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Resources on the Use of Electronic Technology in Adult Literacy Education

Volume 1

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The following selections are intended to provide readers with a general understanding of some of the key issues and practices that bear on the implementation of educational technologies in adult literacy programs. The sources listed are not exhaustive but cover two dozen major reports, articles, and Web sites produced by the federal agencies and literacy organizations that have been most engaged with this topic recently.

BOOKS, GUIDEBOOKS, HANDBOOKS, AND REPORTS

- **Cantrell, C. (Ed.). (1996). Software buyer's guide, 1996 edition (63 pages). Seattle, WA: Northwest Regional Literacy Resource Center.**

Availability: Northwest Regional Literacy Resource Center, 2121 South Jackson Street, Seattle, WA 98144; (206) 587-4988.

Recommended audience: Teachers

Underwritten by the Northwest Regional Literacy Resource Center, these software reviews were provided by approximately thirty teachers who used the listed software in classes for at least two weeks. The 180-plus software programs listed are divided into six subject categories: science and social studies content areas, mathematics, language, life skills, reading, and support. Each program is rated on a four-point scale in a tabular report, and thirty of the programs are featured with brief descriptive and evaluative sections. (The selection criteria for the featured subset are not made clear.) One caution is that close to half of the listed programs

were written for now-dated DOS or Apple II computers, but the (slight) majority of titles are available for Windows and/or Macintosh operating systems.

Intended as background on the incorporation of software into adult literacy programs, three short articles follow the reviews: "Planning for Technology," "Characteristics of Effective Instructional Technology," and "Integrating Software into the Curriculum." The 1997 edition of this guide is available in print and on-line:

[<http://www.literacynet.org/nwrlc/buyersguide/home.html>].

- **Cowles, S. K. (1997). Teaching and learning with Internet-based resources (Literacy Leader Fellowship Program Reports, Vol. 3, No. 2, 133 pages). Washington, DC: National Institute for Literacy.**

Availability: Copies can be obtained by calling the National Institute for Literacy hot line at (800) 228-8813; also available in full text on the NIFL Web site at

[<http://novel.nifl.gov/susanc/inthome.htm>].

Recommended audience: Teachers

This extensive set of curricular materials for adult literacy practitioners and students using Web sites, e-mail, and other Internet technologies in instruction was created as part of a 1996ñ1997 National Institute for Literacy fellowship. Designed in response to a needs assessment conducted with 245 adult learners and 123 adult education instructors in Oregon, these materials were then tested with instructors and learners around the country.

Although the lessons themselves are designed to help teachers introduce learners to the Internet, the accompanying narrative also introduces teachers themselves to basic Internet concepts. Teachers who are new to using the Internet (but are somewhat familiar with basic computer functionality and basic Internet concepts) can thus use this resource to orient themselves and their students simultaneously. The last chapter includes guidelines for project implementation and staff development.

- **Elmore, J. (1998). Adult literacy, technology, and public policy: An analysis of the southeastern United States region (10 pages). Philadelphia: National Center on Adult Literacy.**

Availability: National Center on Adult Literacy, 3910 Chestnut Street, Philadelphia, PA 19104-3111; (215) 898-2100; Web address: [<http://literacyonline.org/seirtec/Seirtec1.htm>].

Recommended audience: Policymakers, program directors

In a concise, coherent manner, this policy brief, drawn from interviews with staff members of several adult literacy programs, provides a glimpse of current puzzles and solutions pertaining to technology planning, staff development, and cross-program collaboration, along with a short set of concrete recommendations.

- **Hohey, C. E. (Ed.). (1998). Technology, basic skills, and adult education: Getting ready and moving forward. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education, Center on Education and Training for Employment.**

Availability: Center on Education and Training for Employment, Center Publications, 1900 Kenny Road, Columbus, OH 43210-1090; also available in full text on the ERIC/ACVE Web site: [<http://ericacve.org/>].

Recommended audience: Program directors, teachers, policymakers

A collection of writings by leaders in the field of technology and adult education, this book is organized into two sections. Section I, "Getting Ready," designed to help teachers and program directors plan for and integrate technology into adult education, discusses the technology planning process, offers guidelines for software and hardware selection, and suggests a number of approaches for integrating technology with instruction. Section II, "Moving Forward," addresses the interconnections between adult learning theory and educational technology, distance learning, policy issues, and other topics. Many chapters were explicitly written for teachers and program directors in the field, but the depth of topics included makes this a useful source for those interested in adult education technology policy in general. A list of national adult education agencies, with Web addresses, is included.

- **Mansoor, I. (1993). The use of technology in adult ESL programs: Current practice-future promise (51 pages). Washington, DC: Southport Institute.**

Availability: Southport Institute for Policy Analysis, Suite 460, 820 First Street, N.E., Washington, DC 20002; (202) 682-4100.

Recommended audience: Policymakers, academic researchers, program directors

This report provides a solid overview of the possible uses and key issues pertaining to the incorporation of educational technologies in the adult ESOL (English for speakers of other languages) classroom and offers two overarching recommendations for adult literacy policymakers and practitioners: a sustained commitment of resources and a significant research base on ESOL instruction. Mansoor encourages efforts that seek a broader understanding of both the programmatic supports and the educational factors that have bearing on the successful implementation of technology by adult ESOL populations. Her summary of such supports and factors offers a starting point for further research and debate.

Along with several engaging anecdotes related by ESOL practitioners, the report provides a summary of a few of the early 1990s studies on technology use in adult literacy programs and highlights the policy issues relating to purchasing decisions, educational practice, technical assistance, and product development. Mansoor's overview of the policy implications and the general challenges facing administrators and practitioners who are seeking to implement technology poses questions and observations as relevant in 1999 as in 1993.

- **Miller-Parker, D. (1993). Instructional technology resource guide for staff Development (46 pages). Washington, DC: U.S. Department of Education, Division of Adult Education and Literacy.**

Availability: ED Pubs, P.O. Box 1398, Jessup, MD 20794-1398; (877) 4-ED-PUBS; fax: (301) 470-1244.

Recommended audience: Teachers, program directors, policymakers

This guidebook provides examples and guidelines for creating staff development programs for the effective use of technology in adult basic education programs. It includes an overview of the existing literature on staff development for technology integration (up to 1993), a synthesis and discussion of these authors' findings, and a proposal for the integration of technology into adult education

programs. Because it was published in 1993, some of the information presented about organizations, on-line services, and certain hardware and software products (and their costs) is now well out of date; nonetheless, the general suggestions on how to create effective staff development programs will still be relevant to policymakers, program directors, and others.

- **Rosen, D. J. (1998). Driver education for the information superhighway (Literacy Leader Fellowship Program Reports, Vol. 2, No. 2, 88 pages). Washington, DC: National Institute for Literacy.**

Availability: National Institute for Literacy hot line at (800) 228-8813. An updated version of two chapters is available on the Web: "The Literacy List" is at [\[http://www2.wgbh.org/mbcweis/lrc/alri/websites.html\]](http://www2.wgbh.org/mbcweis/lrc/alri/websites.html), and "The Adult Education Teacher's Annotated Weblibliography" is at [\[http://www2.wgbh.org/mbcweis/lrc/alri/weblibliography.html\]](http://www2.wgbh.org/mbcweis/lrc/alri/weblibliography.html).

Recommended audience: Researchers, program directors, teachers

The first half of this book is a look at how teachers are using the Internet, based on responses to questionnaires and focus groups conducted in 1995-1996. It is useful for teachers seeking information on how other practitioners have accessed the Internet and used it as a teaching tool. The information collected on the barriers teachers face in trying to use the Internet (training time, access, purchase of hardware and software) should also be useful for staff development and strategic planning around the uses of technology. A staff development model is included. The second half of the book includes a comprehensive list of World Wide Web pages, directories, and search tools related to adult literacy program development, policy, and teaching and a collection of Web site reviews, "The Adult Education Teacher's Annotated Weblibliography," written by adult literacy, basic education, and ESOL educators in the Boston area in spring 1996. The book assumes some familiarity with computer and Internet concepts but is presented in a style that is friendly to teachers relatively inexperienced in this area.

- **Stites, R. (1998). Assessing lifelong learning technology (ALL-Tech): A guide for choosing and using technology for adult learning: Practice guide (21 pages). Philadelphia: National Center on Adult Literacy.**

Availability: National Center on Adult Literacy, 3910 Chestnut Street, Philadelphia, PA 19104-3111; (215) 898-2100; Web address: [<http://literacyonline.org/products/ncal/pdf/PG9801.pdf>].

Recommended audience: Policymakers, program directors, teachers

Amplifying a 1995 publication, *Plugging in: Choosing and using education technology*, this report provides an overview of some of the opportunities and barriers inherent in implementing educational technologies in adult literacy programs. The document includes detailed operational indicators (defining aspects of assessment, learning contexts, instructional models, teacher-learner roles, and so on) and worksheets for engaged learning as that endeavor might be accomplished through the use of classroom technologies.

- **Turner, T. C. (1993). *Literacy and machines: An overview of the use of technology in adult literacy programs* (72 pages). Philadelphia: National Center on Adult Literacy.**

Availability: NCAL/ILI, University of Pennsylvania, 3910 Chestnut Street, Philadelphia, PA 19104-3111; (215) 898-2100; fax: (215) 898-9804; e-mail: [smith@literacy.upenn.edu]; on-line version available on the Literacy Online Web site at [<http://www.literacyonline.org/products/ncal/pdf/TR9303.pdf>].

Recommended audience: Researchers, policymakers

This report provides a framework for obtaining technology and incorporating it into the adult literacy curriculum, offers a brief look at the history of technology use in adult literacy programs, and attempts to identify the value that the use of technology can have for learners in the larger cultural context in which literacy instruction resides. A summary of the applications of technology in programs at the time this document was written is included. Also included are future projections for the technology development. Because many technology applications available today were not available in 1993, this is not a good source for those looking for the most up-to-date summary of the types of technologies currently being used in the field. On the other hand, the issues raised concerning the proper role of technology in the field remain highly relevant.

- **U.S. Congress, Office of Technology Assessment. (1993). *Adult literacy and new technologies: Tools for a lifetime* (OTA**

Publication No. OTA-SET-550, 275 pages). Washington, DC: U.S. Government Printing Office.

Availability: Superintendent of Documents, U.S. Government Printing Office, P.O. Box 371954, Pittsburgh, PA 15250-7954; (202) 512-1800. Also available from the National Technical Information Service, (703) 487-4650, and from the OTA Legacy Web site at [http://www.wws.princeton.edu:80/~ota/ns20/alpha_f.html].

Recommended audience: Researchers, policymakers

This remains the most comprehensive report to date on the use of technology in adult literacy. Although it is somewhat dated (published in 1993, it has no discussion of the Internet or the World Wide Web), the wealth and detail of the information it presents on the types of technology being used in adult literacy programs and especially on the issues surrounding implementation of technology make this volume useful reading for policymakers, program directors, and practitioners. It also serves (although again, some of this information is dated) as a primer on adult learners, the adult literacy instructional delivery system in the United States, the role of the federal government in adult literacy education, and the ways in which technology might be used to improve the system. A reader with relatively little background in this area would find the overview discussions both useful and understandable.

- **U.S. Congress, Office of Technology Assessment. (1995). Teachers and technology: Making the connection (OTA Publication No. OTA-EHR-616) (292 pages). Washington, DC: U.S. Government Printing Office.**

Availability: New Orders, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954; (202) 512-1800.

Recommended audience: Policymakers, program directors, teachers

This lengthy report devotes considerable space to reviewing current and possible future uses of educational technology, but the larger, more significant sections examine critical factors relating to teacher education, training, and professional development. Throughout the report, numerous boxes, figures, and tables provide succinct, highly useful supplementary information: potential practices, current barriers, past and current federal technology

initiatives, statewide technology planning examples, and so forth. Although the content of the report is drawn from and directed toward the experiences of K-12 school system staff, the analysis of the multifarious struggles that teachers and administrators face as they wrestle with new technologies is applicable to adult literacy practitioners as well.

- **U.S. Department of Education, Office of Educational Research and Improvement. (1993). Using technology to support education reform (OERI Publication No. OR-93-3231) (110 pages). Washington, DC: U.S. Government Printing Office.**

Availability: New Orders, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954; (202) 512-1800.

Recommended audience: Policymakers, academic researchers

This report ties the core features of education reform to respective "potentially supportive technology," drawing supportive data and illustrative examples from nearly two hundred studies and articles published between 1978 and 1992. There are chapters devoted to the necessary support mechanisms for students and teachers, the impact on student achievement, and implementation issues. Although published in 1993, the report's review of effective teacher professional development practices and guidelines, along with a gloss on the possible consequences of education reform efforts, is quite applicable to contemporary federal- and state-level education debates and decisions.

- **Wright, B. A. W., et al. (1994). ESL technology user's guide, 1994 edition (48 pages). Seattle, WA: Northwest Regional Literacy Resource Center.**

Availability: Northwest Regional Literacy Resource Center, 2121 South Jackson Street, Seattle, WA 98144; (206) 587-4988.

Recommended audience: Program directors, teachers

Although a bit dated, this guide provides ESOL practitioners with a decent introduction to a mix of educational technologies: computer software and videotapes (primarily), along with a few on-line services and hand-held tools (such as electronic transcribers). A table rates more than one hundred products, with forty of those products also described in fuller reviews listing the specific strengths and weaknesses of each. One drawback is that

the software listings and reviews do not indicate the required computer operating systems (Windows, Macintosh, DOS).

JOURNAL ARTICLES

- **Bixler, B., & Askov, E. N. (1994). Characteristics of effective instructional software. *Mosaic: Research Notes on Literacy*, 4 (2), 1, 7.**

Recommended audience: Program directors, teachers

This article looks at the characteristics of technology (such as feedback, learner control, and organization) that the authors contend is successful in empowering learners and helping them take responsibility for their own learning. It is useful to program directors and teachers who are planning for and integrating computer technology into their programs, especially around issues of hardware and software selection.

- **Hopey, C. E., Rethemeyer, R. K., & Harvey-Morgan, J. (1994, September). Voices from the field: The use of computer technology in adult literacy. *NCAL Connections*.**

Recommended audience: Policymakers, program directors

This survey of computer technology in adult literacy was designed to identify the extent and scope of computer technology use, achieve a better understanding of the experiences and attitudes of adult literacy programs in implementing technology, and inventory the computer technology currently in use. The results, based on the responses from six states (Pennsylvania, New York, Delaware, North Carolina, Illinois, and California) surveyed in spring 1994, will likely be of use to policymakers trying to identify the issues facing technology integration throughout the field. Program directors engaged in technology planning will likely find the findings useful as well. Both audiences should find the issues raised to be relevant, despite the likelihood that some of the statistical information is probably out of date, especially with regard to access to technology.

- **Merrifield, J., & Bell, B. (1994). Don't give us the Grand Canyon to cross: Participatory literacy and the information society. *Adult Learning*, 6(2), 23-24, 30.**

Recommended audience: Teachers, program directors

Based on a pilot project providing twenty Tennessee adult literacy programs with Internet access, this article succinctly clarifies the need and the rationale for giving teachers and learners frequent, practice-based, real-world opportunities to master new technologies. With a mixture of optimism and frustration, the authors anticipate uses of on-line resources that could embrace reflective practice and critical thinking, uses that a few years later are beginning to become an integral piece of adult literacy programs' planning and practice.

- **Rachal, J. R. (1995). Adult reading achievement comparing computer-assisted and traditional approaches: A comprehensive review of the experimental literature. Reading Research and Instruction, 34(3), 239-258.**

Recommended audience: Researchers, policymakers

This study presents a comprehensive review of experimental investigations comparing computer-assisted instruction with traditional approaches to adult reading instruction. A formal research paper summarizing existing data, this is not a hands-on guide for practitioners; the more obvious audience seems to be policymakers and other researchers.

WEB SITES

- **Dave's ESL Caf :** <http://www.eslcafe.com>
More of an on-line message center than an electronic library, this site gives teachers and learners opportunities to exchange questions, ideas, and experiences. Sifting through the hundreds of accumulated postings (many from teenagers) is a bit exhausting, but two features quickly draw one's eye: the ESL Idiom Page (good for classroom use and discussion) and the ESL Caf  Bookstore (short subject lists of recommended titles for teachers).
- **Educational Resources Information Center (ERIC):** <http://www.accesseric.org:81>
The Educational Resources Information Center is a national database of education-related literature. Supported by the Office of Educational Research and Improvement (a division of the U.S. Department of Education) and the National Library of Education, this searchable database contains more than 950,000 abstracts of

documents and journal articles on education research and practice. In addition, most of the several dozen digests produced to date by the ERIC Clearinghouses are available on-line, including titles from the two adult literacy-focused outposts: the Clearinghouse on Adult, Career, and Vocational Education and the National Clearinghouse on ESL Literacy Education. Both collections contain several full-text documents on issues pertaining to technology.

- **ESL Home Page:** <http://www.lang.uiuc.edu/r-li5/esl>
Maintained by a graduate assistant at the University of Illinois, this site, intended primarily for intermediate and advanced ESOL learners, serves as an index to a large number of Web sites, organized by broad skill area: listening and speaking, reading and understanding, and grammar and writing. Although little more than an expansive bookmark list, the site does provide a gateway to the Web for on-line novices.
- **Literacy Information and Communication System (LINCS)**
Eastern LINCS: [<http://easternlincs.worlded.org>]
Midwestern LINCS: [<http://archon.educ.kent.edu/Midwest>]
Southern LINCS: [<http://hub2.coe.utk.edu>]
Western/Pacific LINCS: [<http://www.literacynet.org>]

Funded by the National Institute for Literacy, the four regional LINCS projects provide training, technical assistance, and resources for their member-state literacy resource centers and, by extension, adult literacy programs and practitioners. In addition to providing links to education- and technology-related Web sites, the LINCS sites provide varying degrees of original content, including lesson plans, program technology plans, curricula, learner-generated materials, and training guides.

- **Literacy Online:** <http://www.literacyonline.org>
As the on-line home for the National Center on Adult Literacy and the International Literacy Initiative, this site provides a wealth of on-line, full-text reports on adapting new technologies to adult literacy learning and instruction.
- **National Adult Literacy Database (NALD):** <http://www.nald.ca>
Based in Canada, the Resources Database available at this site is a good source for information on technology and adult education in the United States and the rest of the world. Access to the resources varies from full-text, on-line documents to abstract and ordering information only. (Those looking for complete documents can

browse all of them on the full-text documents page.) The site also serves as a host for adult literacy agencies and organizations from across Canada, offering on-line issues of numerous national and provincial newsletters.

- **National Institute for Literacy (NIFL):** <http://novel.nifl.gov>
Established by the National Literacy Act of 1991, the National Institute for Literacy primarily crafts policy initiatives and funds research projects related to adult literacy. The NIFL's Web site is intended to serve as a one-stop electronic resource center for practitioners, administrators, and policymakers, offering grant information, policy updates, a national calendar of events, a directory of state literacy contacts, and a search engine that connects users to resource collections maintained by ERIC, the Library of Congress, and the four LINCS Web sites. Visitors to this site have access to the archives of several literacy-related listservs, as well as the reports of the Literacy Leadership fellows: [<http://novel.nifl.gov/nifl/fellowpubs.htm>].

- **PBS LiteracyLink:** <http://www.pbs.org/literacy>
LiteracyLink is an integrated instructional system of video and on-line computer technology (including this Web site) designed to help adult students advance their GED (General Educational Development) and workplace skills. The project also seeks to improve the quality of instruction for adult students by offering professional development resources and training, and it provides the public with general information about literacy. Until product development is completed in 2001, only portions of LiteracyLink are available.

- **Rural Clearinghouse for Lifelong Learning and Distance Education:** <http://www-personal.ksu.edu/~rcled>
This site is an extremely rich source of on-line, full-text articles on the topics of rural literacy, distance education, multicultural reform in rural schools, and leadership and community development. Many of the articles have at least a moderate level of applicability to circumstances found in adult literacy programs.