



# Adapting Online Instruction for a Learning Disabled Audience

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ACRL Conference Contributed Paper  
Minneapolis, MN, April 8, 2005



# 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.



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# Learning Disabilities Defined

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- 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



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# More Data

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- ◆ 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.

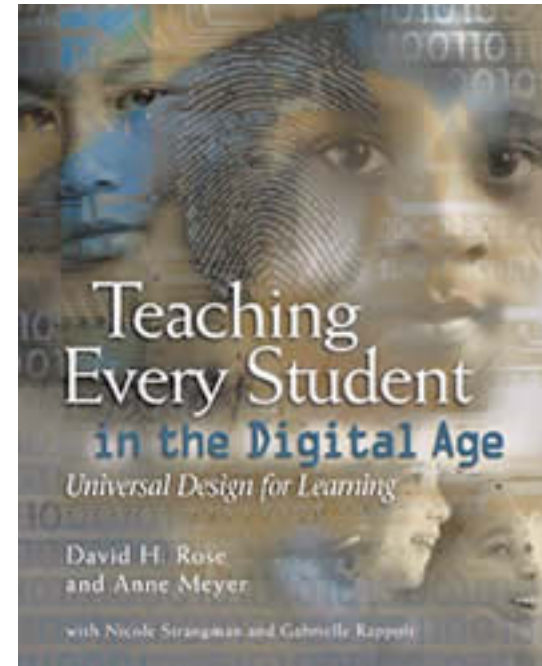


# Flexibility is Key

- ◆ **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
2. Provide supports.
3. Offer explicit strategy instruction.
4. Provide guided practice.
5. 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



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# Guided Practice

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- ◆ 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.



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# Effective Web Design

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- ◆ 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

<b>TEXT</b>	<b>EMPHASIS</b>
<ul style="list-style-type: none"><li>◆ Left aligned</li><li>◆ Narrow columns</li><li>◆ Short sentences and paragraphs</li><li>◆ Bullets or numbers</li></ul>	<ul style="list-style-type: none"><li>◆ Headings</li><li>◆ Paragraph titles</li><li>◆ Boxes</li><li>◆ Bold text or colored background</li></ul>

*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**.