Implementing Universal Design for Learning Principles in My Teaching

April 11, 2013
10:00-11:00 a.m.

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Goals

- Review understanding of UDL as an overarching framework for inclusive instructional design.
- Review the principles of UDL and ways UDL can provide access to the general ed curriculum for all.
- Implement several strategies based on UDL principles to infuse digital materials versus traditional curricula.
- Action Plan

Universal Design for Learning

Fist to 5
(In this case type 1-5 in the chat box)
Attend Part I webinar? Y or N

Example

Chat box: 3 Y
Universal Design Origin

Movement in architecture

“Consider the needs of the broadest possible range of users from the beginning”
- Architect, Ron Mace

Examples of Universal Design?

Universal Design for Learning (UDL) Origin

CAST (not for profit research development organization) believes:

“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

David Rose
Paradigm Shift

Not to “fix” the child who has a problem
instead
“Fix” the curriculum (goals, methods, materials, and assessments) so that it can meet diverse learner needs

Universal Design for Learning

- A curriculum framework - organized around 3 principles based on the learning sciences

How UDL can provide access for all
- Integration of effective teaching strategies in inclusive classrooms to reduce barriers for students

- Flexible and supportive for all
- Decreases the barriers that limit access
- Based on brain research
Implementing Universal Design for Learning
Principles in My Teaching

“For Learning”

Pasively viewing words
Listening to words
Speaking words
Generating verbs

Universal Design for Learning Guidelines

I. Provide Multiple Means of Representation
1. Provide options for representation
   1.1 Offer ways of representing the display of information
   1.2 Offer alternatives for auditory information
   1.3 Offer alternatives for visual information

2. Provide options for language, mathematical expression, and symbols
   2.1 Clarify vocabulary and symbols
   2.2 Clarify syntax and structure
   2.3 Support decoding of text, mathematical notation, and symbols
   2.4 Promote understanding across languages
   2.5 Illustrate through multiple media

III. Provide Multiple Means of Engagement
1. Provide options for maintaining interest
   1.1 Sustain interest of goals and objectives
   1.2 Provide personal coping skills and strategies
   1.3 Provide self-assessment and reflection

II. Provide Multiple Means of Action and Expression
4. Provide options for physical action
   4.1 Vary the method of response and navigation
   4.2 Optimize access to tools and assistive technologies

5. Provide options for expression and communication
   5.1 Use multiple media for communication
   5.2 Use multiple tools for construction and composition
   5.3 Build fluency with gradual levels of support for practice and performance

6. Provide options for executive functions
   6.1 Increase appropriate goal-setting
   6.2 Support planning and strategy development
   6.3 Facilitate managing information and resources
   6.4 Enhance capacity for monitoring progress

Resourceful, knowledgeable learners
Strategic, goal-directed learners
Purposeful, motivated learners

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Why is UDL effective?

- Learning is **unique** to individuals
- Abilities are not fixed - **continually shift** and are in relationship to the environment
- Intersection between individual and **environment**
- An average student is **mythical**
- The learning brain has 3 main networks-**recognition**-what, **strategic**-how, **affective**-why of learning

Implementing UDL

All the brain networks engaged simultaneously.
UDL in Practice

Apply the three principles to the four pillars of curriculum:
- educational goals
- materials
- methods
- assessments

This ensures all three brain networks are engaged at the same time to optimize learning and accurate assessment!

Critical Elements of UDL

› Clear Goals
› Intentional Planning for Learner Variability
› Flexible Methods and Materials
› Timely Progress Monitoring
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**Backwards design instructional process**

- Establish Clear Outcomes
- Anticipate Learner Variability
- Measurable Outcomes and Assessment Plan
- Instructional Experience
- Reflection and New Understandings

**Common Academic Task and Instructional Challenges**

- Read a chapter in a science textbook
  - Deficits in background knowledge
  - Below grade level reading skills
  - Poor fluency and comprehension skills
  - Difficulty with new vocabulary

Edyburn, 2008
Planning for Academic Diversity

Read a chapter in a science textbook
- Scan textbook
- Locate/create materials with audio support
  - StarChild
- Search for alternative text source materials
  - How Things Work, E-textbooks
- Search for alternative media materials
  - Periodic Table

Planning for Academic Diversity

Solve multi-step math problems
- Traditional chalkboard/paper/pencil
  AND/OR
  - Calculation Support
    - WebMath
  - Conceptual Support
    - Virtual Math Manipulatives
  - Visual Support
    - iKnowThat Leon Math Movies

Edyburn, 2008
Planning for Academic Diversity

Instructional Support, Organization, Memory, Accessibility

- iPad
- KidRex
- Internet4Classrooms
- 42Explore
- Teach with technology
- Digital History
- Digital Universe
- Learning through Listening
- Discovery - Kathy Schrock’s Guide for Educators
- Text-to-Speech
- Public domain literature in audio format
- Speech generation – Boardmaker Voice recognition – Dragon Naturally Speaking
- netTrekker
- Eduscapes

Effective flexible technologies

- Wikis
- Podcasting
- Google Docs
- Smartboard
- Wordle
- Bubbl.us
- Edutopia
- Time for Kids
- Brain Pop
- Gooru Learning
- Blog (http://jmundorf.edublogs.org)
- You tube videos – CC
- Mi vida loca
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Accessibility in front of us

- Microsoft Partners in Learning
  - Free for Educators
  - Accessibility for Every Student
- WatchKnowLearn
- Academic Skill Center
  - Educational Videos
- Free technology for Teachers
- Hundreds of Apps
To preview the Text-to-Speech voice, follow these steps:

- Click **Start**, click **Control Panel**, and then double-click **Speech**.

  On the **Text-to-Speech** tab, the displayed name in the **Voice selection** drop-down list is the active voice.

- Click **Preview Voice** to hear the currently selected voice. The text is spoken and the words are highlighted as they are spoken.

- During playback, **Preview Voice** will change to **Stop**. Click **Stop** to interrupt the voice playback.

**NOTE:** You can change the text to be read by the **Preview Voice** by highlighting the text and typing in new text. These changes are not permanent and when you reopen **Speech** properties or select a different voice, the text will reset to the default.

- The text-to-speech feature in Microsoft Word can be convenient and fun to use. Word 2007 is unique from previous versions in that it does not have an explicit text-to-speech feature.

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### Word 2010

- **Add Speak to the Quick Access Toolbar**
  - You can add the Speak command to your Quick Access **Toolbar** by doing the following:
  - Next to the Quick Access Toolbar, click **Customize Quick Access Toolbar**.
  - Click **More Commands**.
  - In the **Choose commands from** list, select **All Commands**.
  - Scroll down to the **Speak** command, select it, and then click **Add**.
  - Click **OK**.
  - When you want to use the text-to-speech command, click the icon on the Quick Access Toolbar.

- **Convert text to speech**
  - After you have added the **Speak** command to your Quick Access Tool, you can hear single words or blocks of text spoken by highlighting the text you want to hear, and then clicking the **Speak** command.
Insert a voice comment in Word 2007

- Display the Reviewing toolbar: From the View menu, choose Toolbars and then select Reviewing; or right-click the background of any toolbar and select Reviewing.
- If the Insert Voice icon isn’t visible, add it: Click the Reviewing toolbar’s drop-down arrow (at the right end) and choose Add Or Remove Buttons. Then, select Reviewing and select Insert Voice. In Word 2007, click the Office button and then click Word Options. Select Customize and then select Commands Not In Ribbon from the Choose Commands From drop-down list. Select Insert Voice and click Add and then click OK.
- After you add the Insert Voice button, you’re ready to record a comment. Position your cursor where you want to insert the comment or highlight a word or phrase if you want to attach the comment to content.
- Click the Insert Voice button.
- When Word displays the Sound Object dialog box (which seems to take a while the first time), click the Record button (that’s the red button at the right end).
- Start talking.
- When you’re finished, click Stop (that’s the rectangle to the left of the Record button).
- Close the Sound Object dialog box.
- Word will insert a comment balloon that looks just like any other comment. However, instead of text, the comment

Guide to workshop timings

- Introduction 5 minutes
- Personalized Learning & Accessibility 5 minutes
- Overview of Accessibility Features 30 minutes
  » Try it out: Personalization & Ease of Access Center
  » Try it out: Magnifier in Windows 7
  » Try it out: On-Screen Keyboard in Windows 7
  » Try it out: Internet Explorer Zoom
  » Try it out: Office 2010 Accessibility Checker
- Impairment Types & Technology Solutions 15 minutes
- Selecting Accessible Technology 15 minutes
- Accessibility in Practice 15 minutes
- Resources 5 minutes
Principle I. Provide Multiple Means of Representation

Guideline 1: Provide options for perception
  - Checkpoint 1.1: Options that customize the display of information

Guideline 2: Provide options for language and symbols

Guideline 3: Provide options for comprehension

Source URL: http://www.udlcenter.org/implementation/examples
Principle II. Provide Multiple Means of Action and Expression

Guideline 4: Provide options for physical action
- Checkpoint 4.1: Options in the mode of physical response

Guideline 5: Provide options for expressive skills and fluency

Guideline 6: Provide options for executive functions

Source URL:
http://www.udlcenter.org/implementation/examples

Principle III. Provide Multiple Means of Engagement

Guideline 7: Provide options for recruiting interest
- Checkpoint 7.1: Options that increase individual choice and autonomy

Guideline 8: Provide options for sustaining effort and persistence

Guideline 9: Provide options for self-regulation

Source URL:
http://www.udlcenter.org/implementation/examples
Separate the goals from the means

Not always tech - there is power in digital text but need to think about FIRM goals and FLEXIBLE needs!

Using a curriculum that is rooted in the 3 UDL principles, students have:

1. **Options** for how they learn
2. **Choices** which will engage their interest
3. Choices for how they demonstrate their learning

Teachers provide:
1. **Flexible** ways of presenting lesson content
2. **Flexible** options for student engagement
3. **Flexible** methods of expression and assessment

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Getting from Here to There

UDL, Global Positioning Systems, and Lessons for Improving Education

[http://www.udlcenter.org/resource_library/articles/gps](http://www.udlcenter.org/resource_library/articles/gps)
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UDL Principles in Practice

Videos

UDL appears in the following Federal legislative and policy documents:

Higher Education Opportunity Act

UNIVERSAL DESIGN FOR LEARNING.—The term ‘universal design for learning’ 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.’’.

LEARN Act (literacy) bills in House and Senate

U.S. Department of Education’s National Educational Technology Plan

U.S. Department of Education’s guidance on recommended use of Recovery Act funds

The Common Core Standards developed by the National Governors Association and the Council of Chief State School Officers

U.S. Department of Education’s Blueprint for Reform: Reauthorization of the Elementary and Secondary Education Act

www.udl4allastudents.com
National Direction

UDL has been in the Higher Education Opportunity Act since 2008 - making college more accessible and enhancing teacher preparation programs

UDL is defined in IDEA 2004 and the Assistive Technology Act of 1998

National Education Technology Plan

The Common Core State Standards Initiative endorses UDL as a way to improve access to standards-based learning for all students.

National UDL Task Force
  - Fact sheets, Briefs, Videos

Missouri Highlights

State Documents that Mention UDL or UD
  - UD mentioned in Race to the Top application specifically targeting high-quality assessment

Other Activities
  - Whitepaper from Missouri State University: Commitment to Universal Design at Missouri State University
  - Governing state of the Partnership for Assessment of Readiness for College and Careers (PARCC) consortium - committed to developing assessments that adhere to UD principles

http://www.udlcenter.org/advocacy
Both RTI and UDL recognize that poor achievement does not necessarily reflect disability, but rather may also reflect poor instruction. Incorporate research-based practices that reflect the understanding that a curriculum that is effective for one student may not be effective for another student. RTI and UDL treat assessment as something that should inform instruction and intervention and consider once-a-year test scores insufficient to determine student ability.
**Anticipate Differences**

- Fundamental characteristic of UDL

- Plan for instruction for students who may be non-verbal, cognitively impaired, blind, deaf, struggling readers, reluctant writers, unmotivated, non-native English speakers, or gifted/talented.

- Rather than creating a single instructional plan (i.e., one size fits all curriculum), plan a *variety* of learning activities to enable all students to achieve the given goals in the time allocated for instruction.

  Tic-tac-toe

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**Teaching and Learning**

- Designers of learning environments
- Facilitators of learning

**Technology Changes Instructional Design**

- From instruction to discovery
- From individual to collaborative learning
- From broadcast to interactive learning
- From teacher-centric to student-centric

CAST is a nonprofit education R&D group best known for defining and promoting Universal Design for Learning (UDL).

Free online tools to make education more engaging and accessible for all.
1) UDL Goal Setter (http://www.cast.org/teachingeverystudent/tools/udgoalsetter.cfm)
   You learn to analyze what is essential to a goal and what can be changed and varied to support different learners.

2) UDL BookBuilder (http://bookbuilder.cast.org) is a free resource to help teachers and parents develop their own digital books to support reading instruction for children ages 3 and up. Enables users to create, edit, and save their own online books.

3) CAST Strategy Tutor (http://cst.cast.org/) offers adolescent readers and their teachers customizable mentoring and support as they conduct Internet research and read websites.

4) UDL Lesson Builder (http://lessonbuilder.cast.org) is a free online tool that helps educators build options and supports into their lessons to reach and engage all students.

5) UDL Curriculum Self-Check (http://udlselfcheck.cast.org) provides an interactive tool to help educators identify areas of the curriculum where barriers may exist or more supports for diverse learners are needed.

Digital Examples of Materials: Bookbuilder

http://bookbuilder.cast.org/
UDL Editions

http://udleditions.cast.org/

UDL Editions take advantage of the flexibility of digital media to reach and engage all learners. Leveled supports and the Texthelp Toolbar balance challenge and support for each learner, ages 10 and up.

Also see Thinking Reader
http://www.tomsnyder.com/products/product.asp?SKU=THITHI&Subject=LanguageArts

UDL Editions

Offers classics from world literature like you've never seen them before -- in a flexible online interface that supports and engages novice and expert readers alike.

Video
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**Universal Design for Learning Guidelines**

1. **Provide Multiple Means of Representation**
   - 1. Offer options for presentation
   - 2. Offer options for language, mathematical expression, and symbols
   - 3. Offer options for visual information

2. **Provide Multiple Means of Action and Expression**
   - 4. Provide options for physical action
   - 5. Provide options for expression and communication
   - 6. Provide options for executive functions

3. **Provide Multiple Means of Engagement**
   - 7. Provide options for physical activity
   - 8. Provide options for engagement
   - 9. Provide options for self-regulation

**Systematic Change template**

- Tablets
- Ipads
- Smartphones
- APPS
- The Flipped Classroom

Leaders need to be instrumental in providing resources

On the Horizon
Digital Media: New Learners of the 21st Century

– A documentary that examines how mobile devices and digital media practices can empower young people to direct their own learning.

Short Clip

The goal of education

› Not simply the mastery of knowledge
› It is the mastery of learning
› Education should help turn novice learners into expert learners
› Develop individuals who know how to learn, who want to learn, and who, in their own highly individual ways, are well prepared for a lifetime of learning
Taking Action

- What do I want to implement?
- Benefits of Implementation
- What does success look like?
- Possible barriers
- Possible solutions
- Needed resources
- Timeline

FAQ

Is UDL compatible with the principles of differentiated instruction?

What makes UDL different from differentiated instruction?

Is UDL just using technology in teaching?

Isn’t UDL just for students with disabilities?

More?
“Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid.”

-Albert Einstein

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Thank you

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