Universal Design for Learning

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What is Universal Design?
• Universal Design is the *design* and *composition* of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.
Universal Design for Learning
How do you like to learn?

Objective: at the end of the discussion you will define UDL.

Choose one of the three options:

Group A: Watch a Video defining UDL (choose if you like to watch and hear about a topic)

Group B: Read an article defining UDL (choose if you like to read)

Group C: Use your phones and 'google it' (google UDL)
Group Discussion

Gather background information on the topic

Break into new groups

Write a group definition of UDL
Completing a Task

- **WHY** are you doing it?
- **WHAT** tools or information do you need?
- **HOW** do you do it?
This is your brain

- Brain is made up of interconnected networks of localized neurons
- Combinations of different networks are needed for different types of tasks.
- Activation and flexibility of multiple neural networks for complex tasks may indicate better learning
  - (Bassett et al., 2011)
3 Core Principles of UDL

**AFFECTIVE NETWORKS:**
**THE WHY OF LEARNING**

**Engagement**
For purposeful, motivated learners, stimulate interest and motivation for learning.

**RECOGNITION NETWORKS:**
**THE WHAT OF LEARNING**

**Representation**
For resourceful, knowledgeable learners, present information and content in different ways.

**STRATEGIC NETWORKS:**
**THE HOW OF LEARNING**

**Action & Expression**
For strategic, goal-directed learners, differentiate the ways that students can express what they know.
Adopting UDL in the classroom
Pilot Project

• English for Academic Purposes (EAP) Class
  • Intermediate level (CEFR B2/ CLB7)
  • Reading and Writing class
  • 12 students (Chinese and Japanese)
  • 10 week course

• Course Aims: Develop reading and writing skills
  • Essay/ report writing
  • Research
  • Critical reading: academic texts, novel
Approach to the design in EAP

Curriculum design – focused on goals

Engagement – considered throughout by adding as many choices as possible; involve students in process

Representation – introduction of topics including units and components like grammar using at least three options

Expression - designed assessment options; free choice
Student need for routine vs spontaneity; individual vs group

Design extrinsic environment to support motivation

Students also need intrinsic abilities to regulate their own motivations

Student responsibility - goal setting; options; interactivity;

WHY?

Provide Multiple Means of Engagement
Purposeful, motivated learners

Provide options for self-regulation
+ Promote expectations and beliefs that optimize motivation
+ Facilitate personal coping skills and strategies
+ Develop self-assessment and reflection

Provide options for sustaining effort and persistence
+ Heighten salience of goals and objectives
+ Vary demands and resources to optimize challenge
+ Foster collaboration and community
+ Increase mastery-oriented feedback

Provide options for recruiting interest
+ Optimize individual choice and autonomy
+ Optimize relevance, value, and authenticity
+ Minimize threats and distractions
Examples: Engagement

- Provided lecture notes for students to annotate
- Break assignments into smaller components
- Frequent small assessments; feedback on practice and final product
- Choice of seating arrangements
- Choices of content and tools to ensure learning is meaningful and engaging
- Scaffolding opportunities as desired by the student
- Choice of learning context – individual, paired, small group assessments
Provide Multiple Means of Representation

*Resourceful, knowledgeable learners*

### Provide options for comprehension
- Activate or supply background knowledge
- Highlight patterns, critical features, big ideas, and relationships
- Guide information processing, visualization, and manipulation
- Maximize transfer and generalization

### Provide options for language, mathematical expressions, and symbols
- Clarify vocabulary and symbols
- Clarify syntax and structure
- Support decoding of text, mathematical notation, and symbols
- Promote understanding across languages
- Illustrate through multiple media

### Provide options for perception
- Offer ways of customizing the display of information
- Offer alternatives for auditory information
- Offer alternatives for visual information

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**Multiple Means of Representation**

- Provide a wide-range of perspectives and choices
- Access background knowledge in a variety of ways
- Consider vocabulary – preview and use multiple methods for study
- Consider the physical properties when you present information – colours, size, modality

**WHAT?**
• **Reading Options**
  - “Family – Role Models” – paper copy
  - “The Hero’s Journey” – Newsela
  - “Yul Kwon, From Bullying Target to Reality TV Star” – CommonLit

• **Video Options**
  - ‘What makes a Hero’ – *reading and music*
  - ‘The Heroes Journey’ – *talking and text*
  - ‘What Makes a Hero?’ – *visual only*
  - ‘Definition of a Hero’ – *student’s talking*

• **Research Option**
  - *Google definitions of role models, heroes,*
  - *Role models vs heroes.*

**Observations**
- Deeper discussion
- More authentic
Provide Multiple Means of Action & Expression

**Strategic, goal-directed learners**

**Provide options for executive functions**
- Guide appropriate goal-setting
- Support planning and strategy development
- Enhance capacity for monitoring progress

**Provide options for expression and communication**
- Use multiple media for communication
- Use multiple tools for construction and composition
- Build fluencies with graduated levels of support for practice and performance

**Provide options for physical action**
- Vary the methods for response and navigation
- Optimize access to tools and assistive technologies

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**Multiple Means of Expression**

- Strategic, goal-directed learners
- Variety of assessment types
- Must meet goal of assessment – essays – topic, feedback choices
- Teaching strategies - goal setting
- Final assessment must demonstrate that they have achieved outcomes

**HOW?**
Example: Vocabulary Assessment Choices

- Write the standard **quiz**.
- Write a story or draw a cartoon using ten of the words correctly.
- Power point explaining **ten words**.
- Record a speech using **ten words**; or present the speech in class.
- Skit using at least **ten words**.
- Make a **quiz** (using all words) and answer key.
Achievement [əˈtʃiːvmənt] noun

- Something that has been done successfully through hard work and skill.

You must be very proud of your achievement.

Synonyms: effort, success, completion
Antonyms: mistake
• Good morning, everyone. Today, I would like to introduce a famous book about dystopia, which was named Fahrenheit 451 and was written by Ray Bradbury. In this novel, the protagonist was a fireman. However, there were many extraordinary criteria for being a fireman...
Unit Assessment

1. Reading skill: previewing and predicting
   What you should do during the previewing?

2. Found some pictures in the essay.
   (If it have)
   Like the chart, graphs, or the captions. They will help you to found more information about this essay that the author wants to expression.
   Example in the book: Picture in the page 7
   Two pictures both shows father help and teach the little boy. We can understand that role model is a person who can teach and help you solve the problem.

(1) Read the title
   Usually, the title will tell you the author’s main idea of the essay.
   Example in the book: We all need a role model
   The main idea of this essay is we need role models in our whole life.
   Our own example: Cinderella
   The main idea of this novel: is a story about Cinderella.

Our own example: Cinderella
   A girl with ornate dresses escape from a huge castle and left one shoe.
   Can understand what’s happen in this novel. Cinderella wears the pretty dress and run out of the castle. However, she left one shoe.
Events 1: Jonas tried to find the correct word to describe his emotions about his 12 years old ceremony. He reminded of an event that an aircraft flying over his community. This event made him feel frightened in his life. Finally, he chose the word “apprehensive”. At the dinner, Jonas’s family did “telling of feelings”. Lily felt angry because a new boy didn’t follow the rules. His father felt worry about the baby who was too runty to live, and his mother frightened by someone broken rules again. Jonas said that he feels apprehensive about his 12 years old ceremony that will decided his job in the future.

Events 2: Jonas talked with his parents about the 12 years old ceremony, and they reminded of the name given ceremony about his sister Lily. His father described his own 12 years old ceremony, although he known; he must be a nurture, he also be exciting for the ceremony. What’s more, Jonas’s mother told Jonas that after he has a job, he couldn’t play with his friends anymore. However, Jonas didn’t believe it.

Events 3: Jonas’s father took a little baby back, and Lily finds that little has the pale eyes. Jonas reminded of once he found some different thing in the apple when he played with his friend. While he followed the path of the apple, he finds apple had changed, but he couldn’t find clearly which part of apple had changed. Although the speaker would criticism him, he took the apple back to the home.

Events 4: Jonas did the volunteer in the Nurturing Center with his friends Asher and his classmate Fiona. His job is to help the old people to take shower. When he helped an old woman take shower, the old woman talked with him about the celebrated of release. Before the release, people need to listen the person’s whole life, and then the person will follow the committee into the releasing room. No one knows how committee make the actual release without committee.
Cartoon—Plot
Summary

I'm sorry,
But I can't live with you two
because of someone else.
I give you money, so don't worry.

Hi, Patrick,
Are you tired??

Yes...

I can't believe it!

To save the tiny life,
I pretend to be a poor wife.

OK...

Where's the weapon?!

It must be right under
our very noses!

You're very kind, but
look tired. Please eat
the lamb for Patrick and me.

This potato is good
for Patrick.

This potato is good
for Patrick.

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Universal Design for Learning Guidelines

**Principle I. Provide Multiple Means of Representation**

**Guideline 1:** Provide options for perception
- Checkpoint 1.1: Offer ways of customizing the display of information
- Checkpoint 1.2: Offer alternatives for auditory information
- Checkpoint 1.3: Offer alternatives for visual information

**Guideline 2:** Provide options for language, mathematical expressions, and symbols
- Checkpoint 2.1: Clarify vocabulary and symbols
- Checkpoint 2.2: Clarify syntax and structure
- Checkpoint 2.3: Support decoding of text, mathematical notation, and symbols
- Checkpoint 2.4: Promote understanding across languages
- Checkpoint 2.5: Illustrate through multiple media

**Guideline 3:** Provide options for comprehension
- Checkpoint 3.1: Activate or supply background knowledge
- Checkpoint 3.2: Highlight patterns, critical features, big ideas, and relationships
- Checkpoint 3.3: Guide information processing, visualization, and manipulation
- Checkpoint 3.4: Maximize transfer and generalization

**Principle II. Provide Multiple Means of Action and Expression**

**Guideline 4:** Provide options for physical action
- Checkpoint 4.1: Variability in methods for response and navigation
- Checkpoint 4.2: Optimize access to tools and assistive technologies

**Guideline 5:** Provide options for expression and communication
- Checkpoint 5.1: Use multiple media for communication
- Checkpoint 5.2: Use multiple tools for construction and composition
- Checkpoint 5.3: Build fluencies with graduated levels of support for practice and performance

**Guideline 6:** Provide options for executive functions
- Checkpoint 6.1: Guide appropriate goal-setting
- Checkpoint 6.2: Support planning and strategy development
- Checkpoint 6.3: Facilitate managing information and resources
- Checkpoint 6.4: Enhance capacity for monitoring progress

**Principle III. Provide Multiple Means of Engagement**

**Guideline 7:** Provide options for recruiting interest
- Checkpoint 7.1: Optimize individual choice and autonomy
- Checkpoint 7.2: Optimize relevance, value, and authenticity
- Checkpoint 7.3: Minimize threats and distractions

**Guideline 8:** Provide options for sustaining effort and persistence
- Checkpoint 8.1: Heighten salience of goals and objectives
- Checkpoint 8.2: Varied demands and resources to optimize challenge
- Checkpoint 8.3: Foster collaboration and community
- Checkpoint 8.4: Increase mastery-oriented feedback

**Guideline 9:** Provide options for self-regulation
- Checkpoint 9.1: Promote expectations and beliefs that optimize motivation
- Checkpoint 9.2: Facilitate personal coping skills and strategies
- Checkpoint 9.3: Devise self-assessment and reflection

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http://www.udlcenter.org/implementation/examples
Examples of Universal Design for Learning

**Representation**
- sound, music, audio
- video
- closed captioning
- books & literature
- presentation, lecture
- magazines
- graphs

**Expression**
- drawing software
- whiteboards
- typing, essay
- poster, arts & crafts
- speech to text, assistive technologies

**Engagement**
- providing choices
- interactive games
- collaborating, teamwork
- Self-reflecting on choices
- music, audio, cues for routines
- real-life examples, taking pictures

Created by: Kelly Ransier
Montgomery County Public Schools
Approach in Content Courses

- EDUC 4863: Acquisition of Language
  - Content-based credit course in School of Education
  - Part of TESOL Certificate Program
Adopting UDL in TESOL

1. Outline all course aims
2. List learning outcomes for each lesson
3. Brainstorm how three core principles could be addressed through each aim/outcome
   - How will I keep students engaged and on track?
   - How will I teach/students learn this?
   - How will students demonstrate their knowledge?
Aim: Explore one theory of SLA

• Outcomes:
  • Summarize principles behind theory
  • Evaluate how the theory explains observable phenomena of SLA
  • Critique the strengths and weaknesses of the theory
  • Outline research based on this theory
  • Generalize classroom applications of this theory
  • Define "learner success" based on this theory

Multiple means of engagement and representation
• Group or solo
• Own choice topic (within range)
• Own choice format
• Marked on demonstration of outcomes
Learning Outcome: Demonstrate understanding of one core principle of UDL

• Multiple means of engagement (Why?)
• Multiple means of representation (What?)
• Multiple means of action and expression (How?)

Choices:
• Post an Instagram picture of the principle in action
• Write a tweet
• Draw stick people in action
• Your choice
Challenges and Considerations

• Second language learners needed more direction in several areas
  • How to choose an assessment - dice
  • Guidelines for each assessment – what is a skit?

• Choices need to suit the objectives
  • e.g. if the goal is writing an essay then choices would be on topics...

• Time consuming for instructor to create/ support/ mark
  • Marking, rubrics
  • EAP program – many assessments

• How do we define/measure success?
Should we bother?

- Accommodation of students' different learning needs and styles.
- Develop next-generation skills (Novak, 2016, p. 85)
  - Core skills, critical thinking, creativity, innovation, collaboration, flexibility, adaptability, digital literacy...
- Greater overall student success?
  - Improves learning process, but not necessarily educational outcomes (Capp, 2017, p. 791)
UDL practices offer:

- Diversity which meets the needs of the maximum number of learners;
- Opportunities for all students to show knowledge and skills;
- Student engagement and involvement in the process;
- Learning should continue to be challenging and filled with 'desirable difficulties' (Bjork & Bjork, 2011)
- Recognition that all students are individuals with different skills, learning styles, experiences and learning preferences
Activity – Paired Activity

Practical Application

- Think about your own setting. Pick three things you can change immediately to reflect UDL principles
  - 1 engagement
  - 1 materials
  - 1 assessment
- Share with your partner
This is your brain on UDL.

Any questions?
Resources

• Websites
  • http://accessproject.colostate.edu/udl/
  • http://www.cast.org/
  • http://www.udlcenter.org/implementation/examples

• Materials:
  • Template: http://www.udlcenter.org/sites/udlcenter.org/files/UDL%20DIY%20Figure.pdf
  • Reading: https://accessproject.colostate.edu/udl/modules/udl_introduction/udl_concise_intro.pdf
  • Video: https://www.youtube.com/watch?v=bDvKnY0g6e4
References


