

Nancy O'Hanlon, Adapting Online Instruction for a Learning Disabled Audience

Adapting Online Instruction for a Learning Disabled Audience

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Discussion Topics

1. Overview/impact of learning disabilities.
2. Universal Design for Learning (UDL).
3. Recommended instructional techniques.
4. Web design guidelines.

Who Are Your Students?

- ◆ Older, returning adult?
- ◆ Racial or ethnic minority?
- ◆ Gay, lesbian, bisexual, transgender?
- ◆ International, non-native speakers?
- ◆ Some type of disability?



Diversity is the Rule

- ◆ Gardner's **theory of multiple intelligences** validates educators' everyday experience -- students think and learn in many different ways.
- ◆ Respect for **intellectual diversity** creates a fair climate in the classroom for students with learning disabilities.

Learning Disabilities Defined

- Neurological disorder affecting brain's ability to store, process, or communicate information.
- May exhibit difficulties with:
 - Reading comprehension
 - Organization
 - Abstract concepts & problem solving
 - Memory

ADHD

- ♦ A persistent pattern of inattention and/or hyperactivity-impulsivity.
- ♦ Inattentive type has difficulties with:
 - Reading text with low interest level
 - Planning and organization
 - Following instructions
 - Memory

More Data

- ♦ Prevalence – about 5% who are self-identified.
- ♦ Others may not report or may not recognize their learning disability.
- ♦ Persistence – fewer students with learning disabilities complete degree programs.

Universal Design Principles

- ♦ Design products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.
- ♦ Addressing the divergent needs of special populations increases usability for everyone.

Universal Design for Learning



By designing environments that accommodate a variety of learners, without need for adaptation, all students benefit.

Teaching Every Student

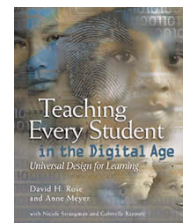
- ◆ Rose and Meyer : Learners cannot be reduced to simple categories such as “disabled” or “bright.”
- ◆ Student capacities are defined by interplay between unique abilities and tools used.
- ◆ Digital media are ideal teaching tools because they can be easily transformed.

Flexibility is Key

- ◆ **Representation of information** – provide various formats to accommodate learning styles.
- ◆ **Means of expression** – offer students a variety of projects and types of assessment.
- ◆ **Engagement** – insure student choice to fit skill levels; allow creativity.

More on UDL at CAST

<http://www.cast.org>



Specific Techniques

1. Structure content and provide supports.
2. Offer explicit strategy instruction.
3. Provide guided practice and use questioning techniques.

Segmentation

- ♦ “Humans are pattern seeking organisms...”
- ♦ Use of advance/graphic organizers provides a “big picture” and enables learners to see patterns.
- ♦ *Example:* [net.TUTOR](#)



Sequencing

- ♦ Sequencing: Making decisions about the order in which instruction should proceed.
- ♦ Present tasks or examples from simple to complex.
- ♦ Provide explicit instructions.
- ♦ Use **color coding** to distinguish steps.

Scaffolds

- ♦ Scaffolding: Temporary support or assistance that permits a learner to perform a complex task or process.
- ♦ Address student affective needs, increase motivation.
- ♦ Student-to-student or online supports.
- ♦ *Examples:* [Checklist](#), [Course Movies](#)

Strategy Instruction

- ◆ Learning strategy: A set of steps to accomplish a particular task.
- ◆ Strategy breaks complex cognitive tasks into smaller steps.
- ◆ *Example:* [Compare/contrast with LID](#)

Research Skills Strategies

PAW

- ◆ **P**erform search in stages
- ◆ **A**void long phrases
- ◆ **W**atch results for new terms

BILS

- ◆ **B**rowse keyword search results
- ◆ **I**dentify relevant record
- ◆ **L**ook at subject headings
- ◆ **S**earch using subjects

Guided Practice

- ◆ Provide models
- ◆ Begin with a controlled example
- ◆ Progress to real-life situations
- ◆ *Example:* [Google Basics Movie](#)

Directed Questioning

- ◆ Teacher provides content focused pre-questions to set an objective for reading.
- ◆ Learning disabled students often have deficits in reading comprehension.
- ◆ Useful when students must learn new or difficult concepts.

Effective Web Design

- ◆ Learning disabled students rely more heavily on Web resources.
- ◆ Sites should be highly organized, with key concepts clearly identified in text.
- ◆ These students often use screen readers. Follow good design principles that ensure your text will be read aloud clearly.

Document Design Criteria

TEXT	EMPHASIS
◆ Left aligned	◆ Headings
◆ Narrow columns	◆ Paragraph titles
◆ Short sentences and paragraphs	◆ Boxes
◆ Bullets or numbers	◆ Bold text or colored background

Example: [LD at a Glance](#)

Site Structure

- ◆ Provide breadcrumb trail as site navigation device.
- ◆ Prefer broad (rather than deep) site structure for those with memory/attention problems.

Summary / Questions?

- ◆ Your classes are **intellectually DIVERSE** and your teaching should reflect this fact.
- ◆ By utilizing **UDL principles**, you offer all of your students the opportunity to learn.
- ◆ By supporting the particular needs of learning disabled students, **EVERYONE** benefits.

Web Resources

Accessible Web Design:

Designing More Usable Web Sites (TRACE Center)

<http://trace.wisc.edu/world/web>

WebAIM

<http://www.webaim.org>

Disability Information:

HEATH Resource Center (postsecondary education for individuals with disabilities)

<http://www.heath.gwu.edu>

Learning Disabilities Association of America

<http://www.ldanatl.org>

National Center for the Dissemination of Disability Research

<http://www.ncddr.org>

Instructional Techniques:

Graphic Organizers (CAST)

http://www.cast.org/publications/ncac/ncac_go.html

Guided Notes

<http://www.interventioncentral.org/htmldocs/interventions/study/gnotes.shtml>

Learning Toolbox (James Madison University)

<http://coe.jmu.edu/LearningToolbox>

Strategy Instruction (ERIC Digest)

<http://ericec.org/digests/e638.html>

Universal Design for Learning:

CAST: Center for Applied Special Technology

<http://www.cast.org>

Universal Design in Education (Access Center)

http://www.k8accesscenter.org/training_resources/UniversalDesign.asp