

PEATC  
Parent Educational Advocacy  
Training Center



Virginia's NEXT STEPS Transition Program for  
Families, Youths, and Professionals:  
Building Effective Partnerships and Accessing  
Resources

Funded by a Grant from the US DOE #: H235F070018

Keeping Students in Love with Learning:  
Universal Design for Learning (UDL) and  
Families

Frances Smith, Ed.D, CVE –  
Coordinator of Technology & Distance Education, VDOE  
Training & Technical Assistance Center | Collateral  
Faculty, School of Education,  
Virginia Commonwealth University

- “Today's typical classroom might include students whose first language is not English; students who are not reading on grade level; students with behavioral, attentional, and motivational problems; students from varied cultural backgrounds; and students classified as gifted.”



Teaching Every Student in the Digital Age: Universal Design for Learning,  
Center for Applied Special Technology (2002, Rose & Meyer)



Traditional Classroom Approaches

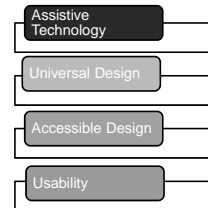


Flexible Classroom Approaches



Defining Universal Design (UD)

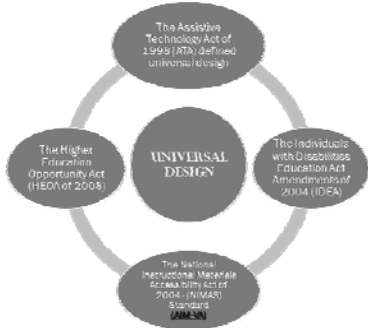
- Universal design means designing and delivering products and services that are usable by people with the widest possible range of functional capabilities, which include properties and services that are directly usable (without requiring assistive technologies) and products and services that are made usable with assistive technologies.



The Center for Universal Design, North Carolina State University  
<http://www.design.ncsu.edu/cud/>



Legislation & policy that have promoted the importance of UD



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Civil Rights Legacy – UD



UD: Access for everyone!



Old design: Some are denied

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Examples



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Universal Design for Learning (UDL)



The Center for Applied Special Technology (CAST) <http://www.cast.org>

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Origins of UDL

- CAST believes that “barriers to learning are not, in fact, inherent in the capacities of learners, but instead arise in learners' interactions with inflexible educational goals, materials, methods, and assessments.”

Teaching Every Student in the Digital Age, p. vi

<http://www.udlcenter.org/>

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Universal Design



- “Consider the needs of the broadest possible range of users from the beginning”

-- Ron Mace

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## UDL Origins & Definition



- Books and other curricula materials are often inaccessible to students

...presents a barrier as a fixed media



## Different Learners

- Different learning styles
- Different ways of knowing
- Multiple intelligences



## UDL Theoretical Framework

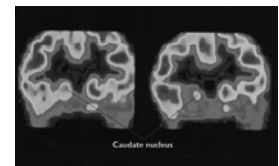
### Apprenticeship Learning

- an approach that encompasses active models of skilled performance
- scaffolds to support the learner
- ample opportunities to practice
- ongoing, immediate & relevant feedback
- opportunities to demonstrate skill



## UD for Learning

- Combines new insights from brain research about the nature of learner differences ...
- ... with a century of best practices in progressive education.



In the neural network of the brain, CAST research has identified three interconnected systems essential for learning and important in understanding differences: recognition, strategic and affective systems



[http://www.cast.org/teachingeverystudent/ideas/tes/chapter2\\_3.cfm](http://www.cast.org/teachingeverystudent/ideas/tes/chapter2_3.cfm)



Think about the steps you take in fixing your first cup of coffee..


- The recognition networks help you recognize the coffeepot.
- The strategic networks help you remember the steps to make the coffee.
- The affective networks confirm the reason why you're engaged with that coffee and it's



### UDL & Recognition Brain Networks

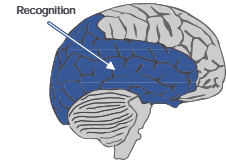
- Recognition networks: “the what of learning”
- identify & interpret patterns of sound, light, taste, smell, & touch
- Everyday exs. of recognition networks in action include identifying ingredients for recipes, telling the difference between shampoo & shaving cream so you can wash your hair, identifying the smell of freshly cut grass, recognizing the sound of pain or joy, etc.



Center for Applied Special Technology, <http://www.cast.org> 

### Supporting Recognition Learning

- Provide alternative formats for presenting information
- Provide multiple examples
- Highlight critical features
- Provide multiple media & formats
- Support background context



Center for Applied Special Technology, <http://www.cast.org> 

### Recognition: Provide multiple examples

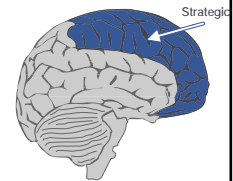
- Pair visual information with auditory information
- Doing hands-on activities
- Using graphic organizers
- Using active note-taking



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### UDL & Strategic Brain Networks


- Strategic networks: “the how of learning”
- plan, execute, & monitor actions & skills
- In learning situations, the strategic networks are critical. Exs. of the strategic networks at work include:
  - doing a project
  - taking a test
  - taking notes
  - listening to a lecture



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### Supporting Strategic Learning

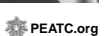
- Provide flexible models of skilled performance
- Provide opportunities to practice with supports
- Provide ongoing, relevant feedback
- Offer flexible opportunities for demonstrating skill
- Provide alternative means for action and expression

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### Provide Multiple Means for Expression

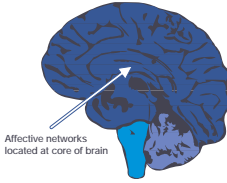
- Allow student to dictate test answers & written assignments
- Allow some to use pictorial representation – or a model
- Allow the use of a word processor or word prediction program to aid the writing process



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## UDL & Affective Brain Network

- Affective networks: “the why of learning”
- The affective networks are located at the core of the brain and enable us to engage with tasks and influence our motivation to learn. They are responsible for developing preferences and establishing priorities and interests.
- In learning situations, affective networks are essential to wanting to learn.



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## Supporting Affective Learning

- Provide alternative means for engagement
- Offer choices of content & tools
- Offer adjustable levels of challenge
- Offer choices of rewards
- Offer choices of learning context



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## UDL Guidelines

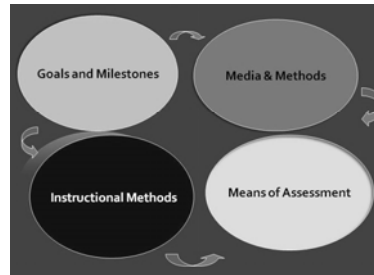
### Universal Design for Learning Guidelines

I. Representation	II. Expression	III. Engagement
<ol style="list-style-type: none"> <li>1. Provide options for perception                     <ul style="list-style-type: none"> <li>• Options that enhance the display of information</li> <li>• Options that provide alternative methods for gathering information</li> <li>• Options that provide alternative methods for visual information</li> </ul> </li> <li>2. Provide options for language and symbols                     <ul style="list-style-type: none"> <li>• Options that enhance readability and contrast</li> <li>• Options that clarify content and structure</li> <li>• Options that enhance the organization and structure of content</li> <li>• Options that provide alternative methods for content and structure</li> </ul> </li> <li>3. Provide options for comprehension                     <ul style="list-style-type: none"> <li>• Options that provide or enhance background knowledge</li> <li>• Options that enhance the organization and structure of content</li> <li>• Options that provide alternative methods for content and structure</li> <li>• Options that enhance the organization and structure of content</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>4. Provide options for physical action                     <ul style="list-style-type: none"> <li>• Options that enhance the mode of physical response</li> <li>• Options that enhance the mode of organization</li> <li>• Options that enhance the mode of organization</li> </ul> </li> <li>5. Provide options for expressive skills and fluency                     <ul style="list-style-type: none"> <li>• Options that enhance the mode of organization and structure</li> <li>• Options that enhance the mode of organization and structure</li> <li>• Options that enhance the mode of organization and structure</li> </ul> </li> <li>6. Provide options for executive functions                     <ul style="list-style-type: none"> <li>• Options that enhance the mode of organization and structure</li> <li>• Options that enhance the mode of organization and structure</li> <li>• Options that enhance the mode of organization and structure</li> </ul> </li> </ol>	<ol style="list-style-type: none"> <li>7. Provide options for increasing learner motivation                     <ul style="list-style-type: none"> <li>• Options that enhance the mode of organization and structure</li> <li>• Options that enhance the mode of organization and structure</li> <li>• Options that enhance the mode of organization and structure</li> </ul> </li> <li>8. Provide options for sustaining effort and attention                     <ul style="list-style-type: none"> <li>• Options that enhance the mode of organization and structure</li> <li>• Options that enhance the mode of organization and structure</li> <li>• Options that enhance the mode of organization and structure</li> </ul> </li> <li>9. Provide options for self-regulation                     <ul style="list-style-type: none"> <li>• Options that enhance the mode of organization and structure</li> <li>• Options that enhance the mode of organization and structure</li> <li>• Options that enhance the mode of organization and structure</li> </ul> </li> </ol>

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## Implementation & UDL: 4 Key Areas



## Goals

### Traditional

- Learning goals may get skewed by the inflexible ways and means of achieving them.

### UDL

- Learning goals are attained in many individualized ways, by many customized means.



## Materials

### Traditional

- Mostly print and everyone gets the same materials.
- Few options

### UDL

- Variety of materials, media, & formats to reach learners with diverse abilities, styles, & needs equally well.



## Methods

### Traditional

- Teacher-centered (lecture)
- Homogeneous grouping
- Burden on student to adapt to "get it"

### UDL

- Interactivity
- Heterogeneous grouping
- Rich supports for understanding, independent learning



## Assessment

### Traditional

- Confuse goals with means
- Summative – when it's too late to adjust instruction!

### UDL

- Many possible means as long as they measure learning!
- Supports instructional improvement



## Digital Media

- **Flexible**
- **Versatile**
  - Text
  - Still images
  - Sound
  - Video
  - Combination of all of the above
- **Transformable**
  - Within-media: variations in text size, color, content, appearance, volume, pitch, speed of presentation
  - Cross media capabilities (captioning)



## UDL Digital Supports for success:

- On-line instruction
- Digital textbooks & printed materials
- Continuously improved voice recognition—speech input & output
- Captioning
- Audio descriptions of video
- Text descriptions of graphics
- Text aloud functions
- Digital notes



## Ongoing National Initiatives

- The National UDL Center - <http://www.udlcenter.org/>
- The National Community of Practice on UDL - <http://www.sharedwork.org>
- The National UDL Task Force - <http://www.advocacyinstitute.org>



## Important Information for Families



For more information visit:

- The Center for Applied Special Technology –  
<http://www.cast.org>
- The National UDL Task Force -  
<http://www.advocacyinstitute.org/UDL/>
- The National Center on Universal Design -  
<http://www.design.ncsu.edu/cud/>

*Thank you....*



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