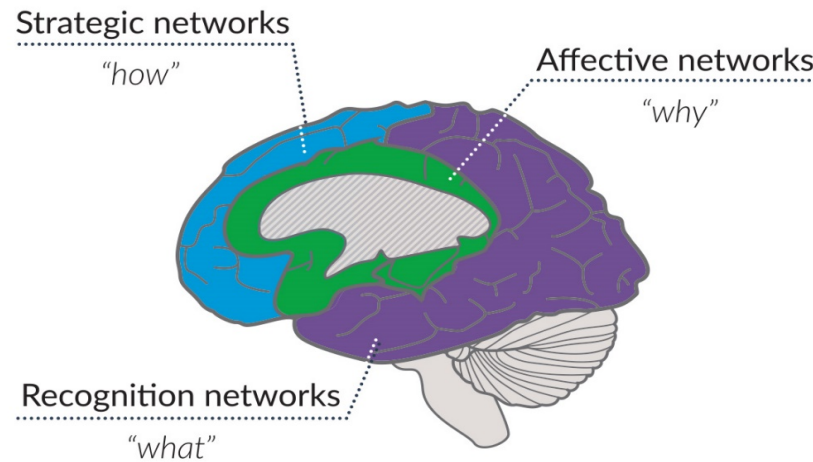# Introduction to
Universal Design for Learning (UDL): What? Why? And How?

ANTOINE COULOMBE, Assistant Professor of Teaching,
UBC School of Social Work, May 11, 2022

13th Annual Celebrate Learning Week

Strategic networks
"how"

Affective networks
"why"

Recognition networks
"what"

Source: UDL-Universe

I would like to acknowledge that I am located on the traditional, ancestral, and unceded territory of the Musqueam people.
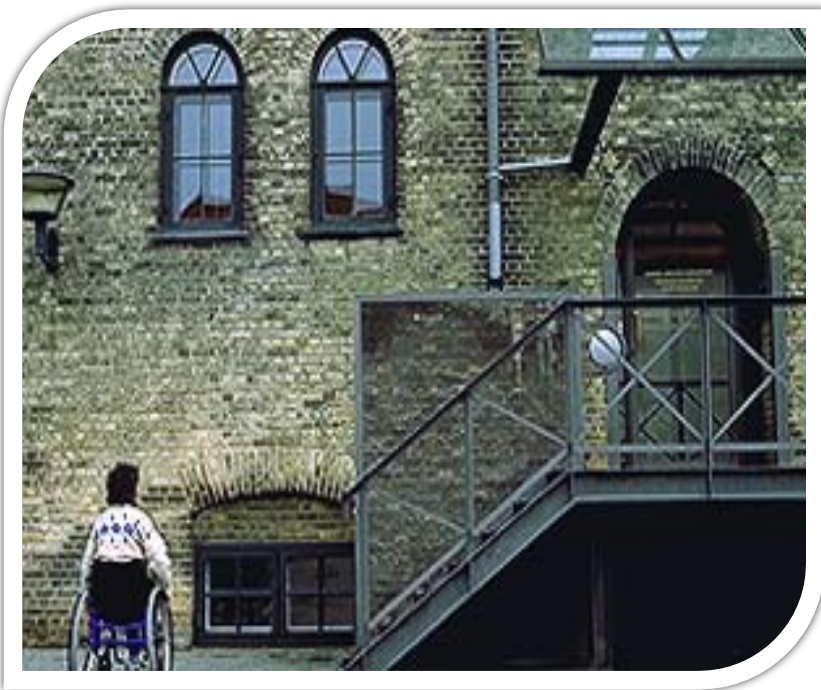
Learning Outcomes

At the end of this UDL workshop, you will be able to:

- Explain how the main <u>theoretical elements of UDL</u> can enhance accessible course design.

- <u>Apply the UDL framework</u> in practical ways when reviewing your course design.

Universal Design
Is our physical environment welcoming?

DisWeb © 2000 Karen G. Stone

- Architectural term coined by Ron Mace
- Physical environment design for access
- Stairs as access feature/barrier
  - Physical Disabilities
  - Elderly
  - Children
  - Strollers/Carts
- Retrofitting for physical access remains a design afterthought

Origin: Universal Design (UD)
Is our physical environment accessible?

- **Ronald Lawrence Mace**, FAIA (1941 – June 29, 1998) was an American architect, product designer, educator, and consultant. He is best known for coining the term universal design and for his work advocating for people with disabilities. Instead of adding accessibility adaptations, the physical environment is immediately conceived as accessible, within the design of the building. (from Wikipedia).

Want to know more: Podcast Exclusive "interview" with the late Ron Mace, father of universal design
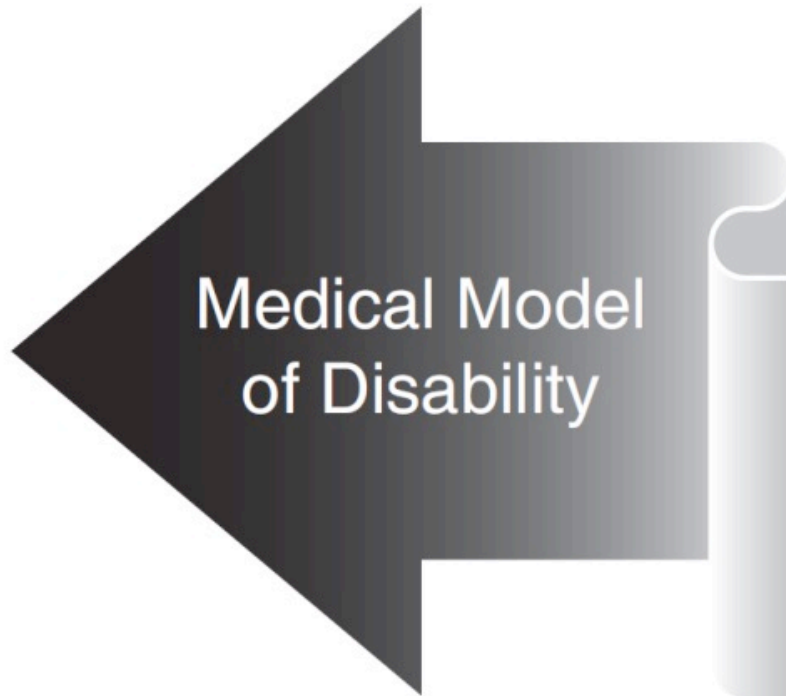
Universal Design Solutions

Blusson Spinal Cord Centre
https://icord.org/our-facility/building-accessibility/

Universal Design:
- Intentional approach to design
- Anticipates a variety of needs
- Broadens usability to public
- More economical
- Respects human diversity

Medical Model of Disability

Social Model of Disability

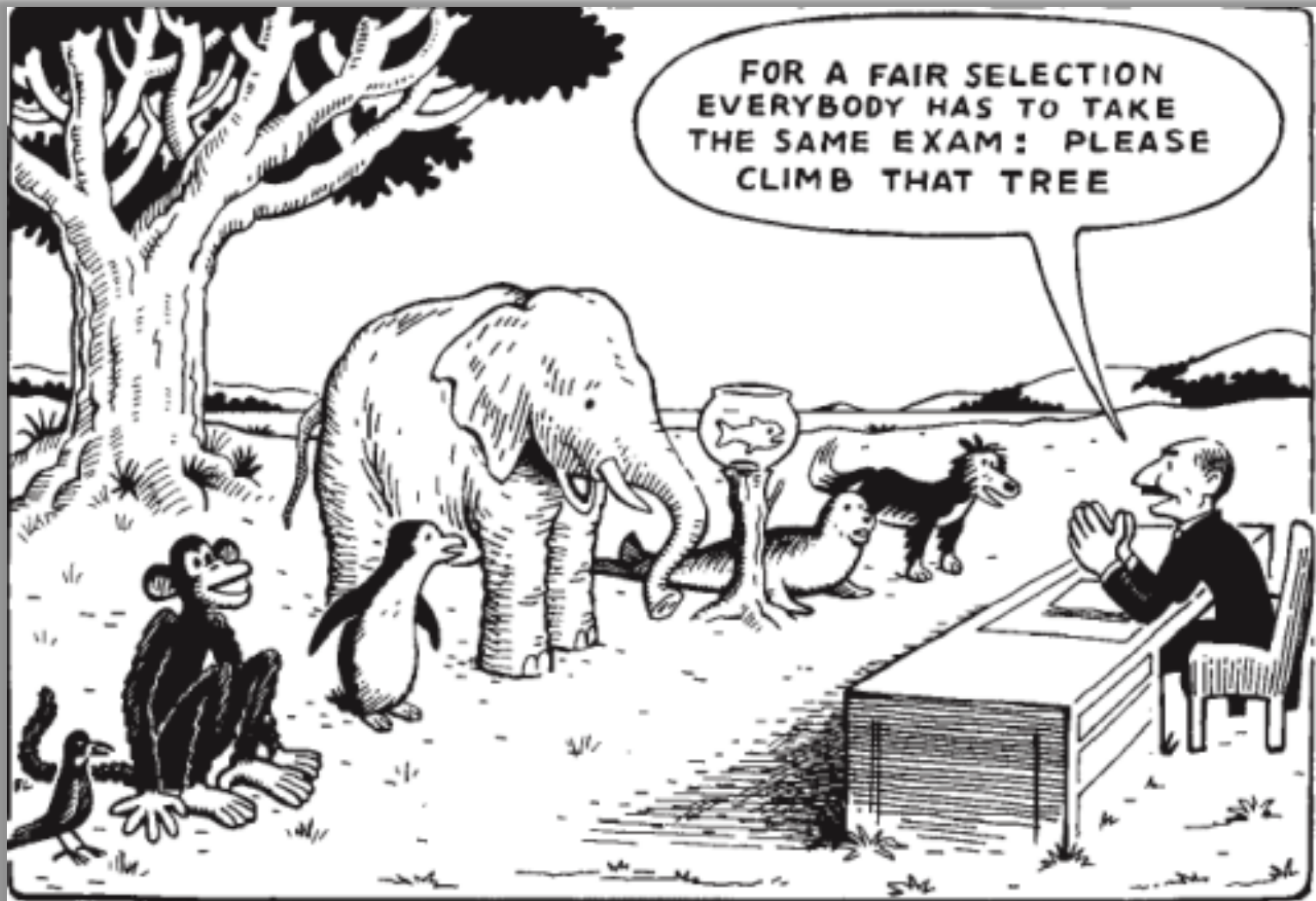Message: Disability is a problem.
Goal: It needs to be fixed.

Message: Disability is a natural form of diversity.
Goal: Accommodate disability, with optimal outcomes.

Social Model of Disability

It is the environment that reveals the disability;

disability is not a condition in itself but a condition in a situation.

Social Model of Disability

- In the classroom
  - Universally Disabling Presenttaion
  - *Disabling presentation for some*
  - « Normal » presentation (disabling without glasses)
  - # Inclusive presentation

Universal Design for Learning
Is our pedagogical environment welcoming?

UDL is the proactive design of our courses to ensure they are educationally accessible regardless of learning style, physical or sensory abilities.

Just as physical barriers exist in our physical environment,

curricular barriers exist in our instructional environment.

CLEARING A PATH
FOR PEOPLE WITH SPECIAL NEEDS
CLEARS THE PATH FOR EVERYONE!

UDL at a Glance – cast.org
https://youtu.be/U1B6yQXsr0c

UDL Guidelines

The Universal Design for Learning Guidelines

CAST | Until learning has no limits

	Provide multiple means of **Engagement**	Provide multiple means of **Representation**	Provide multiple means of **Action & Expression**
	Affective Networks The "WHY" of Learning	Recognition Networks The "WHAT" of Learning	Strategic Networks The "HOW" of Learning
Access	Provide options for **Recruiting Interest** (7) • Optimize individual choice and autonomy (7.1) • Optimize relevance, value, and authenticity (7.2) • Minimize threats and distractions (7.3)	Provide options for **Perception** (1) • Offer ways of customizing the display of information (1.1) • Offer alternatives for auditory information (1.2) • Offer alternatives for visual information (1.3)	Provide options for **Physical Action** (4) • Vary the methods for response and navigation (4.1) • Optimize access to tools and assistive technologies (4.2)
Build	Provide options for **Sustaining Effort & Persistence** (8) • Heighten salience of goals and objectives (8.1) • Vary demands and resources to optimize challenge (8.2) • Foster collaboration and community (8.3) • Increase mastery-oriented feedback (8.4)	Provide options for **Language & Symbols** (2) • Clarify vocabulary and symbols (2.1) • Clarify syntax and structure (2.2) • Support decoding of text, mathematical notation, and symbols (2.3) • Promote understanding across languages (2.4) • Illustrate through multiple media (2.5)	Provide options for **Expression & Communication** (5) • Use multiple media for communication (5.1) • Use multiple tools for construction and composition (5.2) • Build fluencies with graduated levels of support for practice and performance (5.3)
Internalize	Provide options for **Self Regulation** (9) • Promote expectations and beliefs that optimize motivation (9.1) • Facilitate personal coping skills and strategies (9.2) • Develop self-assessment and reflection (9.3)	Provide options for **Comprehension** (3) • Activate or supply background knowledge (3.1) • Highlight patterns, critical features, big ideas, and relationships (3.2) • Guide information processing and visualization (3.3) • Maximize transfer and generalization (3.4)	Provide options for **Executive Functions** (6) • Guide appropriate goal-setting (6.1) • Support planning and strategy development (6.2) • Facilitate managing information and resources (6.3) • Enhance capacity for monitoring progress (6.4)
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.

Making the Connection
UDL Principles for Effective Instruction

- ❑ Faculty can offer various ways to REPRESENT (show) essential course concepts in support of recognition learning networks

- ❑ Faculty can offer various ways to encourage student ENGAGEMENT (participate) in support of affective learning networks

- ❑ Faculty can offer students various formats for EXPRESSION (demonstration) of what they have learned through strategic learning networks

Multiple means of Representation
The « WHAT » of learning

Learners differ in the ways that they perceive and comprehend information that is presented to them.

Provide options for perception: Learning is impossible if information is imperceptible to the learner, and difficult when information is presented in formats that require extraordinary effort or assistance.

> *Barrier: Only access to paper copies of texts.*

Provide options for language, mathematical expressions, and symbols: Learners vary in their facility with different forms of representation – both linguistic and non-linguistic.
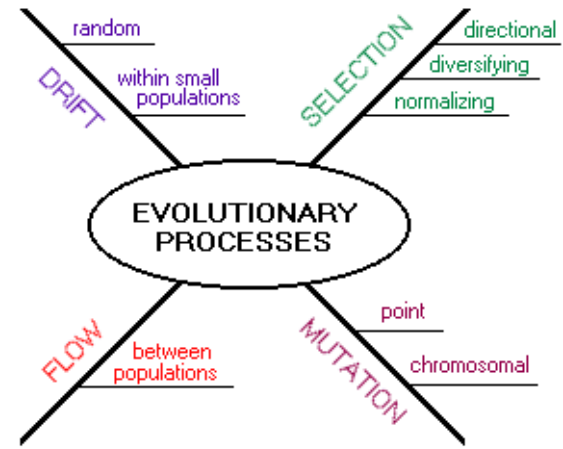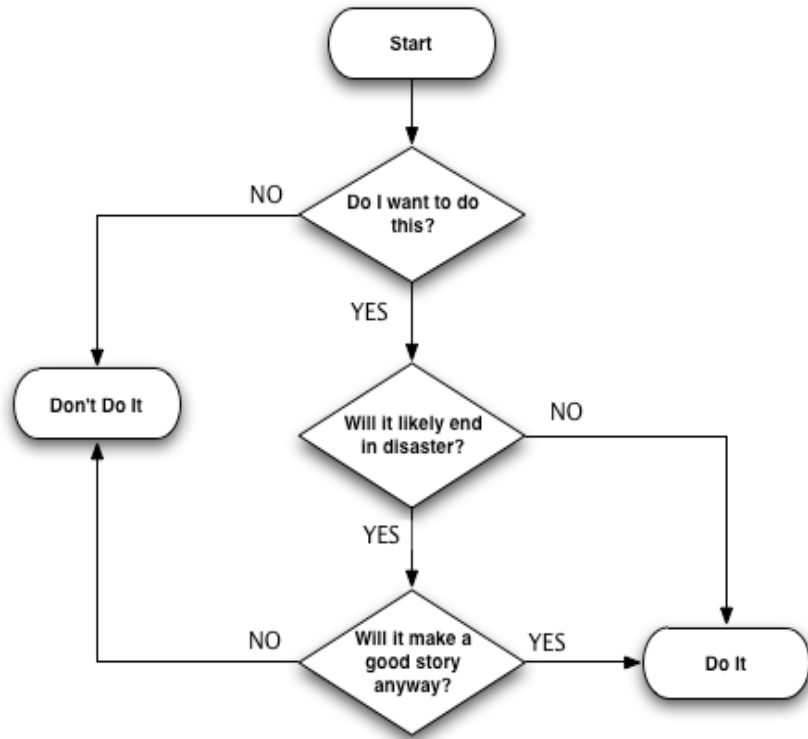
> *Barrier: Frequent use of "slang" and local knowledge.*

Provide options for comprehension: The purpose of education is not to make information accessible, but rather to teach learners how to transform accessible information into useable knowledge. Constructing useable knowledge depends not upon merely perceiving information, but upon active "information processing skills".

> Barrier: Not providing opportunities to process information.

Sample Graphic Organizers

Start

NO — Do I want to do this?

YES

Don't Do It

Will it likely end in disaster? — NO

YES

Will it make a good story anyway? — NO / YES — Do It

random
within small populations

DRIFT

SELECTION
directional
diversifying
normalizing

EVOLUTIONARY PROCESSES

FLOW
between populations

MUTATION
point
chromosomal

(D. Applegate, CAL)

Comparative and Contrastive Map

Concept 1   Concept 2

Dimension 1 — Diff. Feature / Diff. Feature

Sim. Feature

Dimension 1

Dimension 1
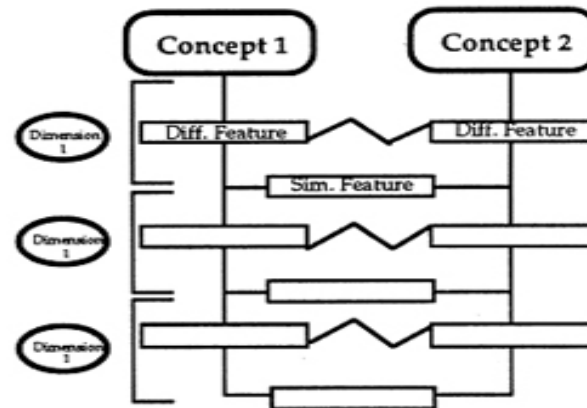
Multiple means of Action & Expression
The « HOW » of learning

Learners differ in the ways that they can navigate a learning environment and express what they know.

<u>Provide options for physical action</u>: It is important to provide materials with which all learners can interact.

Barrier: Only hand written exam.

<u>**Provide options for expression and communication**</u>: There is no medium of expression that is equally suited for all learners or for all kinds of communication.

Barrier: Everyone will do a class presentation.

<u>**Provide options for executive functions**</u>: At the highest level of the human capacity to act skillfully are "executive functions."

Barrier: Complex task with no guidelines.

Multiple Means of Engagement
Affective Networks The « WHY » of Learning

Learners differ markedly in the ways in which they can be

engaged or motivated to learn.

- **Provide options for recruiting interest:** Information that is not attended to, that does not engage learners' cognition, is in fact inaccessible.

  Barrier: Not mentioning "Why".

- **Provide options for sustaining effort and persistence**: Many kinds of learning, particularly the learning of skills and strategies, require sustained attention and effort.

  Barrier: Complex task without steps.

- **Provide options for self-regulation**: It is important to develop learners' *intrinsic* abilities to regulate their own emotions and motivations.

  Barrier: No opportunities to practice self-regulation.

Discussion
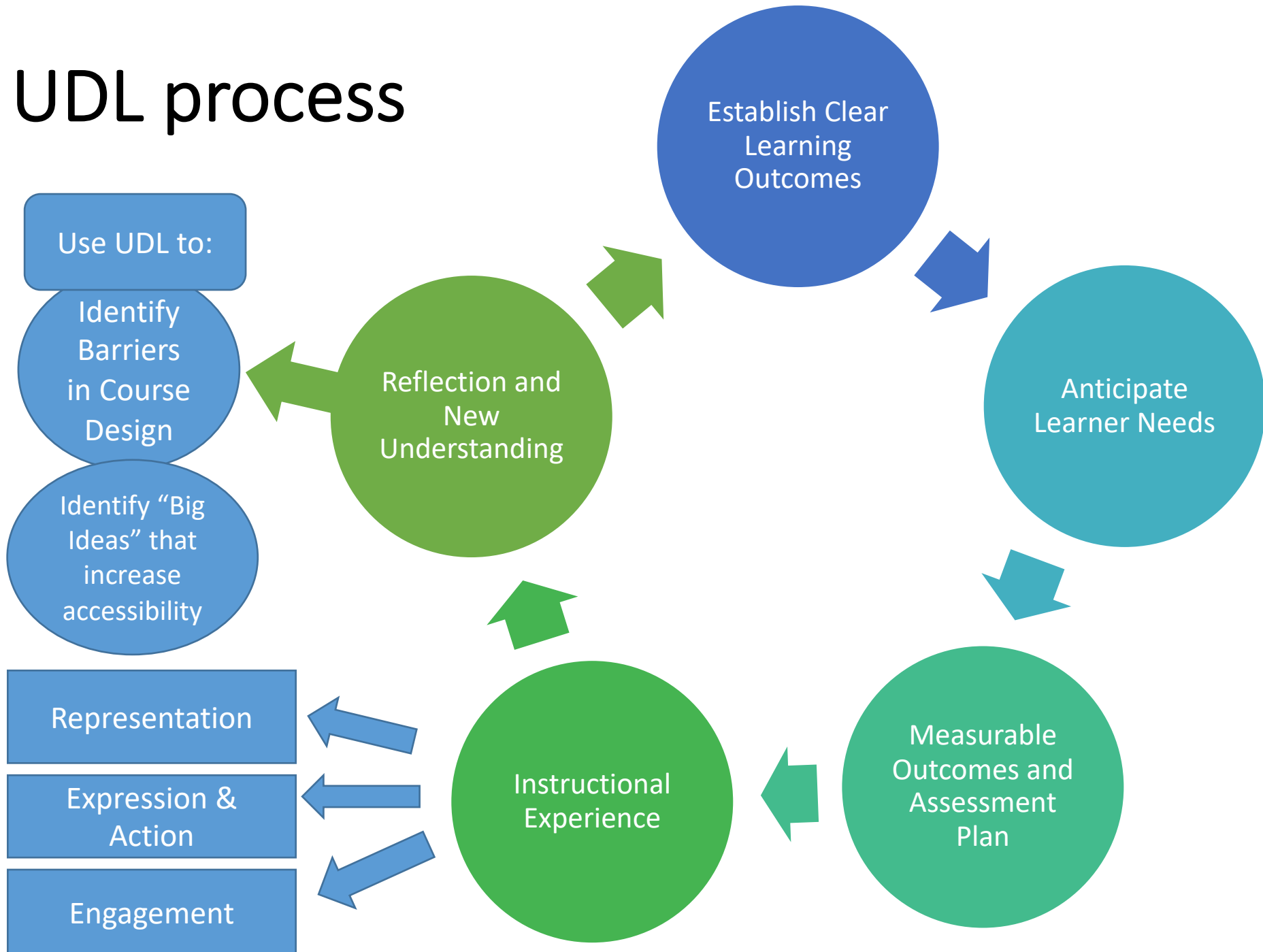## Engagement : Affective Networks
The « WHY » of Learning

We can offer various ways to encourage student ENGAGEMENT (participate) in support of affective learning networks.

In small groups, when presenting a topic in class, explore:

▪ **Ways to recruit interest:** How do you recruit interest, motivation and engagement with students when introducing a new topic?

▪ **Strategies to sustain effort and persistence**: What strategies can you use to help students maintain their efforts?

▪ **Strategies for self-regulation**: What kind of exercises/activities can help learners self-regulate their engagement?

UDL process

Establish Clear Learning Outcomes

Anticipate Learner Needs

Measurable Outcomes and Assessment Plan

Instructional Experience

Reflection and New Understanding

Use UDL to:

Identify Barriers in Course Design

Identify "Big Ideas" that increase accessibility

Representation

Expression & Action

Engagement

UDL is not…

- **Specialized privileges for a few students**
  - It is not about special accommodations
- **Watering down your academic expectations**
  - It is not about making courses easier – school is supposed to be challenging if learning occurs
- **A "magic bullet" or "fix" for all students**
  - It is not going to solve all your curricular or pedagogical problems
  - It is limited on inclusion and equity [(#UDLrising)](#UDLrising)
- **A prescriptive formula**
  - No checklist will offer the "UDL solution"

Benefits of UDL Practices

- Enables you to *reach a diverse student population* without modifying your course requirements or academic expectations.

- Provides you the *tools to consider what and how you teach* in a structured and systematic manner.

- Increases student participation, autonomy, achievement, and satisfaction.

Discussion and Questions

Other options to learn about UDL

GOOD WEBSITES

http://www.cast.org/

http://enact.sonoma.edu/udl

A List and Review of Best UDL Books:

https://hillaryhelpsulearn.com/5-must-have-books-for-educators-on-udl/

A Free Ebook – UBC Library:

Bracken, S., & Novak, K. (2019). *Transforming higher education through universal design for learning: An international perspective* (1st ed.). Milton: Routledge.

References

This presentation was adapted from:

- UDL-Universe: A Comprehensive Faculty Development Guide: Two-hour UDL Workshop

- https://enact.sonoma.edu/c.php?g=789377&p=5650621

Projet interordres sur les applications pédagogiques de la conception universelle de l'apprentissage

- https://pcua.ca

Thank you