Online Assistance

Resources for Students with Learning Disabilities

By Joan Thormann

Searching the Web with Google to find information about technology and learning disabilities produces more than a thousand links. This creates a dilemma for educators who want to learn about current technology-based ideas for use with students with special needs. You may be a technology coordinator, staff developer, or administrator looking for resources to help the teachers in your schools use technology to facilitate inclusion. Or you might be an educator who recognizes that students with learning disabilities could benefit from the use of technology but aren't exactly sure how to get started.

To help those who want to gather some Web-based information, I have selected some Web sites I find useful in teaching and learning about technology and special education. For readers who may not be aware of how Web-based information may be useful, I describe how an educator might use some technology and special education Web sites to discover how to support students with learning disabilities or other special needs. I focus on learning disabilities because a large number of students who are identified as having special needs fall into this category, and technology resources to address these students' needs are not always evident. I have organized Web resources into the following categories:

- Databases of resources
- Lists of assistive technology centers
- Journal articles and conference proceedings

A student with a learning disability may be challenged in terms of learning strategies, and perhaps confronted with barriers in learning academic skills. With the help of a special education assessment, it is possible

to determine a student's strengths and weaknesses. You can then use this information to figure out what interventions—including technology—might be helpful. A good first step is checking out online databases of resources.

Online Databases

Using a database to locate technology resources can be helpful in a number of circumstances. A specific skill or concept that a student needs to work on may be targeted with a software program. Students with learning disabilities who have difficulty with organizational skills when writing can use technology for support. A database such as Closing The Gap's Solutions membership can be purchased. The CTG database provides an extensive Resource Directory of more than 2,000 technology-based products for individuals with disabilities. (***Editor's note:*** For this URL and others, see Resources on page 33.)

You can use the database to give a teacher some new ideas as to what is available for students with a specific disability. The database is updated as often as once a week, which helps to keep the information current. The listings include the name of the product, the producer's name and address, an e-mail address, a URL of the producer's Web site, and the price of the product and other pertinent technical information. In addition, a descriptive paragraph of the product written by the producer is available.

The database is searchable by keyword and producer. There is an option to select the product type (All products, Software, Hardware, Other Assistive Technology Products) in combination with a keyword and/or producer. The search page assists the user by presenting suggestions for three categories:

> ## Knowing what keywords to use is important in finding products that might be beneficial for a particular student.

- *Hardware:* "Search by Disability, Computer, Device Type, etc."
- *Software:* "Search by Disability, Software Type, Skill Level, Academic Skill, etc."
- *Other Assistive Technology (AT):* "Search by Disability, Academic Skill, Product Type."

Knowing what keywords to use is important in finding products that might be beneficial for a particular student. For example, using the keywords "learning disability" brings up two products, while "learning disabled" provides nine products, including the "learning disability" products. Some students with learning disabilities have severe difficulty reading, thus finding appropriate information in a digital format that can be read aloud to them allows them to access information and learn the same content their classmates are learning. The Closing the Gap database can help in locating products that will read text on a computer screen.

Georgia Tech's Center for Assistive Technology and Environmental Access (CATEA), which is supported by the National Institute on Disability and Rehabilitation Research (NIDRR), offers an online database of thousands of products and services dealing with assistive technology. The CATEA database is searchable in four different ways:

- Function/Activity
- Keyword
- Product Type
- Vendor

Each category has a list of options appropriate to the type of search the viewer wants. The Function/Activity

search leads you through four steps to locate a product. Select:

1. one of 13 functional limitations
2. one activity out of 22
3. sub-activities
4. from a list of products that are displayed

The product display contains basic information, indicates the product's Function and Features, and on some products shows Options, Considerations, and/or Requirements. The Keyword search option lets you enter a keyword and set how many products to display. On the following page you may refine the search with the help including categories and related words. For example, a search using "learning disabled" resulted in one product, Talking Word Processor. A search on the keywords "voice synthesizer" produced six products and the related keywords "voice input system." "Screen Reader" provided 44 products to examine. The product type category also guides you through four steps, helping to narrow the selection process to a specific task and purpose. To find a vendor, you complete a three-step process. First, you select the first letter of the vendor's name from an alphabet. Vendors are listed alphabetically with 15 names displayed at once. If the vendor is not on the first page, you move to the next page. Upon selecting the vendor, a list of products is displayed. The final step is to view product information.

This database helps guide you to narrow the search and aides in the selection of appropriate keyword and concept choices.

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Once a number of products have been found on both or either of the databases, the descriptions read, and the product Web sites visited, you may want to check with an expert who knows about the various devices that have been identified in the database and whether they might be appropriate for a specific student. You will want to contact someone nearby, or at least in your state, who has experience with assistive technology. These experts and the organizations they work for may also be found online.

Assistive Technology Centers
There are a number of online lists of organizations or institutions that you can visit to talk with someone who has experience in using technology with students who have special needs. I found three lists that are helpful. These organizations provide a variety of services and support. For example, they can conduct assessments to determine what technology is useful for students, provide training and workshops, and serve as a place to test drive various technology solutions.

The Rehabilitation Engineering & Assistive Technology Society of North America (RESNA) hosts an alphabetical list of 56 state AT programs and contains address, phone numbers, e-mail address, and URLs for the programs' Web sites. Most of the listed state programs indicate that they were established as part of a national network of technology-related assistance programs with grants from the U.S. Department of Education's National Institute on Disability and Rehabilitation Research.

The Alliance for Technology Access (ATA) has a list of 37 centers in 24 different states and the Virgin Islands. These centers were established by individuals who are interested in helping people with disabilities benefit from use of technology. The list gives the address, an e-mail contact, and the URL for the center Web site, if there is one. Most Web sites contain center-specific information such as the mission, workshop dates and times, calendar of events, as well as other local and national resources. The center closest to me is in Rhode Island (TechACCESS Rhode Island). It provides an impressive array of services and support. In addition to the standard offerings, they have demonstrations, member hours for trying out software and equipment, and offer assessments by trained professionals on a fee-for-service basis.

Journals and Proceedings
Although it may seem that reading about the use of technology with students with special needs might be like searching for a needle in a haystack, it can often serve as a catalyst to help find technology solutions for students with special needs. For example, you could become more familiar with how others have used a software program with a student, or you may discover how, with a little adaptation, the software can be more effective. To learn about research, current thinking, and applications for students with learning disabilities, there are some good sources to be found in the refereed *Journal of Special Education Technology (JSET)* and at the California State University Northridge (CSUN) Center on Disabilities conference proceedings Web site. Although neither of these sources is directed specifically toward learning disabilities, *JSET* and the CSUN proceedings include information focusing on students with learning disabilities as well as many articles and presentations that may apply to these students.

JSET is published by the Technology and Media Division (TAM) of the Council for Exceptional Children. This quarterly journal was established in 1978, and current and back issues to 2000 are available online. Each issue contains a broad variety of topics, including studies on using specific types of software with students with specific types of disabilities, discussions of policies, teacher training issues, and so on. The journal articles are well researched. Readers will find that subjects have been dealt with in great depth.

In addition to refereed articles, there are columns in each issue written by associate editors or guest columnists. The columns include Assistive Technology, Research and Practice, Universal Design for Learning, Teacher Education, and Books and Software Reviews.

There is full-text search capability for each year of the journal. To find an article dealing with software for students with learning disabilities, searching by keywords and learning disability produced 20 links to articles in Volume 15 (2000). One of the listings by Rena B. Lewis (2000) caught my eye. She makes the observation that there was a shift in use of

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technology for students with learning disabilities. In the past, students used computers for computer-aided instruction (CAI). Now students use computers as support tools with varying degrees of success. Lewis is cautiously optimistic about the effectiveness of using technology with students with learning disabilities. Lewis also presents some common sense and research-based ideas on how to use technology with these students

Since 1985, the CSUN Center on Disabilities has held an international conference relating to technology and persons with disabilities. The conference, which I have attended, was an informative and exciting event with more than 300 presentations and 150 exhibitors. However, educators who are unable to attend may read online proceedings from this conference. The proceedings provide many useful ideas.

The proceedings contain brief papers of the presentations. There are a number of advantages to reading these papers. They deal with the most current ideas and products available, and the publication turn-around time is no more than six months, as opposed to other print materials that often take a year or two to be published. The articles are written by professionals in the field, exhibitors, and consumers. As a result, the proceedings address a wide variety of topics. Most of the papers have a link to the author's e-mail address, enabling the reader to contact the author for clarification or additional information. Another benefit of the CSUN Web site is access to proceedings from 1991 to the present. From reading papers over a long span of time, you can get an idea of how the field has changed over time and also see how products and concepts have grown. The proceedings are alphabetically listed by title and contain the name of author(s) and the session number.

The viewer can use the find function on the browser to locate proceedings about learning disabilities by using those keywords to search the titles of the articles. It is also useful to browse through the list, as the conference guidelines mandate clear descriptive presentation titles.

The 2004 proceedings contain several presentations with "learning disabilities" in the title, and many addressed assistive technology support for students with learning disabilities. For a student who has been identified as potentially benefiting from the use of a screen reader, Ted Wattenberg makes recommendations for the assessment and use of screen readers for students with learning disabilities. Or if you work with students with learning disabilities who often have organizational issues, read the paper by Sue Bohmer and Joyce Thomas focusing on tools and strategies that might help your students. Their research is preliminary, so using the e-mail link to ask for updates might prove to be practical.

Using journal articles and papers from proceedings can be a hit-or-miss way to find the exact answers to technology needs of students with learning disabilities, but it is worth the hunt. You can gain a great deal of knowledge in the process that you will undoubtedly be able to use for the next student who comes along.

Conclusion

I have found that online resources such as databases, lists of expert organizations, journals, and proceedings can be used by those who are interested in finding out more about using technology with students with learning disabilities. The Web pages presented in this article are just a few of the sites that are useful. I encourage interested educators to continue to search for useful technology information on the Web.

Resources

Publications

Bohmer, S., & Thomas, J. (2004). Organizational tools and strategies for LD students. *CSUN Technology and Persons with Disabilities Conference Proceedings.* Available: http://www.csun.edu/cod/conf/2004/proceedings/11.htm.

Knoblauch, B., & Sorenson, B. (1998). *What disabilities entitle a child to special education?* Reston, VA: ERIC Clearinghouse on Disabilities and Gifted Education. (ERIC No. ED429396). Available: http://ericec.org/digests/e560.html.

Lewis, R. (2000). Musings on technology and learning disabilities on the occasion of the new millennium. *Journal of Special Education Technology, 15*(2). Available: http://www.unlv.edu/Colleges/Education/ERC/JSET/15.2/Lewis/first.html.

Wattenberg, T. (2004). AT&T natural voices used with screen readers for students with learning disabilities. *CSUN Technology and Persons with Disabilities Conference Proceedings.* Available: http://www.csun.edu/cod/conf/2004/proceedings/21.htm.

Web Sites

Alliance for Technology Access (ATA): http://www.ataccess.org/community/centers.lasso

Center for Assistive Technology and Environmental Access (CATEA): http://www.assistivetech.net

Closing The Gap: http://www.closingthegap.com/ctg2/members2/FAQ.lasso

CSUN Center on Disabilities conference proceedings Web site: http://www.csun.edu/cod/conf/proceedings_index.htm

Journal of Special Education Technology: http://jset.unlv.edu/

RESNA Technical Assistance Project: http://www.resna.org/taproject/at/statecontacts.html

Talking Word Processor: http://www.assistivetech.net/search/keywordProductDisplay.cfm?product_ID=32727&searchTerm=learning%20disabled" \t "_self

TechACCESS of Rhode Island: http://www.techaccess-ri.org

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