that focus on discussion of issues in educational technology. The addresses are:

http://www.aect.org/

http://h-net.msu.edu/~edweb

http://www.askeric.org

The ERIC/IT Clearinghouse has a publications list of monographs and digests about current issues and developments in the field and publishes a newsletter, ERIC/IT Update, twice each year. Both items are available without charge.

This Digest was prepared by Donald P. Ely, Senior Associate for Educational

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