

# Universal Design for Learning: A Practical Guide



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# SECTION ONE

## Why UDL Matters

Post-secondary instructors are facing more challenges nowadays because the student population is increasingly diverse. Students with diverse cultural backgrounds, skills, abilities, interests, experiences, and social-economic status require instructors to reflect on their teaching practices and adopt user-centred approaches for course design and delivery. But how do user-centred approaches look like in practice? And how can instructors deliver quality learning outcomes to maximum number of students?

Universal Design for Learning (UDL) is a curriculum design, development, and delivery framework that could help answer these questions. UDL seeks to include the maximum number of learners in instruction by offering multiple paths to get to the same learning outcomes, including

- Multiple means of engagement: the why of learning
- Multiple means of representation: the what of learning
- Multiple means of action and expression: the how of learning

UDL supports the design of inclusive and user-centred learning experiences by:

|   |   |
|---|---|
| <b>Creating Expert Learners</b>           | UDL aims to create expert learners who are purposeful, motivated, resourceful, strategic and goal-directed  |
| <b>Teaching to the Margins</b>            | UDL reminds instructors to think who is experiencing barriers and how to design curriculum for as many students as possible   |
| <b>Planning Proactively</b>               | UDL advocates ways of anticipating the variability of learners in your class and gathering feedback for redesign  |
| <b>Enabling Access</b>                    | UDL looks at access in terms of how learners engage with the class environment, how they interface with the way knowledge is represented, and how they express their learning |
| <b>Providing Flexibility</b>              | UDL emphasizes on programming choice and flexibility to obtain learning outcomes in different ways  |
| <b>Explicitly Addressing Expectations</b> | UDL advocates practices that bring implicit understanding to light so that expectations are clear, concrete, and actionable   |
| <b>Frequent and Varied Assessment</b>     | UDL advocates frequent, varied, low-stakes assessment for engagement and regular feedback   |

You will learn more about UDL and how it could reshape your course design and delivery through this guide.

## UDL: A Quick Start

UDL stands for Universal Design for Learning.

UDL is a framework for designing curriculum. It can also be thought of as a disposition or lens that you can take on creating inclusive learning activities.

UDL seeks to include the maximum number of learners in instruction by offering multiple paths to get to the same learning outcomes.

By designing for choice and flexibility in activities, UDL supports learner engagement with the goal of creating **expert learners**. Expert learners are well-acquainted with their strengths and weaknesses. They know how they learn best, and they know when to ask for help. Expert learners are able to identify why they have been successful, why they might be struggling, and how to make changes.

Instructors who design activities and curriculum according to UDL principles build in methods not only for conveying content knowledge, but in developing students who have the ability to reflect on their learning preferences and goals.

UDL uses components of design thinking: using empathy to understand learner needs and goals, identifying gaps, working iteratively, and using feedback for steadily improving response. Maintaining a process-orientation and attitude of steady improvement is a key aspect of UDL.

## Opportunities & Challenges

Your best first step into UDL work is a thinking step.

Before getting to any planning, design, organizing, or writing, take some time to consider the next course you're teaching, the activity you're trying to plan, or the project you are trying to support.

You have an opportunity to create and translate knowledge and skills using Universal Design for Learning framework. To move into this framework, start with questions.

- What are your beliefs about learning?
- What would make you feel that you did a good job as an instructor?
- What are you carrying forward from past courses or experiences that will colour your teaching?
- What barriers or difficulties do you anticipate for yourself and for your students?
- How can you work together to achieve learning experiences that you want to carry forward and build upon?

Universal Design for Learning can feel like a 180 degree turn for instructors because it asks us to turn some of our thinking on its head. It asks us to plan for more assessment, to think about engagement as something beyond motivation, to get more student feedback, and to think about finding multiple routes to learning outcomes. UDL asks us to re-evaluate our historical educational conventions and in many cases, asks us to reflect upon our own educational journeys. Did it have to be that way? Does it have to continue to be?

The guide that follows will address questions about learning outcomes, workload, accommodation plans, classroom diversity, and preparedness. This guide will equip you with the UDL framework and multiple ways of entering that framework. While some of the ideas in UDL seem intuitive, they have a depth to them that is best constructed collaboratively. As you feel your assumptions about diversity, teaching, inclusion, and learning challenged, it is helpful to bounce ideas around. While this guide is designed to help you create some concrete guideposts and ways to get started on UDL, working with different people with different voices and experiences will further those exercises and stretch you towards becoming the type of UDL practitioner you seek to be.

## Your Ideal Students

When we are designing curriculum or creating learning activities, a good instructor will imagine their audience or their ideal student. The ideal student is not perfect but instead tends to be a prototype of what we might expect to see in terms of strengths and weaknesses, preferences, motivation, and knowledge base. These assumptions set up a mental model of what the experience with our students will likely look and feel like. So where does the ideal student image come from? It comes largely from our previous teaching experiences, but also from the way we felt as students, and how we were treated by our own parents, teachers, and instructors.

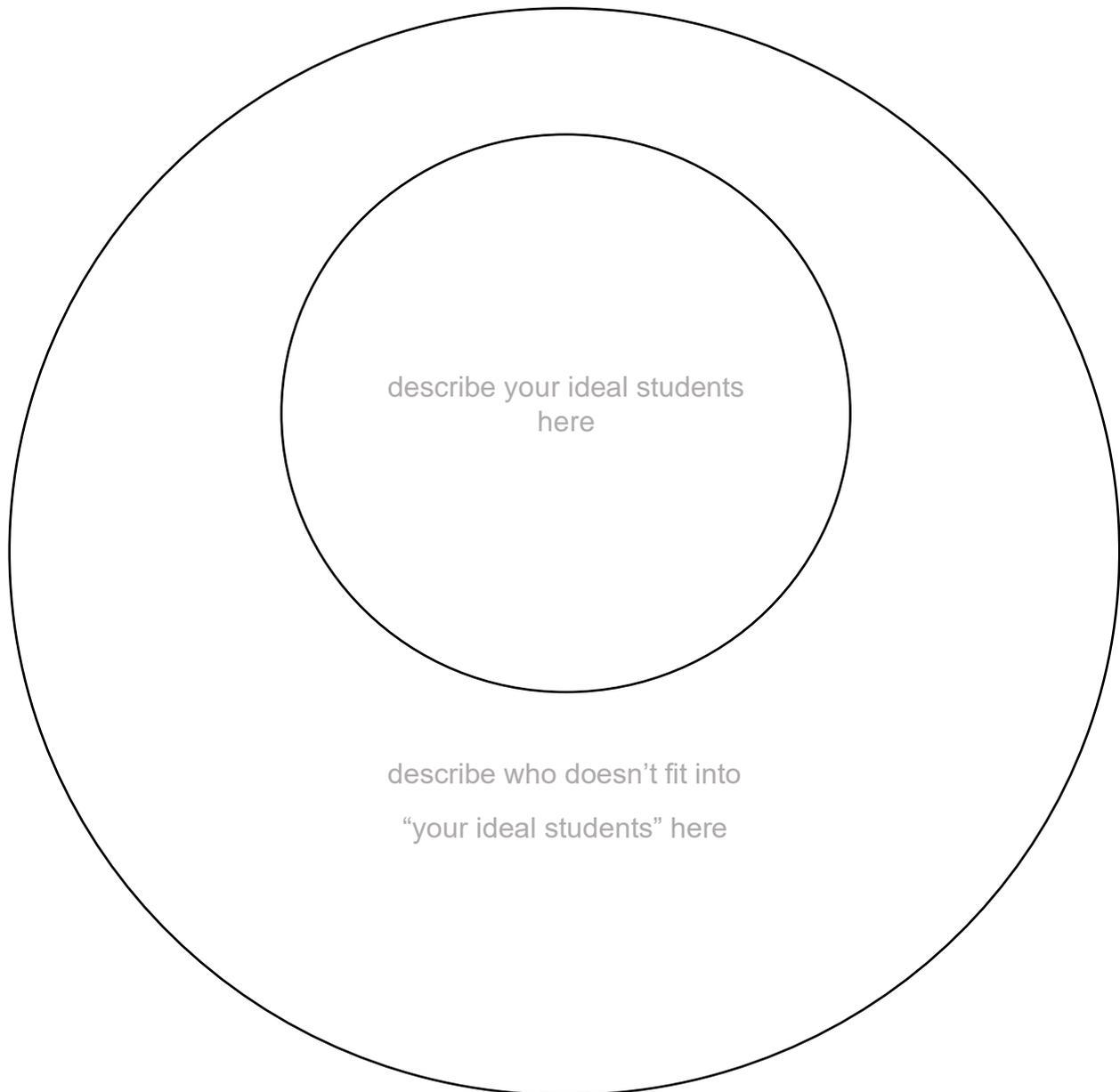
Based on our ideal student image, we imagine how our activities, assessment, and feedback will be designed. Being thoughtful and empathetic, accounting for experience, and connecting with our own and our students' histories is a key aspect of teaching, but sometimes activities don't work as we expect. Perhaps nobody talks during group activities, a small group of students need information repeated multiple times, your inbox is full of questions you thought you addressed, or only half the class seemed to do the readings. These difficulties present an opportunity to think about whether our ideal student mental model is accurate and whether we can design differently.

One of the cornerstones of Universal Design for Learning is to consider the variation in experiences and characteristics in students in your classes. The jaggedness principle (Rose, 2016) holds that learners vary in many ways, along many different dimensions. Your students will vary in:

- Information processing
- Language processing
- Introversion and extroversion
- Financial resources
- Post-secondary readiness
- Self-advocacy
- Spatial ability
- Reading speed
- Mathematical calculations

When we practice taking into account the jaggedness in our classes, we don't change the jaggedness itself, but we change the ways we expect variation and in turn, we get better in

planning for that variation. As we get better at anticipating jaggedness, we start feeling less surprised and in turn, we get better at planning proactively. Better proactive planning means less reactivity and less stress for both you AND learners.



## SECTION TWO

### User-Centred Design

It is extremely important to keep the users in your mind when it comes to accounting for jaggedness and designing proactively in a UDL framework. UDL is user-centred because it is critical to understand the needs, gaps, barriers, and goals that any users may experience, which includes both the instructors and students.

But why is UDL for both of the students AND for you as the instructor? Because classrooms are systems. They are ecologies. Everyone, including you, is using the design that you created so we want to be sure that users on both sides of the design are getting their gaps filled, their goals met, and are leaving with a sense of satisfaction in teaching, learning, and reflection.

### UDL for Instructors and Students

Universal Design for Learning is student-focused and also instructor-focused, because UDL is a curriculum design, development, and delivery framework that focuses on creating expert learners. Learners do not exist alone in a classroom. Classroom ecology is a network of students and instructors who are imbedded in that design. Strong curriculum design should account for student experience and instructor experience, the interactions between student and instructor, and how the design supports a rewarding and engaging learning climate.

One of the most important changes you may experience in working through the UDL framework is the idea of creating expert learners. Often, our goal as instructors is to help students become experts in the content we are teaching. But expert learners are not content experts. They are experts in understanding how they learn, under what conditions they learn, what their preferences are, where they are likely to fail, who they should team up with, and when to ask for help. This can mean that you are teaching expert learners who still fail your class and know exactly why they failed. Likewise, you can have inexperienced learners who do well in your class and have no idea why!

Designing for expert learners means that your design should have explicit learning outcomes and expectations so that students have defined goalposts. These goalposts help them gauge how readily they are learning the content and what types of changes they should seek out to improve their performance.

When learning outcomes and expectations are not explicit, you may notice that students

- Are unwilling to ask questions or ask superficial questions
- Are unwilling to take chances
- Do not participate in class discussions
- Argue over grades and deadlines
- Say “I’m not sure what you’re looking for”
- May attribute their success or failure to luck

The UDL framework is student-centred insofar as it helps us investigate these threats to engagement. It encourages us to empathize with the student experience, assess engagement and background knowledge, solicit feedback not only on the content and its accessibility, and offers multiple paths to engagement, learning, and demonstrating knowledge. We can only start developing expert learners if students are aware of what they are meant to learn.

## Using Case Studies

It is important to acknowledge that case studies are important to learn how to mobilize UDL principles by knowing what we are looking for in a situation. They help us understand how the theory we are learning shows up in real life and helps us learn to generalise our knowledge into what we might expect to see in the classroom.

Universal Design for Learning is about taking a stance of curiosity about the situation or problem, analysing the problem into pieces, parsing out the meaning, and translating it into action or intervention. We have to acknowledge and understand our own sense of meaning and our own biases. When we are confronted by an unexpected teaching problem or learning that doesn't proceed along the course we expected, UDL provides us some heuristic or procedure that we can follow to figure out what to do next.

In the exercises on UDL that follow, an important piece of the puzzle will be the learning disposition you take even before you start looking at the problem. In the same way as you thought about your ideal student, accounted for jaggedness, and developed a user-centred approach. When you are reading the case studies, try to:

- Think about how you feel and how you would approach the case studies
- Jot down some of these ideas as you're reading through and connect them to what you're already doing.

This process will help you tune into the beliefs you hold about your skills and abilities as you are about to embark on learning about UDL.

## Design Thinking

While UDL provides a framework for you to identify areas for improvement, Design Thinking offers a human-centred approach for problem-solving. Applying Design Thinking methodology will help you design and implement user-centred solutions in your classroom.

According to Institute of Design at Stanford University (2018), there are five stages of design thinking process: Empathise, Define, Ideate, Prototype, and Test. To begin with, here is a very brief introduction to each stage:

- **Empathise:** The first stage is to gain an understanding of how your users think, behave, and feel. Empathizing with people requires you to gather information and develop knowledge about users' experience, motivation, and needs. Common methods include interview, observation, and/or immerse yourself in the environment.

- **Define:** The second stage is to analyse your findings and synthesise them to define problems. In fact, you may be able to identify multiple problems in the define stage, but it is critical to identify and prioritize THE PROBLEM you want to start with.
- **Ideate:** At this stage you start brainstorming solutions to the problem statement you've identified. It is beneficial to work as a team so your solution takes different perspectives. Also, visualizing your solutions through simple sketch is an effective strategy to communicate your ideas.
- **Prototype:** Prototyping means making your ideas tactile in a way that is inexpensive and rapid. Most people use the term low-fidelity during this stage to emphasize the simple and low-cost nature of the prototype. Prototyping could still be difficult because it usually requires a team effort.
- **Test:** This is the stage where you conduct user testing and gather data for improvement. Design thinking process is iterative and the results generated during the user testing are often used to inform how people think, behave, and feel.

The Design thinking process allows you to gather information from your students such as their background knowledge and learning preferences, identify areas of improvement, design new solutions, and gather feedback through testing iteratively.

In the case studies in this workbook, you will apply the five stages of design thinking to identify areas for improvement based on the UDL framework.

## Wallet (Re)design Activity

Mastering Design Thinking requires extensive practices. In our workshops, we adapted and simplified the [Wallet Design Project](#) from Stanford School of Design for you to practice the five stages of Design Thinking.

However, this activity works the best when you collaborate other participants and co-create solutions to improve your design.

If you are reading this guide by yourself, you may find a partner to work with you or contact Centre for Teaching, Learning and Innovation for consultation.

## SECTION THREE

### What is UDL?

Universal Design for Learning is a curriculum design, development, and delivery framework. It was created to support the accessibility of course content and materials and to sustain the development of expert learners. It grew out of the concept of Universal Design (UD) which was applied to physical spaces (Goldsmith, 1963) to make them spacious, accessible, navigable, and flexible in their use. In the same way that fully enclosed bathroom stalls containing a toilet, sink, and shelf can support wheelchair use, room for potty-training toddlers, privacy, quiet spaces for the introverted, and a place anyone can put most stuff so it doesn't fall in the toilet, the L in UDL seeks to apply the same flexibility to the learning environment.

UDL has been developed from research on:

- Reading and Language Acquisition
- Expertise
- Social Learning Theory
- Motivation
- Higher Order Thinking
- Deep Learning
- Metacognition

According to SET-BC, an adopter of UDL in K-12, "UDL provides a framework for addressing the diversity of learners in our classrooms. Rather than individually adapting for each student's needs, teachers create student-focused environments by designing curriculum that is accessible to a wide range of learners. This systematic approach removes learning barriers by clarifying learning intentions and providing flexible instructional environments."

### UDL Priorities

#### Teaching to the Margins

What are the margins? The margins refer to those teaching and learning places that lie outside an ideal student or what our education system is built to work with. UDL grew out of a movement to include students with learning disabilities who had traditionally been excluded from school. Teaching to the margins means we are mindful of who is experiencing barriers and how to design curriculum for inclusion of as many students as possible.

#### Creating Expert Learners

According to CAST guidelines, an expert learner is a learner who is purposeful, motivated, resourceful, knowledgeable, strategic and goal-directed. Expert learners know what they do not know and are good at seeking help. They have a sense of their goals and objectives

and are able to map out and monitor the course to getting there. If they succeed or fail, they are able to attribute their success or failure to their persistence, strategy use, learning preferences, and sense of engagement.

### **Planning Proactively**

UDL emphasizes being proactive rather than reactive in educational planning. This includes developing ways of anticipating the kinds of learners you are likely to encounter in your classes, planning for flexibility, and gathering feedback from the very beginning. Being proactive means that as an instructor, you become skilled at understanding and addressing diversity in your classroom instead of being surprised and planning as the need arises, with ad hoc solutions.

### **Enabling Access**

UDL also grew out of the Universal Design movement which sought to design the built environment (stairs, bathrooms, hallways, cafeterias) so that they could be used and accessed by people with a diversity of access needs. The L for Learning part was added to bring the same spirit of designing for inclusion to the educational environment. UDL looks at access in terms of how learners engage with the class environment, how they interface with the way knowledge is represented and how they express their learning. Access is the basic starting point in the UDL framework.

### **Providing Flexibility in Getting to Learning Outcomes**

A priority for UDL work is designing for choice and flexibility in working towards learning outcomes. In a UDL-guided curriculum, learning outcomes are specific, explicit, and have a direct line to learning activities. Unlike a modified curriculum where learning outcomes can be narrowed or changed outright, UDL prioritizes maintaining learning outcomes and programming choice and flexibility to get to the outcome in different ways.

### **Explicitly Addressing Expectations and Structure**

If learners are to find multiple routes to the same learning outcomes, it is crucial to be explicit, transparent, and concrete around the course structure, learning outcomes, assignments, tests, and exams. For example, do you hope that students will find your course transformative? What are some concrete markers of transformation? Do you want students to be able to readily apply theory to practice? What are the steps in that application so that both you and students can know when they have been successful? When we are experts and have taught for a number of years, our understanding becomes increasingly implicit. UDL advocates practices that bring those implicit understandings to light and designing curriculum and activities so that expectations are clear, concrete, and actionable.

### **Frequent, Varied Assessment**

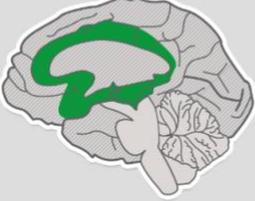
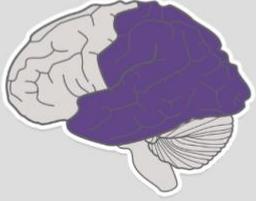
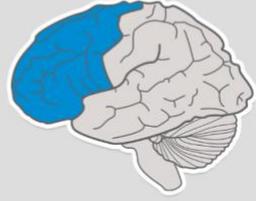
An important part of the UDL framework is frequent, varied, low-stakes assessment. UDL advocates offering formative assessment of engagement and prior knowledge so that students have a sense of where they are starting, a crucial line that will help them understand overall goal structure in the course. Regular, low-stakes assessment gives students regular feedback which will help them understand not only whether they are on

track, but how they might be steering the wrong way, and how to get back on track. Frequent, varied assessment helps students not only build a grade, but to map and chart their course from start to finish.

How might these priorities change your teaching practices? Jot down your thoughts here.

## The UDL Framework

The Universal Design for Learning framework is grounded in three cognitive networks: affective, recognition, strategic. Each of these three networks uses a principle which can in turn be used to guide design and practice.

|   |  |  |
|---|--|--|
| <p>AFFECTIVE NETWORKS:<br/>THE <b>WHY</b> OF LEARNING</p>  <p><b>Engagement</b></p> <p>For purposeful, motivated learners, stimulate interest and motivation for learning.</p> | <p>RECOGNITION NETWORKS:<br/>THE <b>WHAT</b> OF LEARNING</p>  <p><b>Representation</b></p> <p>For resourceful, knowledgeable learners, present information and content in different ways.</p> | <p>STRATEGIC NETWORKS:<br/>THE <b>HOW</b> OF LEARNING</p>  <p><b>Action &amp; Expression</b></p> <p>For strategic, goal-directed learners, differentiate the ways that students can express what they know.</p> |
|---|--|--|

Before you move on, please go through the [UDL Guidelines](#) and identify some key pieces to help begin your journey in navigating the UDL framework:

- Brain networks
- Connection to learning
- Goal
- Expert learner
- Access
- Internalize

In the following content, we will explain Engagement, Representation, and Action & Expression separately and provide you with some actionable ideas.

## Engagement

Engagement is part of the Affective Network and is concerned with the WHY of learning. Research into motivation and affect has shown dramatically that there is diversity in the ways different learners are motivated. Learners hold different experiences, different subject-area knowledge, have different goals for learning and for class participation, different interests, passions, and abilities. Some learners crave and enjoy novelty while others prefer routine. Some students enjoy gathering details and stories and building to a concept; others prefer to learn the theory first and understand how it unfolds in real-life second. Some students prefer to think and work alone; others prefer to work in a group; some even prefer a hybrid.

All of these variables taken together mean that if you are planning on a way to “hook” students or hold their interest, you will have to be sure to design for MULTIPLE means of engagement so that everyone gets to jump into the class in ways that not only feel safe, but stimulating and enriching.

Offering choices for engagement is a key aspect of UDL. Assessing and getting feedback on engagement as a beginning, middle, and end step are essential aspects of the design process.

### Here are three ideas for supporting multiple means of engagement:

1. At the beginning of the course or class, ask students to write down or share how the learning outcomes or content is supporting their goals for their program or degree;
2. At the end of class do a hotwash. Reserve the last ten minutes of class for students to summarize the main points of the class and suggest one change that could be made for the next class. The instructor is strictly a notetaker at this stage. For the next class, the instructor starts the class by summarizing the feedback from the last class to frame the next class;
3. Have students interview each other on a list of academic strengths and weaknesses (e.g., taking notes, analysis, coming up with big ideas, writing, research) or preferences (e.g., working alone, in groups, in partners; working in quiet or with conversation; novelty vs structure), and have them give three examples of what has worked well in terms of engagement in the past.

### Your ideas:

Write or adapt an idea that you could use here

## Representation

Representation is the what of learning. Representation is concerned with the ways that we perceive and comprehend information. Representation is about the symbols, words, shapes, and language structures that we use to convey information. Learners vary in the ways we understand and process language and symbols for a number of reasons that are related to culture, language, disability, and educational experience.

To adequately and accurately transfer information from one setting to the next, students should engage in multimodal learning. If students are reading about CPR they should also watch a video and try it out themselves. If students have to learn about implicit bias, they should define the term, observe possible examples, and debate or discuss positive and negative instances of the concept.

To support multiple means of representation, consider offering alternatives for each modality and give students a choice as to which modality they would prefer while encouraging coordinating information across modalities. Explicitly address vocabulary and terminology, providing explicit practice so that terminology can be acquired and used readily and appropriately. UDL principles hold that there should be transparency in the aims of teaching and that holds true when it comes to the ways students learn and communicate.

### **Here are three ideas for supporting multiple means of Representation:**

1. Have students conduct a concept interview. Students work independently or in groups to identify 3 - 4 central concepts in the course/chapter/module and interview each other on the definitions and connected concepts, including a rationale for why those concepts are central.
2. Use shapes, colours, and words to draw relationships between concepts: to demonstrate hierarchies, overlaps, maps, and sequences. Rearrange the shapes and words to tap whether students understand how terms are related.
3. In presenting information, have students choose two modalities for that presentation and explain which modality suited them better and which one did a better job of conveying information. For example, which is better for learning to climb a ladder: written instructions or a video?

### **Your ideas:**

Write or adapt an idea that you could use here

## Action & Expression

Action and Expression is the how of learning. It prompts us to understand that students can come to learning very differently and will think about, process, demonstrate, and synthesise learning in different ways.

Learners differ in the ways they navigate learning environments, instructions, and assignments. Learners also vary in their skills in various modes of expression of information and also have specific preferences as to how they express their knowledge. We know that some students love to prepare and write exams and some prefer to write papers.

The UDL framework pushes us to think beyond papers and exams, however and think about demonstrating all or parts of our knowledge using speech, writing, building, demonstrating through slide show, crafting, or assembling. It also supports executive functions: the branch of cognition dedicated to organizing, planning, controlling our attention, and monitoring progress. By giving students a sense of mastery over their navigation and expression of learning, it permits them to develop monitoring, planning, and organizing systems since they have autonomy over the process from start to finish and can develop an internal locus of control over the production and expression of learning.

### Three ideas for supporting multiple means of Action & Expression:

1. Implement a multimedia assignment for which students plan the content, layout, and technology. Develop with students around ways of managing the project to support planning and execution.
2. Offer students the choice between writing a paper or illustrating a storyboard and have students analyse content in light of which mode of expression suits both their assignment and their preference.
3. Implement the use of assistive technology in class. Help students learn to use voice recorders, screen readers, or text-to-speech software to enhance their learning and demonstrate that by using many technology alternatives.

### Your ideas:

Write or adapt an idea that you could use here

## The Overlaps

Since cognition is complex, Engagement, Representation, and Action & Expression are not discrete categories. Instead, they all tend to be interrelated. For example, while the concept interview can serve to support representation of information, it provides a means of expressing knowledge and negotiating meaning verbally. It also supports engagement by giving students choice about how they want to thresh out concepts. Likewise, the Hotwash activity supports engagement but also supports representation by compelling students to condense and articulate key points. It also provides students with a goal or end point for the lecture so that they can plan and coordinate pieces of information with that goal in mind.

## UDL Myths

Since UDL is a new framework that is being slowly implemented across different types of school, learners, and districts, some myths are emerging as educators grapple with what might be considered good UDL practice and what might not.

### **Myth 1: UDL is just good teaching**

To address this myth, we need to have a sense of what good teaching is in the first place. While an academic definition is probably vast and complicated, most of us can agree that good teaching means that the instructor is passionate about their subject area, they take time to model what to learn and how to learn well, they establish good personal relationships with their students, they empathize communicate well, and creating the conditions under which student acquire, retain and generalize their knowledge.

UDL is a design framework which means good teaching is imbedded in a process of design thinking focused on creating expert learners. Good teaching can and does exist on its own to produce positive, memorable educational outcomes. However, the UDL framework suggest new ways of investigating learning experiences, to identify gaps and problems, to provide multiple pathways (engagement, representation, action & expression) to the same learning outcomes, and to test and revise design solutions to learning problems.

UDL complements good teaching with good design thinking.

### **Myth 2: UDL means that all curriculum has to be overhauled and redesigned**

According to most UDL implementation practice, UDL is best implemented in baby steps. UDL CAN mean an overhaul and a total redesign, but it doesn't have to mean that.

Choose a single activity and start by offering two alternatives for expression. Start one class with assessing engagement. Ask for student feedback on your lecture. At the same time, ask them if they have preferences for activities other than lectures. Once you get comfortable with small steps, move onto a bigger step. Experiment with one cell of the framework. Try using visual and auditory materials for learning. Try asking students give a summary of the major points in the class. UDL can be as big or small as you'd like; that is the essence of design thinking. Think about a small change, design it, test it, get feedback, change it and try again. Before you know it, your small steps add up to real change and you will have officially become a Universal Design Thinker.

### Myth 3: UDL only benefits the student

Perhaps the most wonderful aspect of UDL is that it DOES benefit students, but instructors time and again say that UDL gave them a way of enjoying teaching again. It takes the pressure off of grading hundreds of repetitive assignments, it gives keys to increasing engagement, and gives students autonomy over their learning. It frames up the classroom as a community, shifts the power dynamics, supports feedback, and by and large, makes expression of learning more creative and interesting.

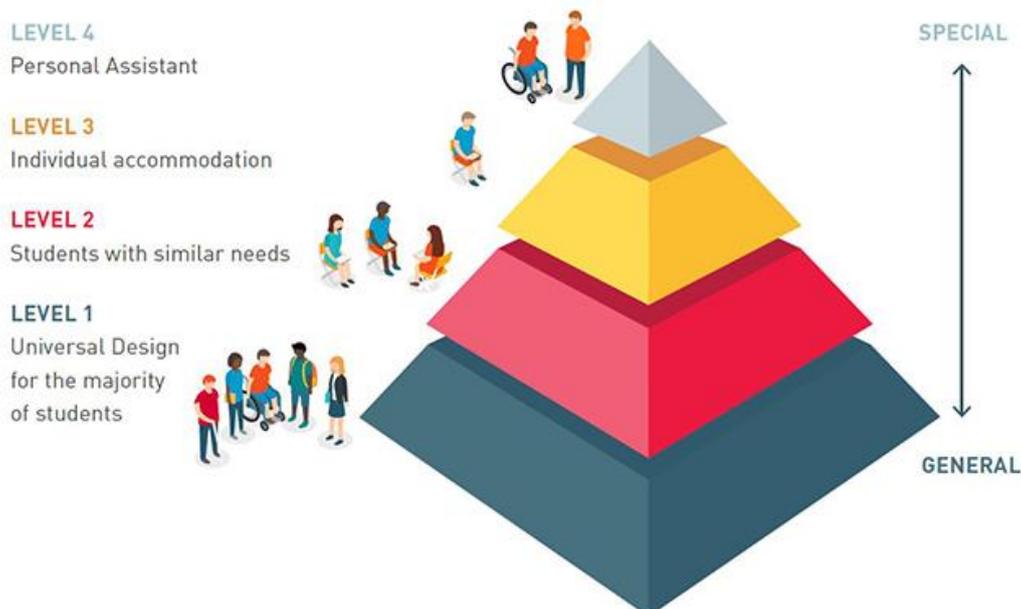
## UDL and Accommodation Planning

Universal Design for Learning (UDL) and Accommodation Planning share some similarities but are essentially different concepts. Accommodation planning is mandated to ensure that persons with disabilities have the right to access educational institutions. UDL can be a mechanism in that process without focusing specifically on individual students with disabilities, and instead, focusing on what would be maximally instructive for as many students as possible.

You may begin to consider UDL framework in your classes in response to the accommodation processes because

- a. There are so many accommodation plans in your classes that it is difficult to provide individualized attention to the students;
- b. There are aspects of accommodation plans that are easy to implement without needing to resort to specialized planning. For example, if you use UDL framework to create audio recording for your lectures and provide options for exams, those are accommodations that a student doesn't need to seek for individualized planning.

This pyramid, developed by disability specialists at AHEAD (2017), illustrates the way that we can think about UDL in relation to accommodation planning.



At the bottom level, and as a general approach to teaching and learning in post-secondary institutions, we can apply UDL principles that include the majority of students. As you learn more about UDL, this means that as the instructor, you are considering the design of your syllabus, the types of activities students undertake, whether you convey information in multiple modalities (e.g., seeing, reading, listening, diagramming), and whether students are provided choices and participation in their educational journey.

As we know, accessibility is featured as part of existing technology, UDL dives deep into the way students learn. Where accessibility focuses on access, UDL focuses on becoming an expert learner. While accessibility features serve to mitigate disability-related barriers, UDL starts with variation in learners; the design of the learning environment may not even see a disability label.

Below, accessibility and UDL are contrasted:

| <b>Accessibility Features (Reactive)</b>   | <b>Universal Design for Learning (Proactive)</b>  |
|--|---|
| <ul style="list-style-type: none"> <li>• Wheelchair accessible desks</li> <li>• Accessible documents</li> <li>• Door opening buttons</li> <li>• Ramps</li> <li>• Closed captioning</li> <li>• Screen readers</li> <li>• Text to speech software</li> <li>• Braille on signs</li> </ul> | <ul style="list-style-type: none"> <li>• Explicit learning outcomes</li> <li>• Student and instructor feedback</li> <li>• Building relationships</li> <li>• Assessing engagement</li> <li>• Self and peer assessment</li> <li>• Guiding goal setting</li> <li>• Providing choice</li> <li>• Student-designed rubrics</li> <li>• Represent information in multiple ways</li> </ul> |

By planning proactively and for as many students as possible, your workload around individualization will be decreased. Students who experience disability-related barriers will not only feel included but will be relieved of the additional work they would normally have to undertake in the accommodation process.

## SECTION FOUR

### Case Study #1

You are teaching a class on communication skills in law enforcement.

The course is designed so that student read five chapters from a textbook and two articles. There are ten conflict and arrest simulations that students practice and complete with a partner. Grading is based on seven reading responses and adequate understanding of conflict and arrest simulations.

Students tend to perform well on the reading responses but fare poorly on the simulations. Last semester, two students with self-disclosed anxiety disorders nearly failed the class. You feel that students are not readily prepared for strong communication in the field and you feel discouraged.

#### Apply Design Thinking and follow the steps below to analyse the case

|   |  |
|---|--|
| Start small and concrete                                      | What are the problems? Is the type of reading? The number or type of simulations? The way they are related? Keep your starting points task-based (e.g., examine whether the simulations are related to the readings accurately).   |
| Create clear goals  | What is the goal of your design? Clearer simulations? Fewer failures? Better self-assessment? Flexible communicators?  |
| Assess engagement   | What do students want to know/build/develop? What are their expectation, strengths, and weaknesses? How can you support them in their opinion? How can they support each other?  |
| Choose a starting point in the <a href="#">UDL Guidelines</a> | How will you start the redesign? Will you start with the way information is presented and accessed? Will you start by designing for access to reading and comprehension? Or create multiple ways of demonstrating understanding of reading and relating that information to improve simulations?   |
| Test and Get Feedback   | Implement one aspect of the redesign (e.g., one simulation practiced in two different ways with self- and peer-reflection on a related reading). Test it, get feedback, as implement further changes if necessary. Remember that feedback from both yourself and students is key to knowing when your UDL is doing what you want it to do! |

## Case Study #2

You are an instructor in the paramedic program. The topic that you dislike teaching the most is how to recognize and respond to signs of cardiac arrest. You find that while students can memorize the steps to recognize cardiac arrest, they aren't able to think critically, and to plan a response in managing the public while attending to a patient. It would seem that students have a sense of "book learning", but you never feel confident that they will perform well in a real-life situation.

### Apply Design Thinking and follow the steps below to analyse the case

|   |   |
|---|---|
| Start small and concrete                                      | What are the problems?  |
| Create clear goals  | What is the goal of your design?  |
| Assess engagement   | What do students want to know/build/develop?  |
| Choose a starting point in the <a href="#">UDL Guidelines</a> | How will you start the redesign?  |
| Test and Get Feedback   | Implement one aspect of the redesign. Test it, get feedback, as implement further changes if necessary. |

## Resources

[Centre for Applied Special Technology \(CAST\)](#)

[AHEAD Ireland](#)

[DO-IT University of Washington](#)

[Universal Design for Learning in BC](#)

[Design Thinking Bookleg at Stanford School of Design](#)

## References

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