Adult Literacy, Learning Disabilities and Technology:
An Annotated Bibliography

The Centre for Literacy of Quebec
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Acknowledgments

The research and writing of the annotations were carried out by Jean Williams, BScN, RN, MLIS. Jean is a psychiatric nurse in Montreal with an ongoing interest in health science librarianship, and expertise in consumer health information.

The articles were found through online searches of the following sources:
- Education Resources Information Center (ERIC) database
- PsychInfo database
- Web sites of recognized organizations in Canada, the U.K., and the United States.

The following terms were used in searching: adults; adult literacy; adult students; assistive technolog(y)(ies); computers; dyslexia; educational needs; educational strategies; educational technology; ICT; IT; learning difficulties; learning disabilities; technology.

The following scholarly journals were searched by hand:
- Learning Disability Quarterly
- Adult Learning, 1998-2000

We concentrated on finding materials published since 1995; a majority of the selected titles are available online. In addition to articles and online documents, we have included several pertinent book chapters. We have also included some entries that do not refer specifically to learning disabilities, but where a meaningful connection could be made.

Claire Elliott, librarian at The Centre for Literacy, created and assigned subject headings, and formatted the final document for publication. Centre staff proofread the document.

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The Centre for Literacy gratefully acknowledges the collaboration that made this publication possible. We ask anyone who cites this document or adds entries to please acknowledge us and share a copy at the address below:

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Dr. Linda Shohet
Director
September 2001
Preface

How many adults with literacy problems actually have learning disabilities (LD)?
Do most adults with severe literacy problems actually have a learning disability?
What data exist to support the claims? How is LD being defined? Is the label
overused? Is social/economic disadvantage misinterpreted as LD?

What technologies and software exist to accommodate various disabilities?
What can technology offer specifically to the learning disabled?
How can technologies developed for specific disabilities be adapted for others?

The 2001 Summer Institute at the Centre for Literacy posed these and other questions
about adults and learning disabilities.

This bibliography was intended to provide some context for the discussions. The search
reinforced the sense of ambiguity surrounding the topic. Terminology and concepts
differed from one country to another, even in the English-speaking world. We never got
around to a thorough exploration of the cultural dimensions of learning disabilities.
However, we do want to share the collected annotations in the hope that they will seed
further searches and lead to some common understanding of the ways that literacy and
learning disabilities may or may not related.

Note on style
We have retained original spellings from all the articles, whether Canadian, American or
British, so the same words may be spelled differently in different annotations.

On a similar note, the terms ‘learning difficulties’, ‘ICT’ and ‘IT’ - as distinct from
"learning disabilities," "assistive technologies," etc. - were identified as important terms to
use when identifying relevant materials in the U.K.

How to use this bibliography
The articles in this bibliography are grouped by subject, and listed alphabetically by
author within each subject category. In the few instances where articles are related, See
also references with page numbers are provided. Web sites are listed at the end of the
document.
Advocacy


This response to the U.K. strategy statement Skills for Life (http://www.dfee.gov.uk/readwriteplus/news/strategy/index.shtml) commends the government for certain initiatives and funding provisions but points out that little mention is made of the Freedom to Learn report and the need for separate strategy, technology and curriculum statements to meet the specific needs of adults with learning difficulties and disabilities.

34 p

See also: DfEE, 2001 (p. 12); Moser, 1999 (p. 13); NIACE, 1999 (p. 5); and Working Group, 2000 (p. 6).

Advocacy


This article summarizes the status of basic skills provision for people with learning disabilities in the U.K., and offers recommendations for action, based on evidence from Local Education Authorities, self-advocacy groups and key organisations for the Moser Sub-Group.

3 p

See also: DfEE, 2001 (p. 12); Lawson, 2001 (p. 5); Moser, 1999 (p. 13); and Working Group, 2000 (p. 6).
Advocacy


Established to respond to the call by Sir Claus Moser for "a special study" on the needs of this adult population in the U.K., this group concludes that the findings in 'A Fresh Start' are applicable if certain conditions are met around such issues as entitlement, access and standards. Recommendations for people with dyslexia and with other learning disabilities included mention of multi-sensory resources, photocopying/enlarging facilities and ICT.

8 p

*See also: DfEE, 2001 (p. 12); Lawson, 2001 (p. 5); Moser, 1999 (p. 13); and NIACE, 1999 (p. 5).*

Assistive Technologies


This introduction, to a "Special Series" of articles in the same journal, emphasizes the fact that AT has been shown by the author to be effective for persons with LD. Barriers to the access to, and use of, AT devices and services that were elicited through public hearings are described in relation to school children. Brief introductions are given to the 6 papers in the series.

2 p

This article discusses how assistive technology facilitates learning and lists the types appropriate for adult learners. Legislation, training of teachers, selection of devices and several issues around the use of technology with post-secondary students are covered.

11 p


This survey article presents a model for conceptualizing AT in terms of the types of barriers it helps people overcome. Reviews of some current technologies, such as word processing, computer-based reading instruction, and interactive math programs, are given. Future successes depend on access as well as ease of use, and of incorporating new technologies as they emerge.

12 p

After describing the instructional and compensatory approaches to adults with learning difficulties, and defining 'assistive technologies', the author outlines research findings related to the following technologies: optical character recognition (OCR)/ speech synthesis; speech synthesis/screen review; speech recognition technology; and word processors and spell checkers. Descriptions of various available technologies are provided under the following headings: written language; reading; listening; organization/memory, and math. The cost and availability of assistive technologies are discussed, as well as selecting the appropriate technology and learning how to use it.

17 p


An employer or teacher choosing technologies to assist a learning disabled adult must assess the individual, the function to be performed, and the context within which the technology will be applied. The article describes 'assistive technology accommodations' to support adults with the following disabilities: organization, visual processing, math, reading and written language. The tools range from list-making through software for outlining written material. The author includes addresses and telephone numbers for a number of organizations.

11 p
Assistive Technologies


This article is reprinted from Learning disabilities and assistive technology: an emerging way to touch the future (a guide available from Tools for Life site). It answers the question: why should persons with LD consider using assistive technology? Myths, realities and action steps are clearly outlined on the easy-to-read, ‘Bobby-approved’ website. Although directed toward adult learners, this article is of use to professionals as well.

10 p

Educational Strategies


All literacy educators should be prepared to work with dyslexic people and be trained to assess, with each post 16 individual, his or her needs and strengths. In the classic tradition, dyslexia is understood as a neurological disorder with associated deficits and literacy behaviors. A newer tradition views dyslexia as a different thinking/learning style often associated with enriched visual, spatial and global thinking skills. Social context, I.Q. and academic literacies are discussed. Research evidence is presented. The vivid descriptions of the literacy process as experienced by adult students may lead to insights helpful to educators, policy makers and other dyslexic individuals. No discussion of technology. [References, including forthcoming publications].

15 p
Educational Strategies

*Online Article*


This ERIC digest reviews the varying definitions of learning disabilities, outlines the conditions for successful adjustment of adults with learning disabilities and expands on the three categories of assistance necessary: psychosocial, technological and educational. Examples of assistive technology, which "has great potential", are listed and include: beepers, digital watches, FM amplification devices, computer-aided real time translation, videotapes with closed captioning, books on disk, scanners with speech synthesizers that read back text, abbreviation expanders, brainstorming/outlining software and distance learning networks. [References]

6 p

Educational Strategies

*Binder*


This binder is divided into 4 parts: (1) introduction; (2) screening and academic assessment of adults at risk for learning disabilities; (3) teaching strategies for adults with learning disabilities; (4) lesson ideas. The chapters on skill-building strategies and accommodation strategies include suggestions for assistive technologies for both teachers and learners. [Resources]

286 p
Educational Strategies  

**Book**


This brief guide reviews the use of information and learning technology (ILT) to improve the literacy of adult learners with various disabilities. Technologies such as predictive word processors, spellcheckers, thesauri and CDs with voice-over explanations are discussed. General and specialized software and hardware are described, as are websites for disability information and for reluctant readers. Case studies include one involving Learning Services students, ages 16-70+, in authoring in multimedia. [Resources, organizations].

34 p

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Educational Strategies  

**Book Article**


The focus of the chapter is on computers, the Internet (including the World Wide Web), and, briefly, broadcast and recorded video technologies. Two approaches to using technology for learning and teaching are described: instructivist (e.g. computer-aided instruction) and constructivist (project-based, inquiry learning). Examples of technology products and programs are given and the lack of research on the effectiveness of technology in education is emphasized. There is no discussion of learning disabilities. [References, resources].

11 p

This brief paper reports on activities undertaken in Canada, the U.K. and the U.S. to expand local programs into free, national adult basic education systems. The provision of such programs, issues surrounding levels of need and access, as well as the nature and quality, and final accountability for programs are discussed. The many uses and importance of information and communication technology (ICT) are mentioned, though the terms "adults with learning disabilities" and/or "difficulties" are not used.

[References

14 p

National Strategies - U.K.


This summary of the final strategy document of the U.K. government outlines the challenge and strategy, the groups targeted, and the means of delivering higher standards. Technology is only briefly mentioned in the summary but can be found in several areas of the longer report. Adults with learning disabilities/difficulties are specifically addressed in the full-text strategy. [References, web site resources in full report].

9 p

See also: Lawson, 2001 (p. 5); Moser, 1999 (p. 13); NIACE, 1999 (p. 5); and Working Group, 2000 (p. 6).

This report reinforces the need for a crusade, in England, to improve the basic skills of millions of adults. The use of ICT is recommended. It is important to note that the limitations, outlined in the Foreword, include the fact that the report has not been able to consider "the special needs of adults with learning disabilities who wish to improve their basic skills." A special study is called for. Few other literacy papers or reports make this distinction.

13 p

See also: DfEE, 2001 (p. 12); Lawson, 2001 (p. 5); NIACE, 1999 (p. 5); and Working Group, 2000 (p. 6).


This U.S. report on adult literacy synthesizes recommendations made to the National Literacy Summit 2000 Steering Committee at one major summit meeting and over twenty-five meetings nationwide. Referred to as the 'Action Agenda,' it outlines the outcomes desired and the specific actions necessary to meet the three key priorities: quality services for adult students, ease of access for those students; and sufficient resources to support quality and access. Technology increases the need for greater literacy and, at the same time, provides tools to facilitate its development. The issues of learning disabilities and of the literacy needs of older adults are discussed.

16 p

See also: PBS LiteracyLink, 2001 (p. 19).
Research


The research brief provides the key findings of the review on literacy, numeracy, oracy, ESOL, and the use of Information and Communications Technology (ICT) to teach basic skills to adults, 18+. There is no reference in the brief to adults with learning disabilities. Contact information needed to obtain the full report is provided.

5 p

Research


This article reports the results of a survey completed in 1997, in which responses from 154 programs, serving 71,500 adult students from 8 different states, were analyzed and compared. About 11,000 were Adult Basic Education (ABE) students. There is no reference to learning disabilities. Key findings are reported in the areas of: software use; computer usage by teachers and students; inventory of available computer technology; networking and telecommunications; funding and finances; and needs assessment. Hardware and software reviews were deemed the most useful forms of assistance. [Survey questionnaire included].

32 p
Research


This working paper reviews the process and findings around the design of the LiteracyLink Workplace Essential Skills (WES) learning system; the formative evaluation was conducted by the Institute for Social research in the fall of 1998. Content includes: the application of adult learning theory to the design of technological learning systems; the design features in the WES system; and the benefits and challenges for learners and teachers. One mention is made of adults with reading disabilities (p.13).

19 p

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Research - U.K.


This report was compiled from focus groups, workshops and submissions of adults with learning difficulties, and basic skills practitioners who work with them. Communication is listed as the key skill. The terms ""key skills"" and ""basic skills"", and the standards for them, should be interchangeable. Technology (IT) is included in discussions of: the quality of learning materials; the needs and wishes of learners, trainers and teachers; and the recommendations.

12 p
Research - U.S.A.


This report presents the findings of a national focus group. One key finding was that "...[m]eeting the needs of persons with learning disabilities (LD) is perceived to be more problematic than addressing the access needs of persons with physical disabilities." Technology is only briefly mentioned three times, though there are many references to providing 'accommodations'. Leadership and commitment at the state level are found to be missing.

22 p

Resources


This information sheet provides an introduction to the increasing use of information and communications technology (ICT) for learners with the specific learning disability, dyslexia. Types of ICT that can help include: cloze procedures, planning tools, speech reproduction and synthesis, spell checkers, glossaries, thesauri, visual display customization, and word processors particularly predictive word processors. Three areas where ICT can help: supporting effective learning; providing specific techniques to help with specific problems; and enabling specific skills training. No distinction is made between differing needs of adult and child learners. [Resources, references].

8 p
This information sheet provides an introduction to the increasing use of information and communications technology (ICT) for those with learning difficulties (LD). Though the focus is on children, the paper has been included as one of three BECTa information sheets on ICT. Descriptions are given for the levels of impairment suffered and the types of ICT that may be helpful. [Resources]

19 p

This information sheet provides an introduction to the increasing use of information and communications technology (ICT) for learners with special educational needs (SEN). Although emphasizing physical disabilities and children, some resources useful for those with learning disabilities are included and much of the information is applicable to learners of any age. The resource section is rich and includes, with web sites (primarily U.K.), hardware and software sources, publications and organizations.

19 p

This report identifies, for policymakers, how states in one region of the U.S. are planning for, funding and using technology in various adult learning contexts. Semi-structured interviews are conducted around the following issues: access, technical assistance, community involvement, professional staff development, selecting web tools, and developing and disseminating resource materials. Recommendations focus on state-level policies, partnerships, inexpensive resources and use of the web. There is no discussion of learning disabilities. [Interview questions; notable initiatives].

17 p


This monograph of 11 chapters is divided into two sections: (1) getting ready - to plan and fund the integration of technology into adult education; and (2) moving forward - the relationship between technology and adult learning theory; uses of technology in adult education; and examples of distance learning, Internet use and policy issues. This paper makes few, if any, references to adults with learning disabilities. Chapter authors include: Lynda Ginsburg, Regie Stites, John Sabatini and David Rosen, among others.[Resources, web sites, references]

121 p
Technology Planning


Commissioned by the National Institute for Literacy, this report addresses the use of technology to improve the quality of content and access to training and resources for adult learners, including those with learning disabilities. Following the model of the 'Action Agenda' (2000), this report outlines desired outcomes and specific action steps for, first, emerging and new technologies and, then, for better preparation for and use of current technologies. Necessary policy-making, staff development and the use of libraries and mass media are included.

11 p

See also: National Literacy Summit Initiative, 2000 (p. 13).

Technology Planning


This report describes the way adults learn and how technology can help those with low-literacy skills. It builds on the evaluation of technology effectiveness outlined in the report about K-12 learners, Plugging In: choosing and using educational technology. Forms and instructions for using indicators of engaged learning and high performance technology are included. There is no use of the terms "learning disabilities" or "learning difficulties" but frequent references are made to adults lacking basic language and literacy skills. [References].

26 p
WEB SITES

Alliance for Technology Access. **Connecting children & adults with disabilities to technology tools.**

[http://ataccess.org/](http://ataccess.org/)
The Alliance for Technology Access (ATA) is a network of community-based U.S. resource centers, developers and vendors. The technology needs of adults with LD and their teachers are a small part of this broad site.

Centre AlphaPlus Centre

[http://alphaplus.ca/mainframe.htm](http://alphaplus.ca/mainframe.htm)
The Centre AlphaPlus Centre (based in Ontario) is focused on adult literacy and second language acquisition. The AlphaPlus Index to Web resources - including print, audiovisual materials, and software - can be searched by subject terms (e.g. learning disabilities, technology) or by subject keyword.

ERIC Clearinghouse: Adult, Career and Vocational Education. **Practice Application Brief No. 2: Using Technologies Effectively in Adult and Vocational Education**

[http://ericacve.org/docs/pab00011.htm](http://ericacve.org/docs/pab00011.htm)

International Literacy Institute (ILI); University of Pennsylvania/Graduate School of Education. **Bridges to the Future Initiative.**

The first phase of the Bridges to the Future Initiative (BFI) is the development of tools to raise levels of literacy and basic education through teacher training in selected countries. No LD.
WEB SITES

International Literacy Institute (ILI); University of Pennsylvania/Graduate School of Education. LITERACY.org.

http://literacyonline.org/ask/techplan_web.html
Recommended Web sites and full-text publications for technology

Learning and Skills Development Agency

http://www.lsagency.org.uk/home.asp
Home page for the Learning and Skills Development Agency (U.K.) with links to research projects and full text publications.


http://www.learningtechnologies.ac.uk/
A U.K. policy and procedure resource for the education and training of those over 16. The Agency was previously known as the Further Education Development Agency (FEDA).

Movement for Canadian Literacy. Recommended Sites.

http://www.literacy.ca/sites.htm
From the Movement for Canadian Literacy (MCL), these are annotated Canadian literacy sites including some not found on other lists.

National Adult Literacy Database (NALD)

http://www.nald.ca
NALD is a federally incorporated, non-profit service organization which acts as a comprehensive, up-to-date, easily accessible, single-source database of adult literacy programs, resources, services and activities across Canada. It also links with other services and databases in North America and overseas.
WEB SITES

National Institute for Literacy (NIFL). Adult Literacy & Technology Network: National Institute for Literacy Special Collections: Technology Training Special Collection.

http://www.altn.org/techtraining/index.html
This NIFL Special Collection site provides links to full-text materials (2001) of interest to teachers and administrators of literacy programs for adults. Topics include: technology integration; software evaluation and standards for developing multimedia learning modules.

National Institute for Literacy (NIFL)

http://www.nifl.gov
The National Institute for Literacy (NIFL) is an independent, U.S. federal organization working to build a strong, unified system for adult literacy.


http://www.nifl.gov/lincs/discussions/nifl-technology/technology_literacy.html
The NIFL Technology and Literacy Online Discussion List. 1997-present. Browseable.

PBS; National Center on Adult Literacy; The Kentucky Network; Kentucky Department of Education. PBS Literacy Link: Building the Basics for Lifelong Learning.

http://www.pbs.org/literacy/index.html
Since 1996, PBS Literacy Link has responded to U.S. demand for basic skills training by developing an integrated instructional system of video and online computer technology to assist adult students in advancing their GED and workplace skills.


http://www.ala.org/roads/current_web_resources.pdf
Contains two pages of sites on LD and ADD, all briefly annotated.
WEB SITES


PDF version of the annually updated Roads to Learning resource packet. Includes definitions, tips and resource lists for librarians, and names of important organizations.

Scottish Executive: Enterprise and Lifelong Learning Department (ELLD). **Adult Literacy and Numeracy in Scotland.**


This site, maintained by the Executive of the Government of Scotland, provides links to annotated adult literacy web sites from Australia, Canada, Eire, the U.S. and the U.K., as well as links to international and U.K. reports. No LD focus.

U.K. Department for Education and Skills. **Lifelong Learning.**

[http://www.lifelonglearning.co.uk/](http://www.lifelonglearning.co.uk/)

A general Web site about adult learning, with links to full-text publications. No focus on LD.

U.K. Department of Education and Skills. **Read Write Plus: Key Documents.**

[http://www.dfes.gov.uk/readwriteplus/Key_Documents](http://www.dfes.gov.uk/readwriteplus/Key_Documents)

Co-ordinates the efforts to raise literacy and numeracy levels in England. These are recent key documents.
This response to the U.K. strategy statement Skills for Life (http://www.dfee.gov.uk/readwriteplus/news/strategy/index.shtml) commends the government for certain initiatives and funding provisions but points out that little mention is made of the Freedom to Learn report and the need for separate strategy, technology and curriculum statements to meet the specific needs of adults with learning difficulties and disabilities.

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Web sites

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ERIC Clearinghouse: Adult, Career and Vocational Education Practice Application Brief No. 2: Using Technologies Effectively in Adult and Vocational Education
http://ericacve.org/docs/pab00011.htm

The Centre for Literacy of Québec, 2001