Universal Design for Learning: A Framework for Culturally Responsive Teacher Training Programs

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Session Objectives

- To define Universal Design for learning
- To apply UDL principles in planning content area instruction for diverse learners.

English Language Learners (ELL)

- The percentage of public school students in the United States who were English language learners was higher in school year 2011–12 (9.1 percent, or an estimated 4.4 million students) 32.1% of the of the above students, 80% speak Spanish.

- Hispanics accounted for more than 10.9 million students enrolled in U.S.

- The other 20% represent a total of 440 diverse languages.

- Vietnamese is the second most prevalent language spoken (approx. 4% of language-minority students).

(English Language Learners Last Updated: May 2014))

Percentage of public school students who are English language learners (ELL), by state: School year 2011–12
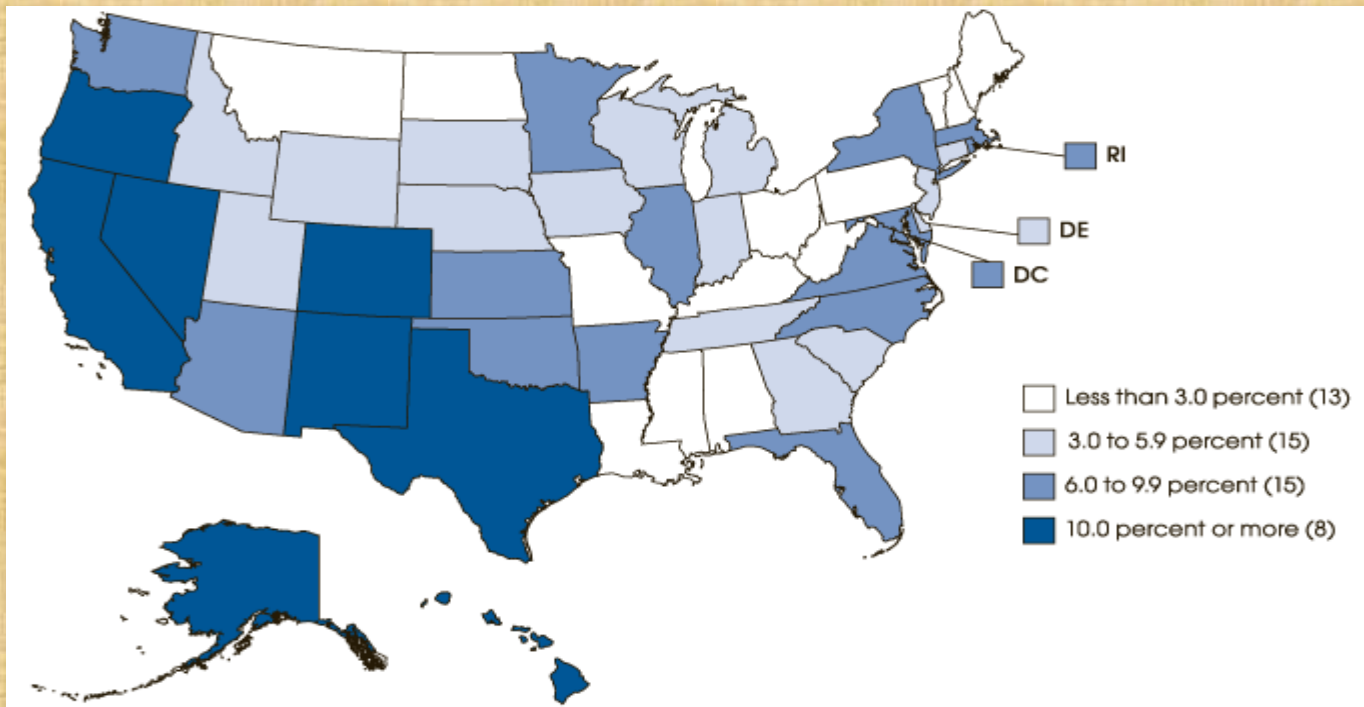
Texas among the 10.0 percent or more

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Local Education Agency Universe Survey," 2011–12.

Need

- The majority of districts serving students with disabilities from culturally and/or linguistically diverse backgrounds do not have:

  a. Services designed specifically for this population, or

  b. Sufficient teachers qualified to teach this population or both a and b.

What is UDL?

- Universal Design for Learning (UDL) means a scientifically valid framework for guiding educational practice that —

- (A) provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and

- (B) reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students who are limited English proficient. [HEOA, P.L. 110-315, §103(a)(24)].

What do Teachers Need to Learn?

- Teachers need to learn:
- What is UDL
- Principles of UDL
- Legislation related to functions of learning and assessment
- The relationship of UDL to brain research
- The relationship of UDL to instructional theory
- Models and guidelines for UDL assessment
- Models and guidelines for UDL instruction

Three Principles of UDL

- Three Principles of UDL
- **Multiple Means of Representation**
- –To increase recognition
- **Multiple Means of Expression**
- –To expand strategic output
- **Multiple Means of Engagement**
- –To enhance involvement

Seven General Principles of Universal Design

1. <u>Equitable use</u>: The design is useful and marketable to people with diverse abilities

2. <u>Flexibility in use</u>: The design accommodates a wide range of individual preferences and abilities.

3. <u>Simple and intuitive</u>: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

4. <u>Perceptible information</u>: The design communicates necessary information effectively to the user, regardless of existing conditions or the user's sensory abilities.

5. <u>Tolerance for error</u>: The design minimizes hazards and the adverse consequences of accidental or unintended actions.

6. <u>Low physical effort</u>: The design can be used efficiently and comfortably and with a minimum of fatigue.

7. <u>Size and space for approach and use</u>: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

No Child Left Behind Act of 2001

- Increased assessment demands
- Increased requirements for including students with disabilities and students with limited English proficiency
- Accountability for subgroups

National Center on Educational Outcomes

Senate Bill 1248

- Universal Design. The State educational agency (or, in the case of a districtwide assessment, the local educational agency) shall, to the extent possible, use universal design principles in developing and administering any assessments under this paragraph.

§612(a)(16)(A)(ii)(E)

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Relationship of Brain Research to UDL

- **Recognition Networks: What?** Located in the back of the brain, recognition networks enable us to identify and interpret patterns of sound, light, taste, smell, and touch. These networks enable us to gather facts and categorize what we see, hear, and read.

- **Strategic Networks: How?** It is through strategic networks that we plan, execute, and monitor our internally generated mental and motor patterns-actions and skills as diverse as sweeping the floor, deciding a chess move, or choosing a college.

- **Affective Networks: Why?** These networks attach emotional significance to objects and actions, influencing in a third way what we see and do. This network is an essential key to the classroom because it controls student motivation.

Why is UDL necessary?

Individuals bring a huge variety of skills, needs, and interests to learning. Neuroscience reveals that these differences are as varied and unique as our DNA or fingerprints. Three primary brain networks come into play:

Universal Design for Learning

Recognition Networks
The "what" of learning

Strategic Networks
The "how" of learning

Affective Networks
The "why" of learning

How we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author's style are recognition tasks.

Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks.

How learners get engaged and stay motivated. How they are challenged, excited, or interested. These are affective dimensions.

Relationship of UDL to Instructional Theory

UDL endorses instructional methods from various theories to ensure

effective instruction

- **Differentiated Instruction**
  - Originally intended for gifted students. In response to the differing cognitive needs of students. The curriculum does not change but the teacher can differentiate the content, the process or the product.

- **Cooperative Learning**
  - Students are clustered into small groups to complete assignments. The use of peer buddies, peer tutors can also facilitate learning in a similar way.

Relationship of UDL to Instructional Theory

- **Zone of Proximal Development**
  - The zone of proximal development is the gap between what a learner has already mastered (the actual level of development) and what he or she can achieve when provided with educational support (potential development). UDL encourages additional supports to individualize instruction to reach ZPD (Scaffolding)

- **Learning Style**
  - Your preferred styles guide the way you learn. They also change the way you internally represent experiences, the way you recall information. Universal design is an approach to designing course instruction, materials, and content to benefit people of all learning styles without adaptation or retrofitting.

Learning Styles

People take in and process information in different ways. A learning style is the method a person uses to learn. Individuals learn by making connections with what they are feeling and observing. Others by listening and analyzing information. Others by creating or physically doing something. UDL proposes a flexible approach to learning to accommodate various learning styles
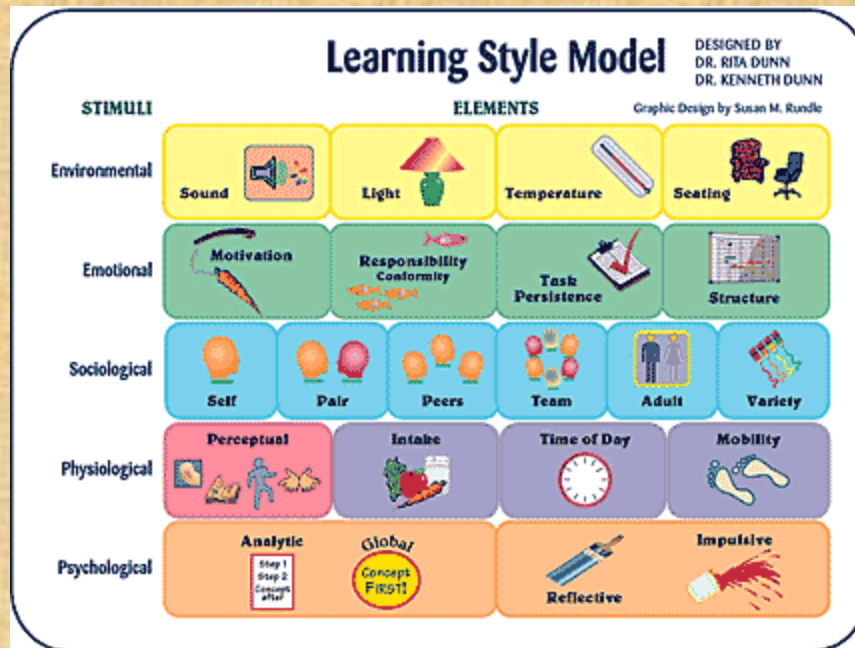
Multiple Intelligences

- **Multiple Intelligences**
  - Gardner believes that eight abilities meet his criteria of Multiple Intelligences

  Spatial – Linguistic - Logical-mathematical - Bodily-kinesthetic - Musical – Interpersonal Intrapersonal – Naturalistic. He considers that existential and moral intelligence may also be worthy of inclusion. Understanding the individuality of a person is inherent in UDL methods.
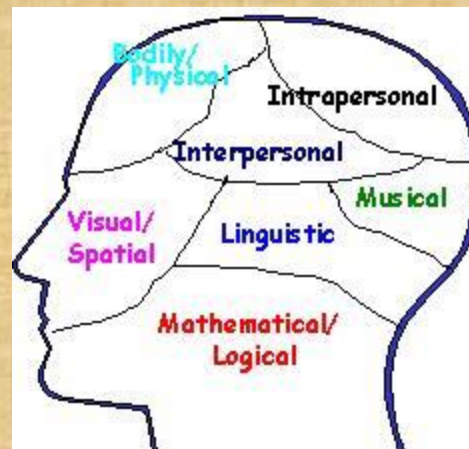
Assistive Technology

Assistive Technology (AT) is defined as *"Any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used increase, maintain, or improve the functional capabilities of a child with disabilities"*

- AT is required to be addressed in a student's Individualized Education Program (IEP)

- Providing AT is to be considered in decisions related to Free Appropriate Public Education (FAPE) in the least restrictive environment (LRE)

AT and UDL for Learning in Content Areas

- **Applying AT in Writing:**
    - Intelli Talk II (http://www.intellitools.com)
    - Write Outloud (http://www.donjonston.com)
    - Type & Talk & Read (www.texthelp.com)
    - eReader (http://www.cast.org)
    - Co:Writer 4000 (http://www.donjonston.com)
    - KeyRep (http://www.prentrom.com)
    - Telepathic 2000 (http://www.madentec.com)

- **Applying AT in Reading**
    - Boardmaker (www.mayer-johnson.com)
    - Living Books (www.broderbund.com)
    - Start-To-Finish Books (http://www.donjonston.com)
    - Kurzweil 3000 (www.kurzweiledu.com)
    - IntelliTools Reading Story Kits (http://www.intellitools.com)
    - Start To Finish Books (http://www.donjonston.com)

AT and UDL for Learning in Content Areas

- **Applying AT in Language**
    - Cheap Talk (www.enablingdevices.com)
    - Big Mac (www.ablenetinc.com)
    - Alpha Talker (www.prentrom.com
    - Step By Step Communicator (www.ablenetinc.com)
    - One Step Communicator (www.ablenetinc.com)
    - Vanguard (www.prentrom.com)
    - (www.greattalkingbox.com)
    - Speaking Dynamically Pro (www.mayerjohnson.com)

- **Applying AT in Mathematics**
    - Mathpad plus Fractions & Decimals (www.intellitools.com)
    - Blocks in Motion (http://www.donjonston.com)
    - IntelliMathics (www.intellitools.com)
    - Cruncher 2.0 (www.knowledgeadventure.com/educators)
    - Edmark Calculator Collection (www.edmark.com/free/calculatorcollection.html

Working Together

- **Realistically, UDL and AT work together to**
- Develop and implement a well-designed learning environment focused on various abilities and disabilities
- Provide individual support where barriers were overlooked and/or cost-effectiveness may limit or prohibit systems level change.
- Support access and betterment for _all_ individuals

UDL and Assessment

Meaningful, Valid, and Flexible Measures

- Design measures that focus on the essential "learnings" and the real purpose for doing...
- Prior to instruction, define acceptable/unacceptable outcomes
- Tools utilized throughout the instructional process should be used in the assessment process (and vice versa) (e.g., text-readers, Internet)
- Provide multiple means for students to demonstrate knowledge and skill (e.g., oral, visual, written)

Assessments should be ongoing and embedded in the learning process.

New Content, Student Engagement, and Throughout

- Provide for multiple means (<u>and media</u>) of representation and presentation (e.g., textbooks, digital documents, websites, models)
- Provide multiple means for students to demonstrate knowledge and skill (e.g., oral, visual, written)
- Offer appropriate choices and various levels of engagement (e.g., tools, content, individual/group)
- Highlight necessary and critical features (e.g. vary tone, body movement, be explicit)
- Provide ongoing feedback and facilitate understanding
- Encourage self-reflection to support meta-cognition (e.g., self-talk, journaling)
- Encourage home & school connection

Summary

- The central underlying concept of UDL is that flexibility is inherent in teaching , learning, and assessing to accommodate all learners.

- By differentiating curriculum and instruction, teachers can structure their teaching by organizing each lesson to ensure all students learn.

- Educators should collaborate for a successful UDL environment.

- Team building and collaboration methods are essential to successful universal design classrooms and should be fundamental to professional development planning.

Hand Outs

- If you wish to obtain a hand-out of this Power Point send your request to:
- coombsrichrdsonr@uhv.edu