

# Hack the Gap:

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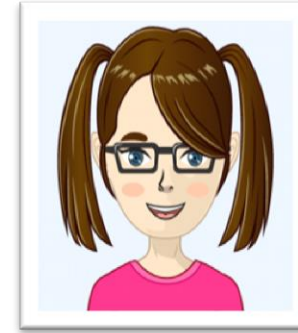
MAKING YOUR COLLECTIONS AND INSTRUCTION ACCESSIBLE FOR ALL



# Who we are

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Theresa Borchert, Electronic Resources Librarian



Virginia Connell, Coordinator of Library Instruction



Carl B. Ylvisaker Library

Concordia College, Moorhead, MN

# Our Students

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# Our Students

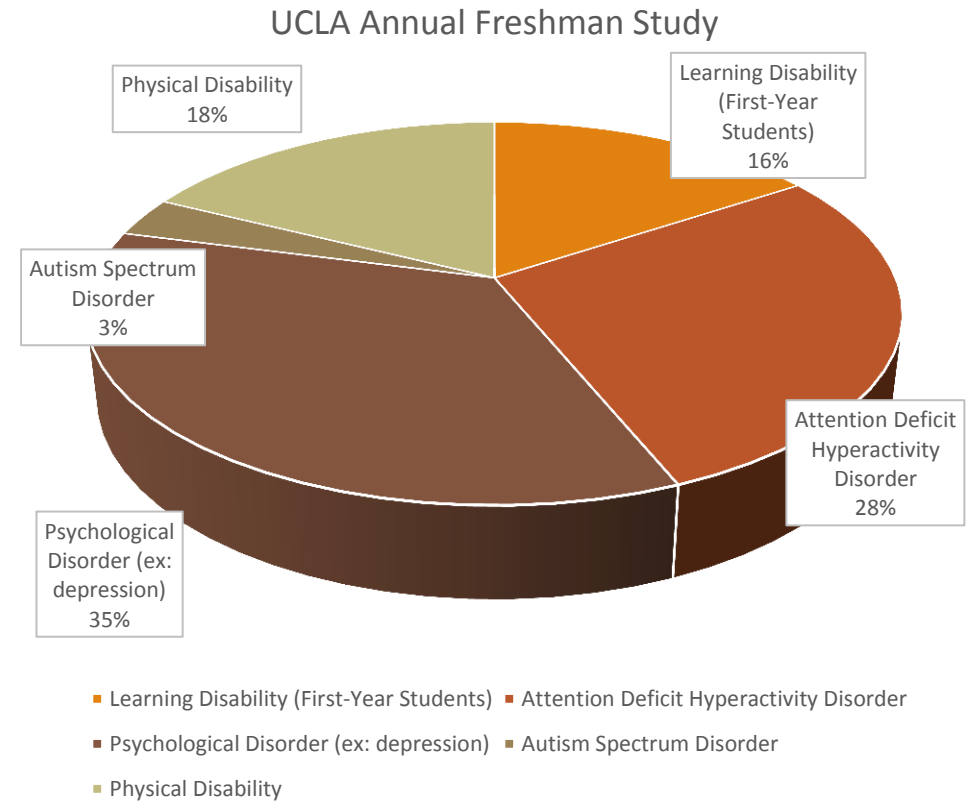
(Gose “Disability Experts”)

## U.S. Department of Education:

- 11% of college students have a disability
- Of those 2/3 have an “invisible” disability (ADHD, depression, learning disabilities, emotional disabilities, etc.)

## Complicating factors:

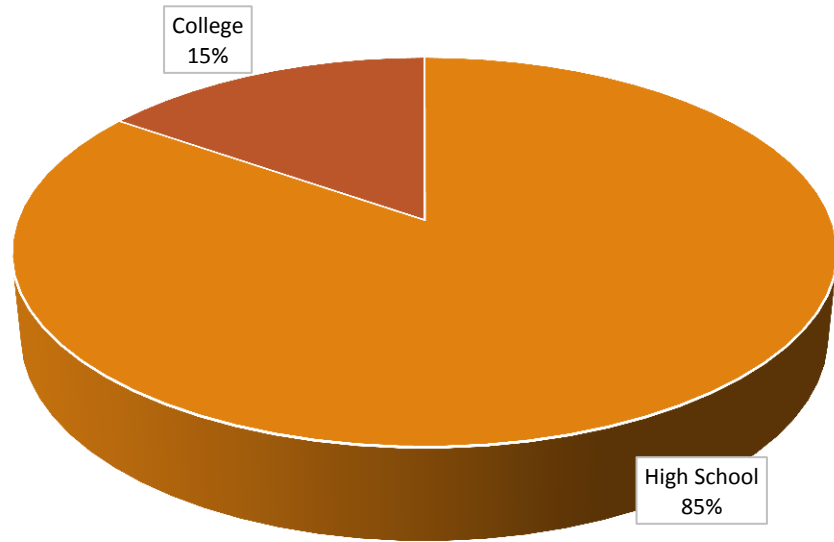
- Many students do not ask for accommodations
- Many professors do not feel accommodations are justified



# Our Students

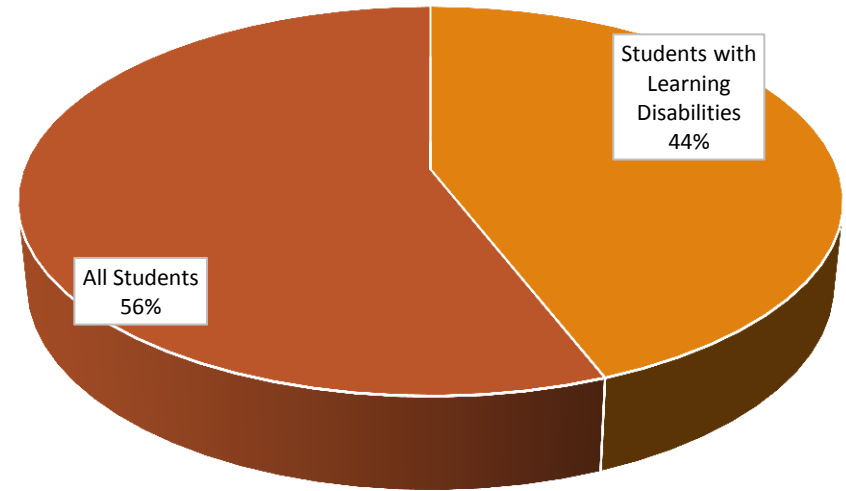
(Gose “How One College”)

United States: Receive Accommodations



■ High School ■ College

United States: Degree Earners



■ Students with Learning Disabilities ■ All Students

# Working Vocabulary

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# Working Vocabulary

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- Universal Design in Instruction (UDI)
- Learning Styles (visual, aural, verbal, logical, physical, solitary, social)
- Accessibility
- Visible Disabilities
- Invisible Disabilities
- Differently Abled - Handicapped
  - Vision Impairment, blind
  - Hear Impairment, deaf
  - Speech Impairment, dumb
  - Reading Impairment, dyslexia
  - Organizationally challenged: Executive Function Issues
  - On the Spectrum, autistic
  - Motor Impairment: fine motor, gross motor
  - Physical limitations: wheelchair, cerebral palsy
- Instruction:
  - Chunking
  - Clustering
  - Mnemonics
- Tech
  - Coding
  - OCR, PDF, HTML
  - Screen Readers
  - Image readers
  - Audiobooks, Talking Books, read out loud functionality

# Homework

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# Analysis of Need

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- Background Reading
- Investigation of local population needs (students and faculty)
- Analysis of e-holdings for accessibility
- Evaluation of teaching pedagogies



# Develop Relationships

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## Counseling Center and Disability Services

- Workshops & Coffee Hour
- Identification of students with differing abilities (with permission from students)
- Software
  - Dragon Naturally Speaking Software
  - OpenBook
  - Adobe Acrobat Pro
  - Magic
- Librarian Tools
  - List of installed software (description/tutorials)
  - Signage

## •Academic Enhancement & Writing Center

- In-library tutoring
- Workshops on student status platform

## •Registrar

- Advising workshops
- Student Success Collaborative advising tool

## •IT

- Software installation
- Printer locations & accessibility

## •Residence Life

- Student behaviors & trends

# Counseling Center – Psychology Resources in the Library

**Counseling Center - Psychology Resources in the Library**

Concordia main collection is arranged by <a href="#">Library of Congress</a>	The Curriculum Center & most public libraries are arranged by <a href="#">Dewey Decimal</a>	<b>Other resources</b>
BF Psychology	150 Psychology	<a href="#">Tri-College</a>
GN Ethnic Psychology	152 Perception, emotions, drives	<a href="#">MoLINK</a>
HM Social Psychology	153 Mental processes & intelligence	<a href="#">WorldCat Concordia</a>
RA 421-790 Public Health	154 Subconscious & altered states	<a href="#">LARI, Moorhead</a>
RC 321-576 Neurology and Psychiatry	155 Developmental psychology	<a href="#">FirstLink</a>
	156 Comparative psychology	
	158 Applied psychology	

Search groups of indexes or a specific one from the [alphabetical list](#)

- [EBSCO Megafile](#) - Academic Search Premier, Business, MasterFile and Regional Business News  
See 'Help' to setup an account, save searches and get journal alerts. RSS feeds.
- [EBL](#)
- [HSRProj \(Health Services Research Projects in Progress\)](#) a database of citations to research-in-progress funded by federal, state, private organizations, and foundation grants and contracts.
- [PsycInfo](#)
- [PubMed Central](#)
- [Social Services Abstracts](#)
- [Sociological Abstracts](#)

Full-text collections:

- [Medline Plus](#)
- [HSR \(Health Services/Sciences Research Resources\)](#) a searchable database of information about research datasets and instruments/indices. Compare characteristics of some of the resource includes brief descriptions of research resources and links to PubMed. It also includes URLs of providers for additional information or access to the resources.
- [HSTAT \(Health Services/Technology Assessment Texts\)](#) a free full-text electronic resource for health care decision making.
- [Credo Reference Online](#) choose Psychology
- [LearningExpress Library](#)
- [PsycARTICLES](#)
- [ScienceDirect, Elsevier](#) - Over 600 full-text journals and indexes APA link to full-text with Find It.
- [Sage Reference](#)
- [Sage eJournal](#) collection
- [Testing and Education Reference Center](#) practice tests and courses, including PRAXIS, TOEFL, GRE, GMAT, LSAT, MCAT, NCLEX and US Citizenship.

Tools to find and manage citations

- [Citation Linker](#) - plug in citation information from a bibliography to locate a resource
- [eJournal Finder](#) - A-Z listing for eJournals
- [RefWorks](#) - Manage your citations, and help build bibliographies.

Examples of references works in Psychology

	<a href="#">Annual review of psychology</a> print (v. 6, 1955- ) online (v. 47, 1996- )	BF50.A56
Accardo, P.J.	Dictionary of developmental disabilities terminology	Ref RJ135 .D53 2011

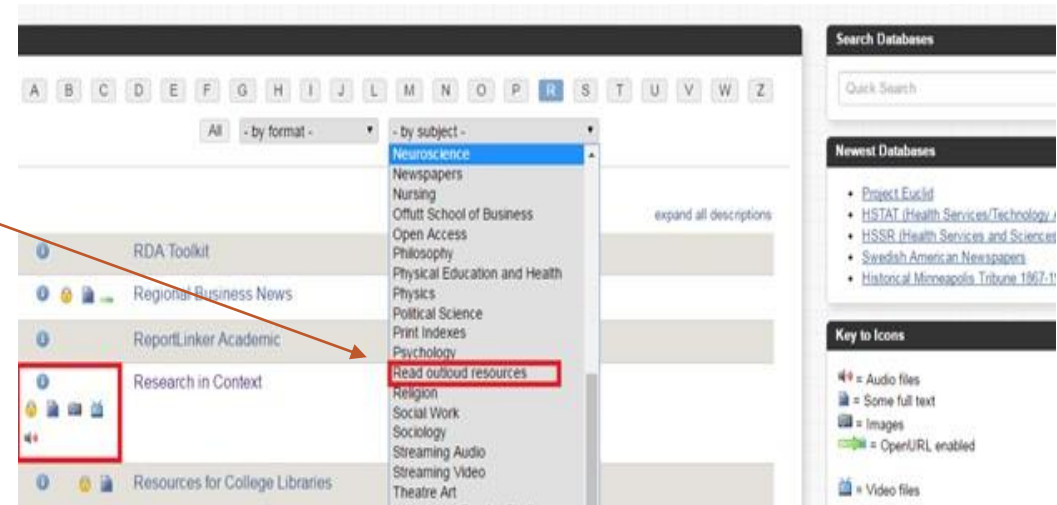
# E-Resource Access

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# E-Resource Functions

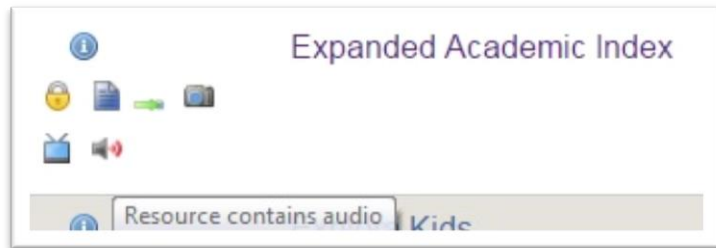
*Subjects Plus* list allows sorting alphabetically, by discipline, by format, and by tool function in order to increase choice and use. Users may choose “Read Aloud resources.”

Icons next to the name of the database highlight available functions



# SubjectsPlus and Accessibility

## ROLL OVER AUDIO ICON

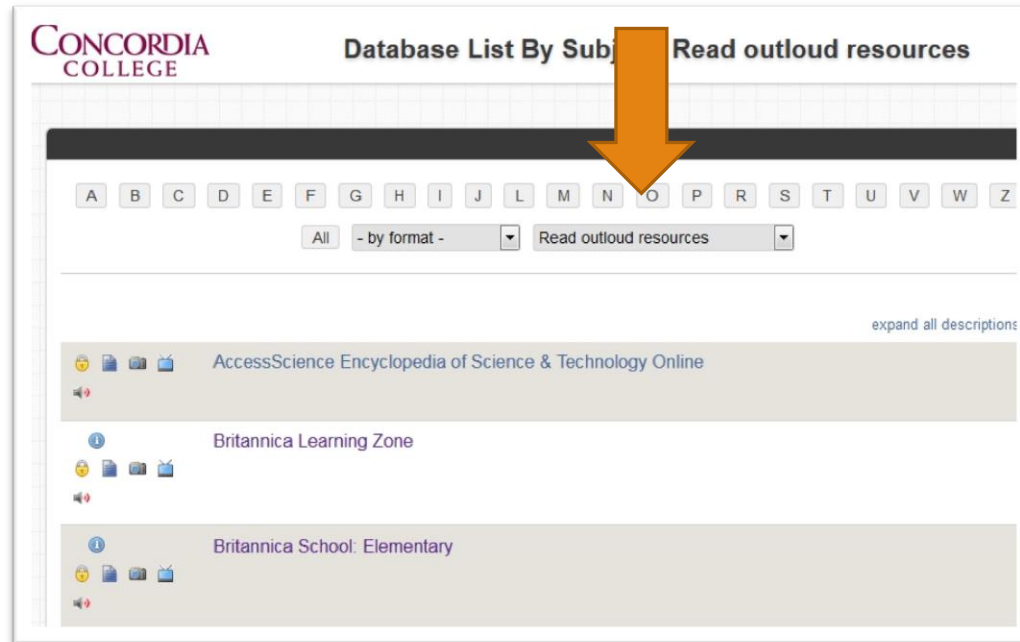


## READ ALOUD RESOURCES

A screenshot of the Concordia College website showing a database list. The page header includes the Concordia College logo and the title "Database List By Subject: Read aloud resources". Below the header, there is a navigation bar with letters A through Z. Underneath, there are two dropdown menus: "All" and "- by format -", and a search box containing "Read aloud resources". The main content area lists three resources: "AccessScience Encyclopedia of Science & Technology Online", "Britannica Learning Zone", and "Britannica School: Elementary". Each resource entry includes a set of icons (smiley face, document, folder, TV, speaker) and an information icon (i). A link "expand all descriptions" is located in the top right corner of the resource list.

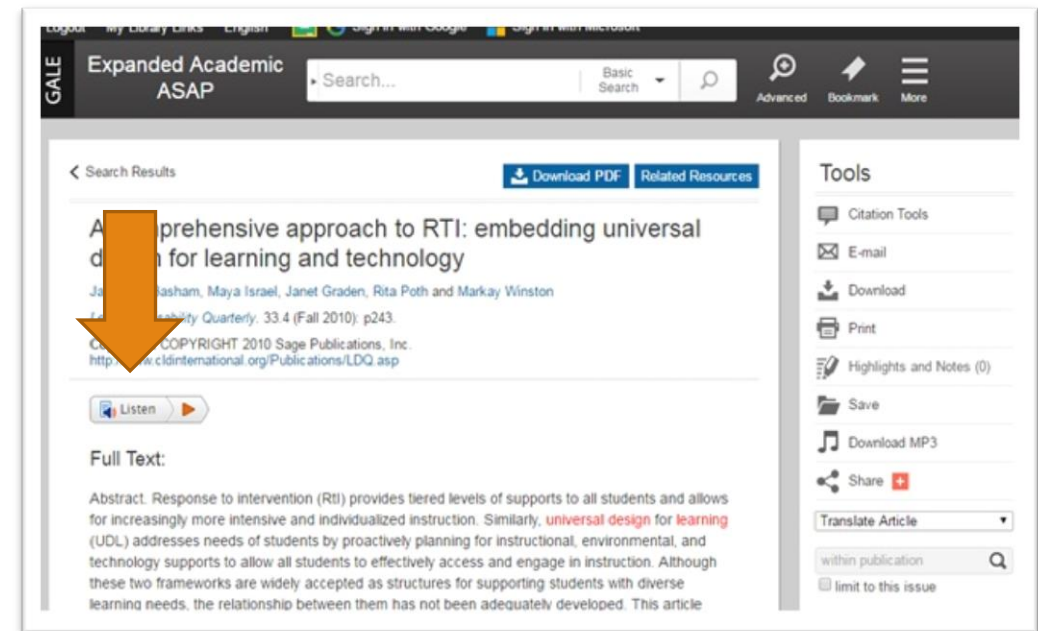
# E-resources functionality

LIBRARY RESOURCES: LIMIT TO READ ALOUD



The screenshot shows the Concordia College library website. The page title is "Database List By Subject" and the filter is set to "Read aloud resources". An orange arrow points to the "O" button in the alphabetical navigation bar. Below the navigation bar, there are search filters: "All", "- by format -", and "Read aloud resources". The search results list several databases, including "AccessScience Encyclopedia of Science & Technology Online", "Britannica Learning Zone", and "Britannica School: Elementary".

AVAILABILITY OF READ ALOUD FUNCTION



The screenshot shows the Gale Expanded Academic ASAP search results page. The search results for the article "A comprehensive approach to RTI: embedding universal design for learning and technology" are displayed. An orange arrow points to the "Listen" button. The article details include the authors (J. Asham, Maya Israel, Janet Graden, Rita Poth and Markay Winston) and the journal (Learning Disabilities Quarterly, 33.4 (Fall 2010): p243). The full text of the abstract is visible, discussing the relationship between Response to Intervention (RTI) and Universal Design for Learning (UDL). The right sidebar contains various tools such as "Citation Tools", "E-mail", "Download", "Print", "Highlights and Notes (0)", "Save", "Download MP3", "Share", and "Translate Article".

# Database functionality comparison

## ACADEMIC SEARCH PREMIER (EBSCO)

The screenshot shows the EBSCO Academic Search Premier interface. At the top, there is a search bar with the query "A comprehensive approach to RTI: embedi" and a "Search" button. Below the search bar are options for "AND" and "OR" search operators. The main content area displays the search results for the article "A COMPREHENSIVE APPROACH TO RTI: EMBEDDING UNIVERSAL DESIGN FOR LEARNING AND TECHNOLOGY." by James D. Basham, Maya Israel, Janet Graden, Rita Poth, and Markay Winston. The source is identified as "Learning Disability Quarterly, Fall 2010, Vol. 33 Issue 4, p243-255, 13p." The document type is "Article." The subject terms are listed as "\*RESPONSE to intervention (Education)", "\*INDIVIDUALIZED instruction", "\*LEARNING", "\*INSTRUCTIONAL systems design", and "\*TIME on task (Education)". On the left side, there are links for "Detailed Record", "PDF Full Text (1.4MB)", "Related Information", and "Find Similar Results using SmartText Searching".

## EXPANDED ACADEMIC INDEX (GALE)

The screenshot shows the GALE Expanded Academic ASAP interface. At the top, there is a search bar with the query "A comprehensive approach to RTI: embedding universal design for learning and technology" and a "Search" button. Below the search bar are options for "Basic Search" and "Advanced Search". The main content area displays the search results for the article "A comprehensive approach to RTI: embedding universal design for learning and technology" by James D. Basham, Maya Israel, Janet Graden, Rita Poth, and Markay Winston. The source is identified as "Learning Disability Quarterly, 33.4 (Fall 2010): p243." The copyright information is "COPYRIGHT 2010 Sage Publications, Inc. http://www.cldinternational.org/Publications/LDQ.asp". There is a "Listen" button with a play icon. The document type is "Article." The subject terms are listed as "\*RESPONSE to intervention (Education)", "\*INDIVIDUALIZED instruction", "\*LEARNING", "\*INSTRUCTIONAL systems design", and "\*TIME on task (Education)". On the right side, there is a "Tools" section with options for "Citation Tools", "E-mail", "Download", "Print", "Highlights and Notes (0)", "Save", "Download MP3", and "Share". There is also a "Translate Article" dropdown menu and a search box for "within publication" and "limit to this issue".



# Web Accessibility: Screen Readers

## INAPPROPRIATE

HOME GUIDES & TUTORIALS HISTORY 337 HISTORY 325H

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*History 337 Reel Norden: Scandinavian History & Film*

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Research Assistance

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Library Instruction Librarian

Carl B. Ylvisaker Library

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<b>Reference Resources</b>	<b>Articles &amp; Books</b>	<b>Open-access Resources</b>
<i>Essential reference resources for starting your project</i>	<i>Finding peer-reviewed articles and books for your work in this class</i>	<i>Digital Archives &amp; Databases</i>

## APPROPRIATE

**Disability Resources**

**Resource centers**

[Disability.gov](#) US federal government information for people with disabilities  
[ASEC](#) Area Special Education Cooperative in Northwest Minnesota  
**Education, [Minnesota Department of Education: Minnesota Braille and Talking Book Library](#)**  
**Education, [North Dakota Department of Public Instruction](#)** includes links to [Vision Services](#) and [School for the Deaf](#)  
**Human Services, [Minnesota department of:](#)** includes [Autism](#) and [Services for people with disabilities](#)  
**Human Services, [North Dakota department of:](#)** includes [Autism](#) and [Services for people with disabilities](#)  
[National Library Services for the Blind and Physically Handicapped](#) includes link to [Search the Catalog](#) and [BARD](#)

**Resources**

[Americans with Disabilities Act](#) - rights for people with disabilities - U.S. Dept. of Justice  
[Closing the Gap](#) - trade journal on adaptive technology for disabilities  
[College Resources for Students with Disabilities guidebook](#) - Affordable Colleges Online to help students transition to [NTN - Narrative Television Network](#)  
[Pacer Center](#) - Parent Advocacy Coalition for Educational Rights - Minnesota  
[Signing Savvy](#) - video clips of some sign language vocabulary

**Computer Accessibility**

[Cheat sheets](#) one-page accessibility resources to assist in creating accessible content. - National Center on Disability and [Making your Website accessible](#) ACRL Tech Connect  
[The Trace Center](#) research, development, and resource center  
[Web Accessibility Initiative \(WAI\)](#) including Policies relating to [Web accessibility](#)

**Product & Company links**

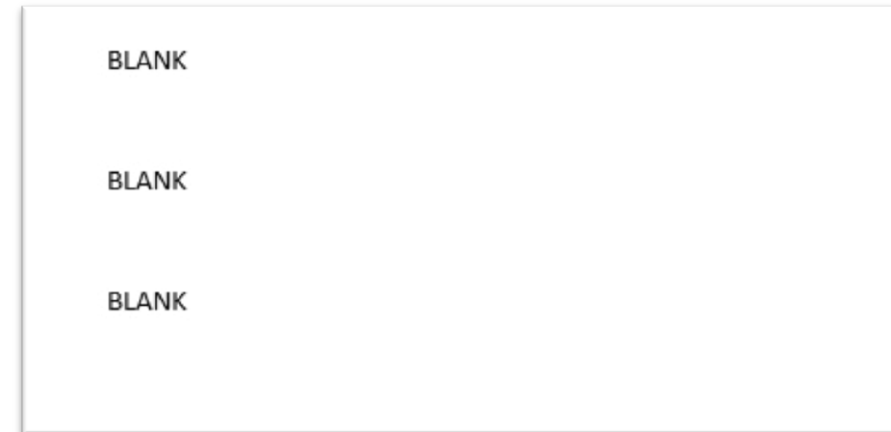
[Freedom Scientific](#) - Blind and low vision products  
[Maxi-ATDS.com](#) - Catalog of products for vision, hearing, mobility and more

# Web Accessibility: Screen Readers

## E-RESERVES: SCANNED BOOK IMAGE



## SCREEN READER RESULTS FOR SCANS



# Take-aways for e-access

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## AVAILABLE RESOURCES

Articles

Books

DVDs

Streaming video

Digital files

eReserves

Print/online

Online Tutorials

## MODIFICATIONS IN ACCESS

Use resources that have listen options

Provide book retrieval options as needed

Check video files for transcript options

Check eReserve PDFs in resource to see if they are readable with a Screen reader before posting to a class resource page

Create course web pages that allows ease of access.

Use and/or create tutorials with alternative access options.

Be on the lookout for changes in technology and interface access options within databases

# Changing Technologies

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## Current & Old School:

JAWS/OpenEyes

MAgic

Dragon Naturally Speaking

OpenBook

Recorder

GPS

Adobe Acrobat Pro

Adobe Acrobat Device (table-top camera)

## New School:

Phone Apps

Examples for a vision-impaired person:

- Google Maps
- Recordium
- Compass
- Megalight
- Scanforme

Activate Accessibility features on device

- Camera
- Siri

# Instruction Access

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USING PRINCIPLES OF UNIVERSAL DESIGN FOR LEARNING IN THE CLASSROOM

# Student Behaviors

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- Ear toward you
- Looking at your mouth
- Avoiding eye contact
- Distracted
- Fidgety, antsy
- Irritable or demanding
- Wanting to take over the conversation
- Shy or quiet
- Note student “gear” or clothing (a hat might be shielding from florescent lighting; hearing aids or tinted glasses; a hooded sweatshirt may provide security)
- Reading out loud/”self-talking” through a task/using other aids for concentration



# Universal Design for Instruction (UDI)

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- 1) Equitable use
- 2) Flexibility in use
- 3) Simple, intuitive instruction
- 4) Perceptible information
- 5) Tolerance for error
- 6) Low physical effort
- 7) Room modifications
- 8) Co-learning
- 9) Instructional goals

(Chodock and Dolinger, p. 27)

# 1) Equitable Use

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Aim:

Instruction is useable by all students – if not possible, what other means of instruction might provide equal access?

Examples:

- Online course guides
- Handouts
  - Font style & size
  - Printing vs. cursive
- Oral instruction
  - Use of a whiteboard/projection screen
  - Facing the class





# Accessibility: Fonts

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## COMIC SANS

(MICROSOFT 2013)

Hack the Gap: Making Your Collections  
and Instruction Accessible for All

Theresa Borchert, E-Access Services  
Virginia Connell, Instruction Coordinator  
Carl B. Ylvisaker Library  
Concordia College, Moorhead, MN

## DYSLEXIE

(BOER 2017)

**Hack the Gap:**  
Making Your Collections and Instruction Accessible  
for All

Theresa Borchert, E-Access Services  
Virginia Connell, Instruction Coordinator  
Carl B. Ylvisaker Library  
Concordia College, Moorhead, MN

# UDI

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## 2) FLEXIBILITY IN USE

Aim:

Instruction appeals to a range of learning styles & abilities

Examples:

- Active learning that engages senses
  - Be aware of noise levels
  - Avoid requiring use of only one sense
- Preview lesson plan
- Repeat questions
- Ask questions of students

## 3) SIMPLE, INTUITIVE INSTRUCTION

Aim:

Accessible style and language that follows the stated lesson plan

Examples:

- Link skills taught to the specific assignment of the class
- Let students steer topic choice for discussion
- Avoid “library-ese” or acronyms

# UDI

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## 4) PERCEPTIBLE INFORMATION

Aim:

Essential information is provided in instruction, being mindful of the physical environment or students' sensory needs

Examples:

- Focus on usability features of databases or websites
- Note availability of accessibility features of databases or websites (in a way that includes all students)
- Be succinct with directions
- Use paper, online, oral, whiteboard formats to communicate information

## 5) TOLERANCE FOR ERROR

Aim:

Instruction will allow for a variety of levels of ability and work-time needs

Example:

- Build lesson plans to include one-third to one-half of the session as individual work time, with librarian available as guide-on-the-side
- Consider allowing work to be turned in “by the end of the day” or another later deadline than the end of class

# UDI

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## 6) LOW PHYSICAL EFFORT

Aim:

Avoid physical exertion that will diminish attention or understanding of the instruction

Examples:

- Build in effort-saving tools, such as one-click access to printing, citation-management options, etc.
- Avoid duplicative tasks

## 7) ROOM MODIFICATIONS

Aim:

Create your lesson plan with students' physical abilities and room limitations in mind

Examples:

- Seating arrangements for solo or group work
- Lighting modifications
- Sound adaptations
- Ease of ingress and egress

# UDI

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## 8) CO-LEARNING

Aim:

Lesson plan creates easy opportunities for co-learning between students and between faculty and students

Examples:

- Work with faculty beforehand to create diverse and versatile instruction
- Foster collaboration between students in the class
- Make obtaining a follow-up research-help session both easy and customary
- Allow for and encourage email research assistance

## 9) INSTRUCTIONAL GOALS

Aim:

Create a classroom and lesson plan that recognizes strengths in everyone and that maintains everyone has value to contribute

Examples:

- In discussion ahead of the library session, develop a specific learning goal or two for the session with faculty
- Reward different learning styles
  - Class interactions may be verbal (using a whiteboard) or non-verbal (using clickers and projector), social or independent, etc.

# Take-aways for instruction

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## Small changes can make a big difference

- Flexible lesson/work plan reveals UDI in action: all students benefit
- Independent or group work options: Students on the spectrum, verbal learners, visual learners, social or solitary learners
- Digital & print options: Students with fine motor control difficulties, ADHD, dyslexia
- Multiple reinforcements of the instruction goal (whiteboard, oral explanations, hands-on application of learning, digital and print tools & resources): all students benefit

- Chunking, clustering, mnemonic devices: Students with ADHD, Executive Function problems, dyslexia, or on the spectrum
- Previewing the lesson and being predictable: Students on the spectrum, with ADHD, with dyslexia

## Building lessons using UDI will benefit all:

- Decrease library anxiety
- Increase the chances of a rewarding library session
- Make other learning more successful as you scaffold students' skills

# UDL & IL Framework Parallels

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<b>Resourceful &amp; Knowledgeable</b>	<b>Strategic &amp; goal-directed</b>	<b>Purposeful &amp; motivated</b>
<ul style="list-style-type: none"><li>• Bring considerable prior knowledge to new learning</li><li>• Activate that prior knowledge to identify, organize, prioritize, and assimilate new information</li><li>• Recognize the tools and resources that would help them find, structure, and remember new information</li><li>• Know how to transform new information into meaningful and useable information</li></ul>	<ul style="list-style-type: none"><li>• Formulate plans for learning</li><li>• Devise effective strategies and tactics to optimize learning</li><li>• Organize resources and tools to facilitate learning</li><li>• Monitor their progress</li><li>• Recognize their own strengths and weaknesses as learners</li><li>• Abandon plans and strategies that are ineffective</li></ul>	<ul style="list-style-type: none"><li>• Are eager for new learning and are motivated by the mastery of learning itself</li><li>• Are goal-directed in their learning</li><li>• Know how to set challenging learning goals for themselves</li><li>• Know how to sustain the effort and resilience that reaching those goals will require</li><li>• Monitor and regulate emotional reactions that would be impediments or distractions to their successful learning</li></ul>

## **Resourceful & Knowledgeable:**

- **Searching is strategic**
- **Information creation is a process**

## **Strategic & goal-directed:**

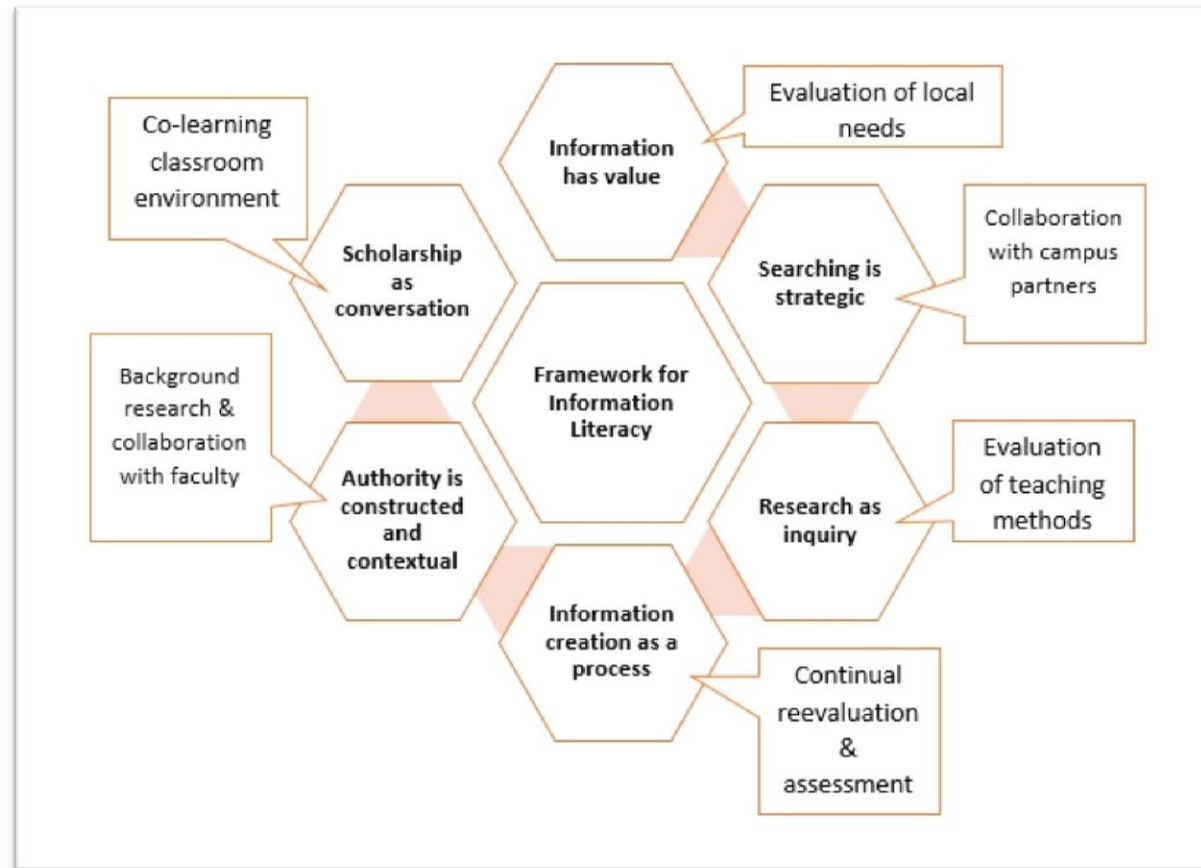
- **Research as Inquiry**
- **Searching is Strategic**

## **Purposeful & motivated:**

- **Research as inquiry**
- **Information has value**

(ACRL and “UDL and Expert Learners”)

# UDL & IL Framework: Our Process (ACRL)





# To-Do List

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# @ The Carl B.

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- Creating immediate-feedback options for library session learning tasks
- Investigate introvert/extrovert learning styles in order to build more diverse lesson plans
- In-house librarian and staff development to increase knowledge of UD, especially for instruction, tech, & services
- Update and enhance collaboration between IT, Counseling Center, and Library, based on changes in staff and systems
- Work to find and use online tutorials with captioning
- Making the library site more accessible & posting an accessibility statement
- Creating a library policy regarding accessibility (with connections to other policies, such as Collection Development, Services, etc.)



# Co-learning Q&A

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# Further Reading & Resources

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# Thanks!

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For the Simulator Kits for Impaired Vision:

North Dakota Vision Services/School for the  
Blind

500 Stanford Road

Grand Forks, ND 58203

[www.visionservices.com](http://www.visionservices.com)

For lots of advice and suggestions:

Family members and people we have  
collaborated with through the years.