Universal Design for Learning (UDL): Making Learning Accessible for All

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I acknowledge that we are located on the unceded land of the Sḵwx̱wú7mesh (Squamish), Stó:lō and Səlílwətaʔ/Selilwitulh (Tsleil-Waututh) and xʷməθkʷəy̓əm (Musqueam) Nations

Kyle Pearce/ DIY Genius; https://www.flickr.com/photos/keepitsurreal/3348972199/

We say we are educating everyone, but are we?

How is education, as we practice it today, accommodating or not accommodating to every learner?

Our Learning & Agenda

01. Defining Learning & Why it Matters
02. Learning for All: UDL
03. UDL Principles
04. Using the UDL Guidelines
05. UDL in Industry
06. What Next?

01.

Defining Learning & Why it Matters

“Learning is a *process* that leads to change, which occurs as a result of experiences and increases potential for improved performance and future learning” (Ambrose et al., 2010, p. 3)

Why Does Learning Matter?

Adult are always learning

- “Learning is embedded in the world in which we live” (Merriam & Bierema, 2014, p. 2)
- Learning takes place in a social context

External inter-related forces shape adult learning

- Globalization
- Technology
- Knowledge society
- Demographic changes

Education in the 21st Century

Mastery of the Learning Process

Beyond mastery of content knowledge or use of technologies

Turning novice learners into *expert* learners

Individuals who want to learn; know how to learn strategically; and are well prepared for a lifetime of learning

How do educators design meaningful learning environments where **information is presented in multiple ways**; where **learners engage in learning in a variety of ways**; and where **learners are provided options to demonstrate their learning**?

02.

Learning for All: UDL

Building in flexibility from the beginning is better than trying to add it on later.

Architectural concept of Universal Design – 1970s

Framework for educational practice

Provides flexibility

- Ways information is presented
- Ways students respond/demonstrate knowledge; skills
- Ways students are engaged

Reduces barriers

- Provides accommodations, supports, challenges
- Maintains high achievement expectations for all

Why UDL?

Diverse learners

Needs, skills, talents, interests

‘Typical’ Curriculum has barriers

Goals, methods, materials, assessments

Burden to adapt placed on the curriculum

Fix curricula, not learners

03.

UDL Principles

Three UDL Principles

1. Provide Multiple Means of Representation

- The ‘What’ of learning
- Learners differ in how they perceive and comprehend information

2. Provide Multiple Means of Action & Expression

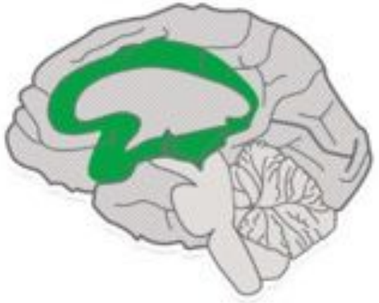
- The ‘How’ of learning
- Learners differ in how they navigate a learning environment and express what they know

3. Provide Multiple Means of Engagement

- The ‘Why’ of Learning
- Learners differ in the ways they can be engaged or motivated to learn

How Humans Learn & UDL Principles

AFFECTIVE NETWORKS:
THE **WHY** OF LEARNING



Engagement

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

Explore Engagement

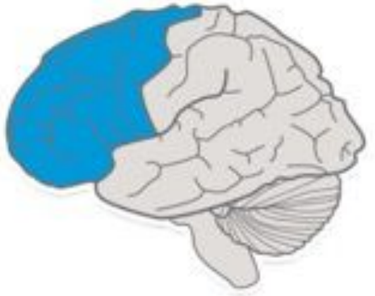
RECOGNITION NETWORKS:
THE **WHAT** OF LEARNING

Representation

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

Explore Representation

STRATEGIC NETWORKS:
THE **HOW** OF LEARNING



Action & Expression

For strategic, goal-directed learners, differentiate the ways that students can express what they know.

Explore Action & Expression

Three Brain Networks

Brain Network		Examples	Implications for Teaching
Recognition Network	How information we see, hear, and read is gathered and categorized	***Recognition Tasks:*** Identifying letters, words or an author's style	Present information and content in multiple ways
Strategic Network	How our ideas are organized and expressed	***Strategic Tasks:*** Writing an essay, solving a math problem, acting out a story sequence	Differentiate the ways that students can express what they know
Affective Network	How learners are engaged and stay actively involved, challenged, interested or excited in learning tasks	***Affective Tasks***: Using a rubric, planning learning goals, using a graphic organizer for note-taking	Stimulate interest and motivation for learning through multiple ways

CAST (2014). *Universal design for learning*. Wakefield, MA: Author
Retrieved from: http://www.udlcenter.org/aboutudl/whatisudl

Strategic networks
(the how)

Affective networks
(the why)

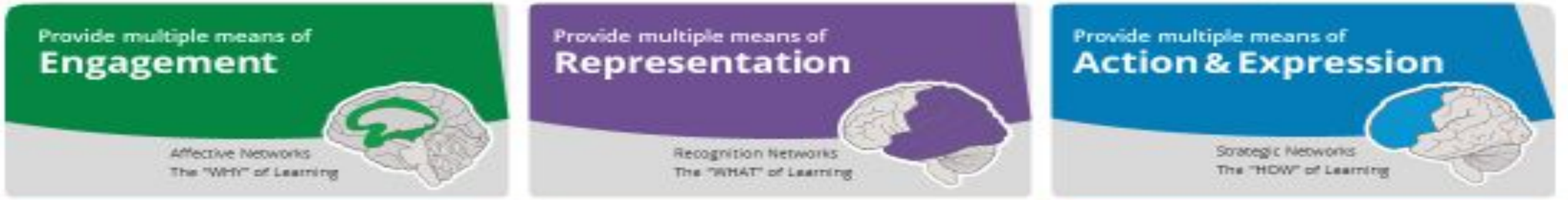
Recognition networks
(the what)

04.

Using the UDL Guidelines

The Universal Design for Learning Guidelines

CAST | Until learning has no limits



Access

Provide options for
Recruiting Interest

- Optimize individual choice and autonomy
- Optimize relevance, value, and authenticity
- Minimize threats and distractions

Provide options for
Perception

- Offer ways of customizing the display of information
- Offer alternatives for auditory information
- Offer alternatives for visual information

Provide options for
Physical Action

- Vary the methods for response and navigation
- Optimize access to tools and assistive technologies

Build

Provide options for
Sustaining Effort & 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
Language & 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
Expression & Communication

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

Internalize

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
Comprehension

- Activate or supply background knowledge
- Highlight patterns, critical features, big ideas, and relationships
- Guide information processing and visualization
- Maximize transfer and generalization

Provide options for
Executive Functions

- Guide appropriate goal-setting
- Support planning and strategy development
- Facilitate managing information and resources
- Enhance capacity for monitoring progress

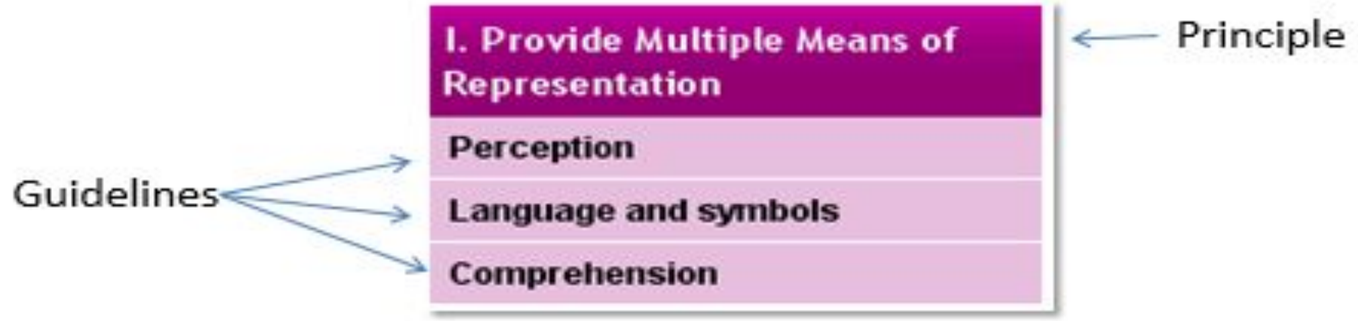
Goal

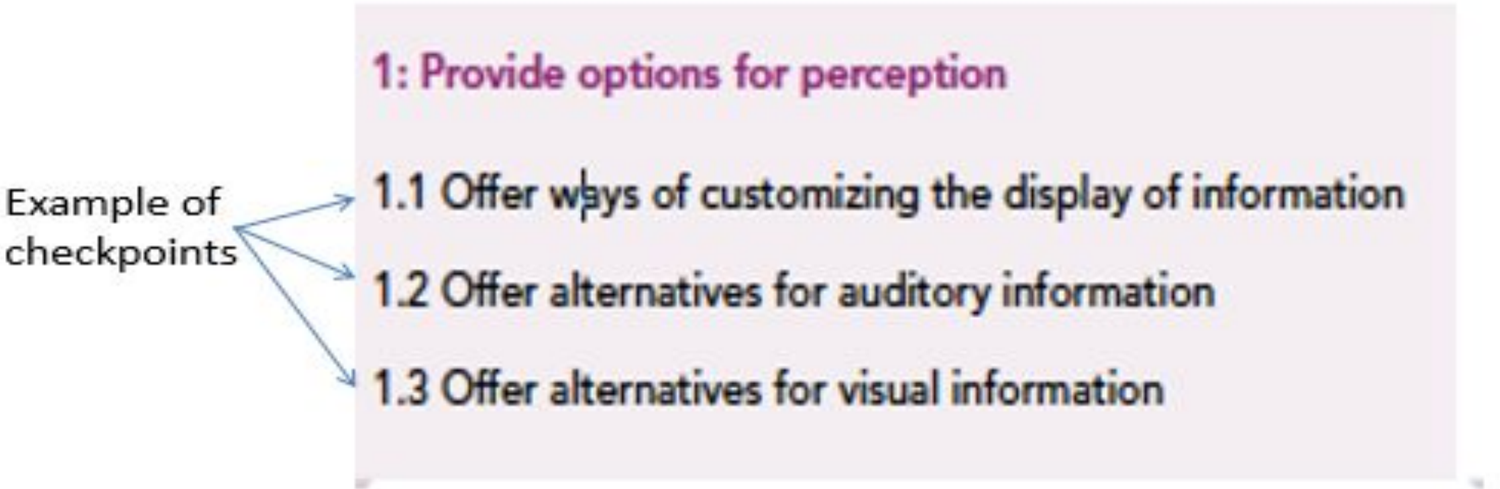
Expert learners who are...

Purposeful & Motivated	Resourceful & Knowledgeable	Strategic & Goal-Directed

udlguidelines.cast.org | © CAST, Inc. 2018 | Suggested Citation: CAST (2018). Universal design for learning guidelines version 2.2 [graphic organizer]. Wakefield, MA: Author.

UDL Principles, Guidelines, & Checkpoints





CAST. (2014). Three primary principles guide UDL—and provide structure for the Guidelines. Wakefield, MA: Author. Retrieved from: http://www.udlcenter.org/aboutudl/udlguidelines

- **Checkpoint 1.1 Offer ways of customizing the display of information**
- In print materials, the display of information is fixed and permanent. In properly prepared digital materials, the display of the same information is very malleable and customizable. For example, a call-out box of background information may be displayed in a different location, or enlarged, or emphasized by the use of color, or deleted entirely. Such malleability provides options for increasing the perceptual clarity and salience of information for a wide range of learners and adjustments for preferences of others. While these customizations are difficult with print materials. They are commonly available automatically in digital materials, though it cannot be assumed that because it is digital it is accessible as many digital materials are equally inaccessible. Educators and learners should work together to attain the best match of features to learning needs.
- **Tell Me More!**
- Display information in a flexible format so that the following perceptual features can be varied:
  - The size of text, images, graphs, tables, or other visual content
  - The contrast between background and text or image
  - The color used for information or emphasis
  - The volume or rate of speech or sound
  - The speed or timing of video, animation, sound, simulations, etc.
  - The layout of visual or other elements
  - The font used for print materials
- Checkpoint 1.1: View examples and resources

Example Checkpoint

CAST. (2011). Universal design for learning guidelines-version 2.0. Wakefield, MA: Author.
Retrieved from: http://www.udlcenter.org/aboutudl/udlguidelines/principle1

The UDL Guidelines should be:

- Applied to all aspects of the curriculum
- Used with ALL students—not just a few
- Used to evaluate and plan goals, methods, materials, and assessments
- Used to create a fully accessible learning environment for all

Applying the Guiding Principles

Perception and access to the instructional material

What are different ways information and content can be presented?

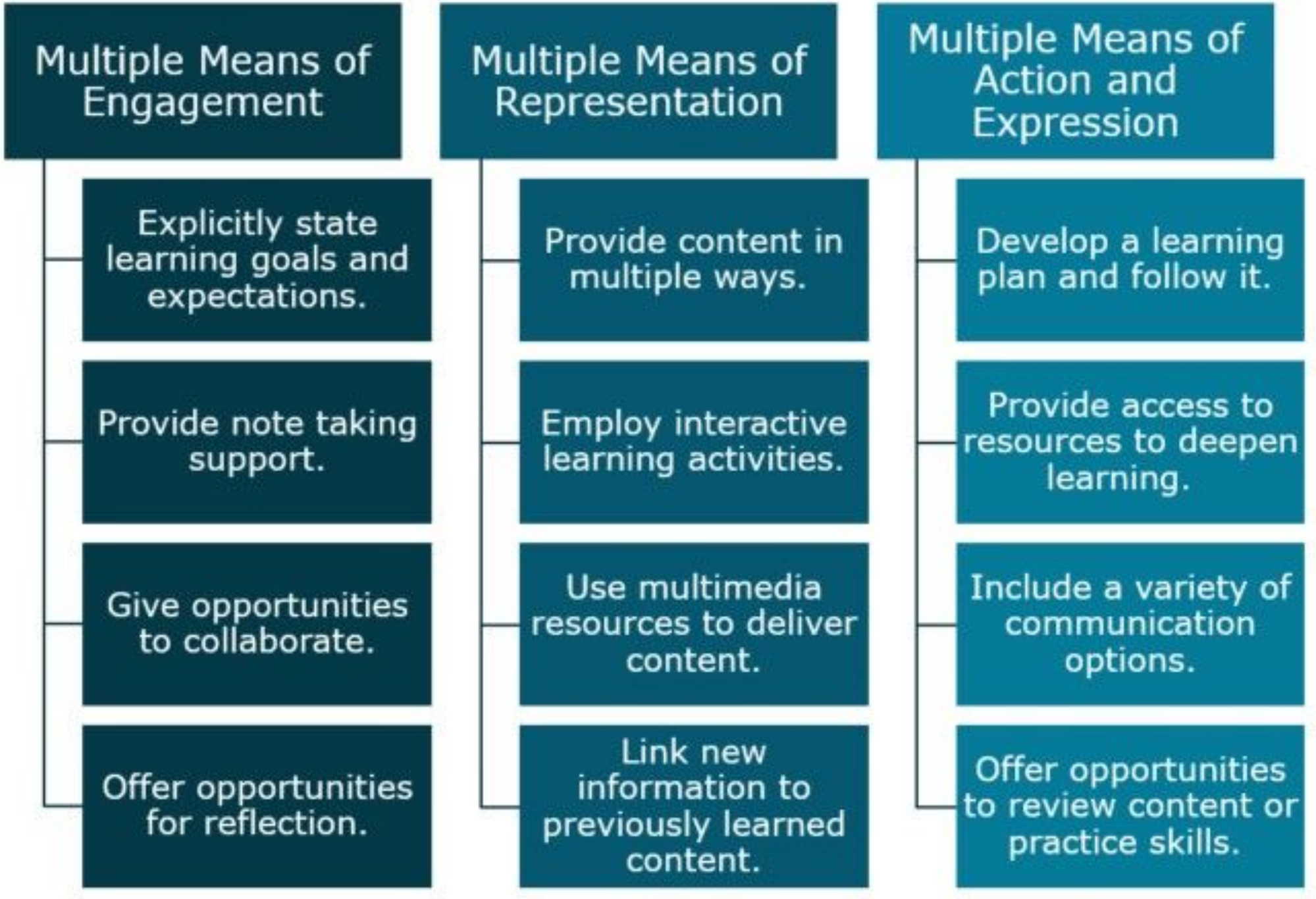
Expression and action in learning.

What are some ways to vary how students express what they know?

Engagement in the learning tasks.

What are some ways to stimulate interest and motivation for learning?

http://www.udlcenter.org/aboutudl/whatisudl


Multiple Means of Engagement
Explicitly state learning goals and expectations.
Provide note taking support.
Give opportunities to collaborate.
Offer opportunities for reflection.
Multiple Means of Representation
Provide content in multiple ways.
Employ interactive learning activities.
Use multimedia resources to deliver content.
Link new information to previously learned content.
Multiple Means of Action and Expression
Develop a learning plan and follow it.
Provide access to resources to deepen learning.
Include a variety of communication options.
Offer opportunities to review content or practice skills.

Planning Lessons: Questions to Consider

Think about how learners will engage with the lesson

Does the lesson provide options that can help all learners:

- Regulate their own learning?
- Sustain effort and motivation?
- Engage and interest all learners?

Think about how information is presented to learners

Does the information provide options that help all learners:

- Reach higher levels of comprehension and understanding?
- Understand the symbols and expressions?
- Perceive what needs to be learned?

Think about how learners are expected to act strategically & express themselves

Does the activity provide options that help all learners:

- Act strategically?
- Express themselves fluently?
- Physically respond?

05.

UDL in

Most training is designed to be one-size fits all

BUT, individual variability is the norm, not the exception

UDL can serve diverse employees

Regardless of cultural background, socioeconomic status, literacy, numerical proficiency

Many employees experience specific barriers to learning

UDL can help circumvent these barriers

Questions for Planning Effective Instruction

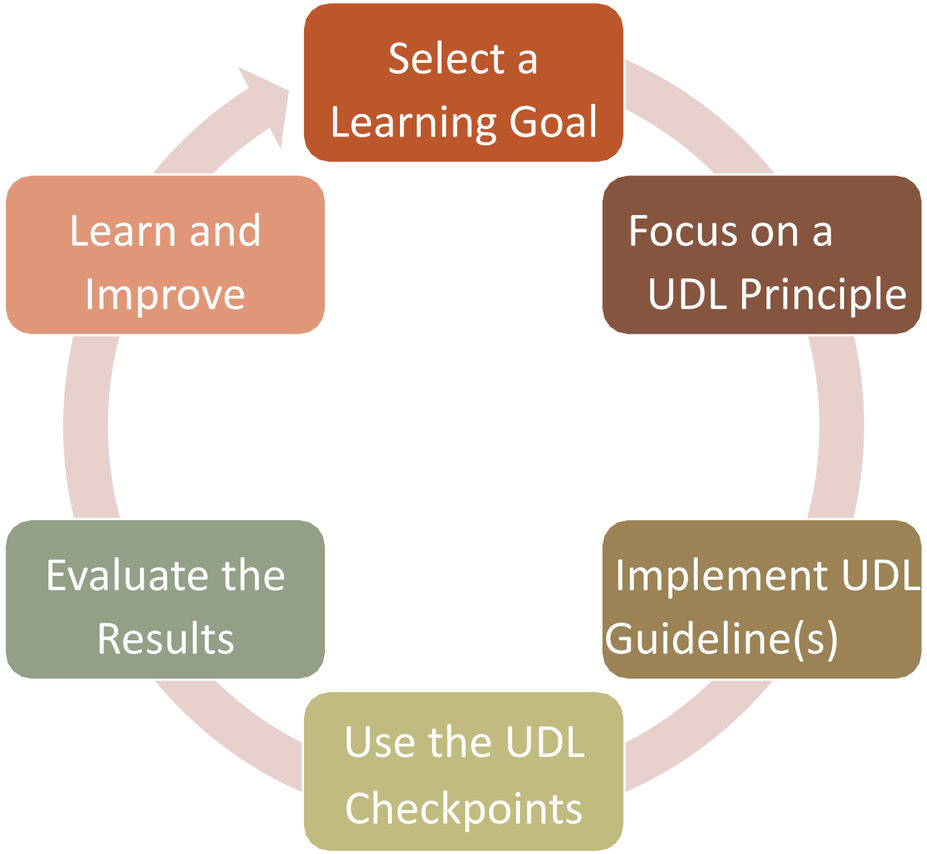
WHY should learners engage with the training?

WHAT will help learners comprehend the information?

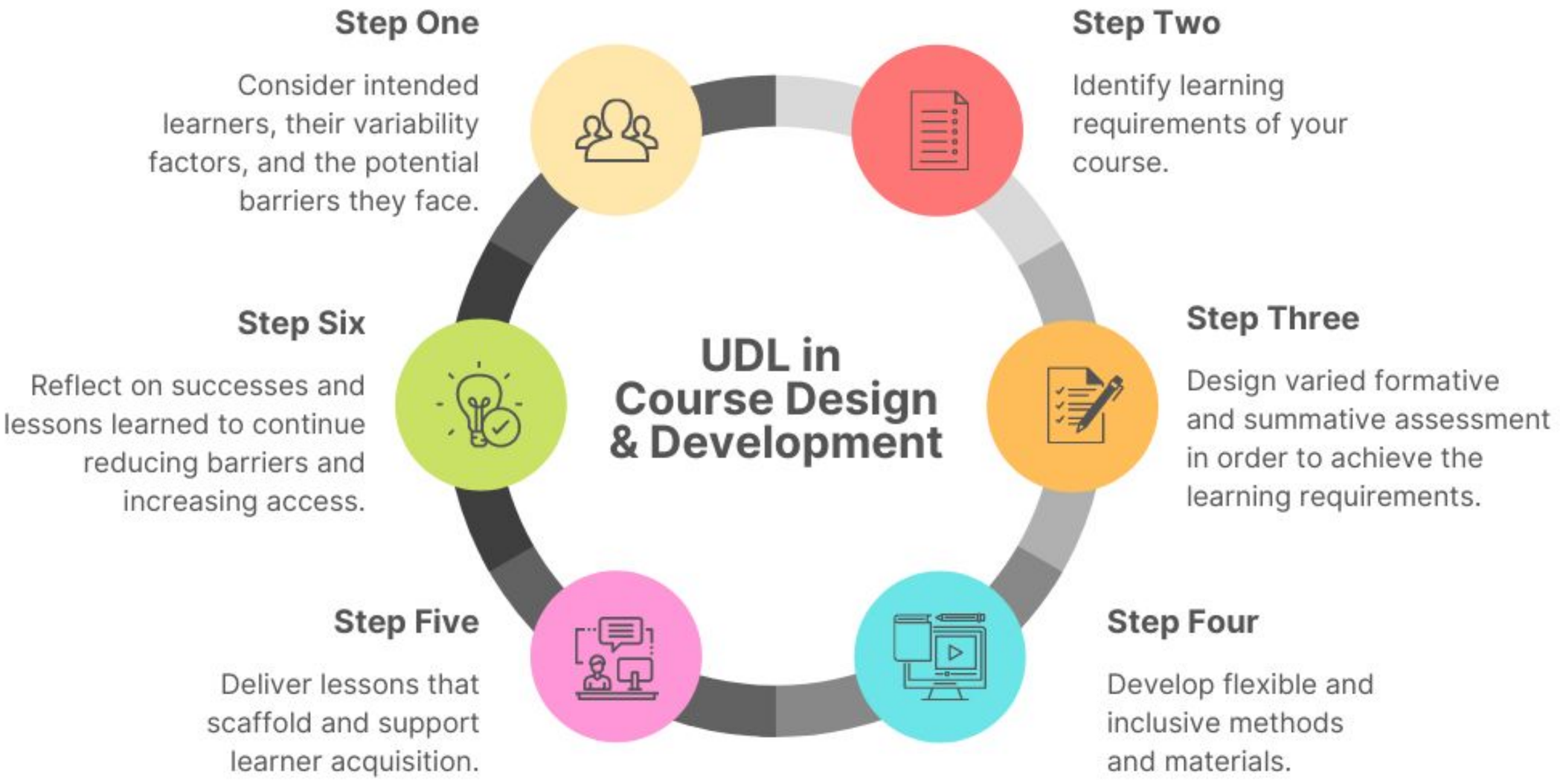
HOW will learners express what they know and what they have learned?

WHY	WHAT	HOW

UDL Implementation as a Learning Process



Source: Taruna Goel


Step One
Consider intended learners, their variability factors, and the potential barriers they face.
Step Two
Identify learning requirements of your course.
Step Six
Reflect on successes and lessons learned to continue reducing barriers and increasing access.
UDL in Course Design & Development
Step Three
Design varied formative and summative assessment in order to achieve the learning requirements.
Step Five
Deliver lessons that scaffold and support learner acquisition.
Step Four
Develop flexible and inclusive methods and materials.

Implementation Suggestions

Design courses, materials, and other elements with learners included in the process

Help learners increase self-confidence by optimizing individual choice and autonomy

Provide “mastery-oriented’ feedback to help learners focus on skill-building

Secure financial resources and instructor buy-in before systemic adoption of UDL practices

06.

What Next?

Summary

- ✔ Provides guidance for reducing barriers to learning
- ✔ Creates opportunities for learners to use a variety of ways to show what they know
- ✔ Helps in designing a flexible and responsive learning experience that anticipates diversity from the start

Self-Reflection

3

New things you learned about UDL today

2

Things about UDL you want to remember

1

UDL idea you want to implement/try

OR

A question you have about UDL

T

Turn to a table partner and share

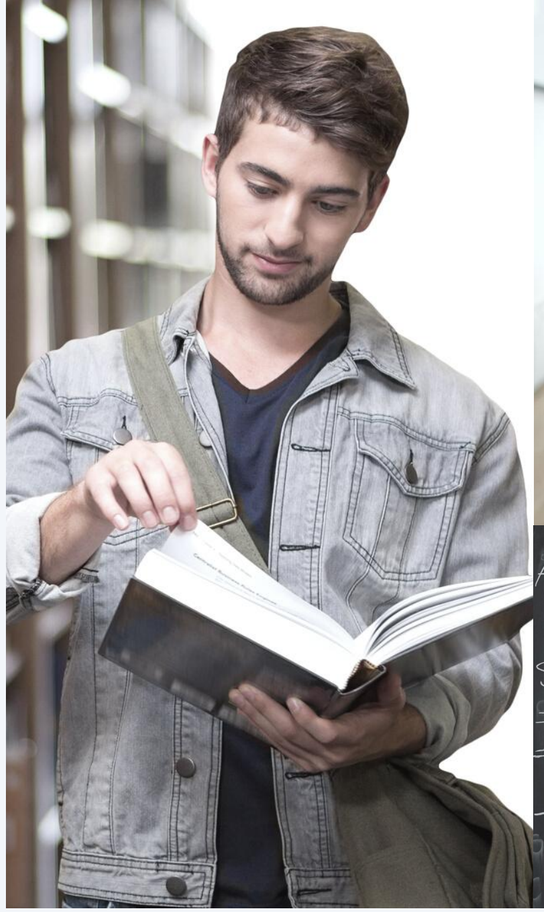
Resources

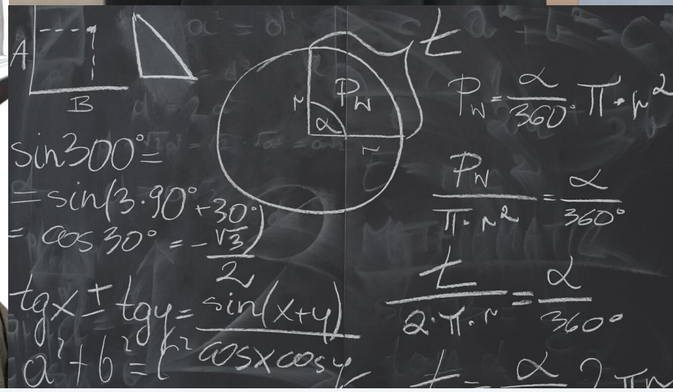
Center for Applied Special Technology (CAST)

- www.cast.org
- http://udlexchange.cast.org/home

UDL Implementation & Research Network

- https://udl-irn.org/





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The Thurber Album
Thurber Country
Further Fables for Our Time
Is Sex Necessary?
The Month of September
TALES AFTER SUPPER
Enid Blyton

thank you!