



Universal Design for Learning (UDL)

Have you ever used a wheelchair ramp to wheel a pram, suitcase or cart into a building? Ever watched television with closed captions when you're on the treadmill at the gym? Do you sometimes listen to books because it allows you to get other things done while you get the benefit of the information or entertainment the book provides?

If you can appreciate that innovations designed to serve the specific needs of some people turn out to have significant advantages for the broader population - you understand the core of UDL.

This Guide explains how UDL approach can be used to build an inclusive, engaging, effective course. It first describes UDL and how it is applied before suggesting five simple ways that you can put UDL into practice in your course. If you have already identified some issues that need to be addressed in your course this Guide offers an action plan for getting started.

What is UDL?

UDL is a framework to improve and optimise teaching and learning for all people, based on scientific insights into how people learn. The end goal of UDL is to develop “expert learners” who are

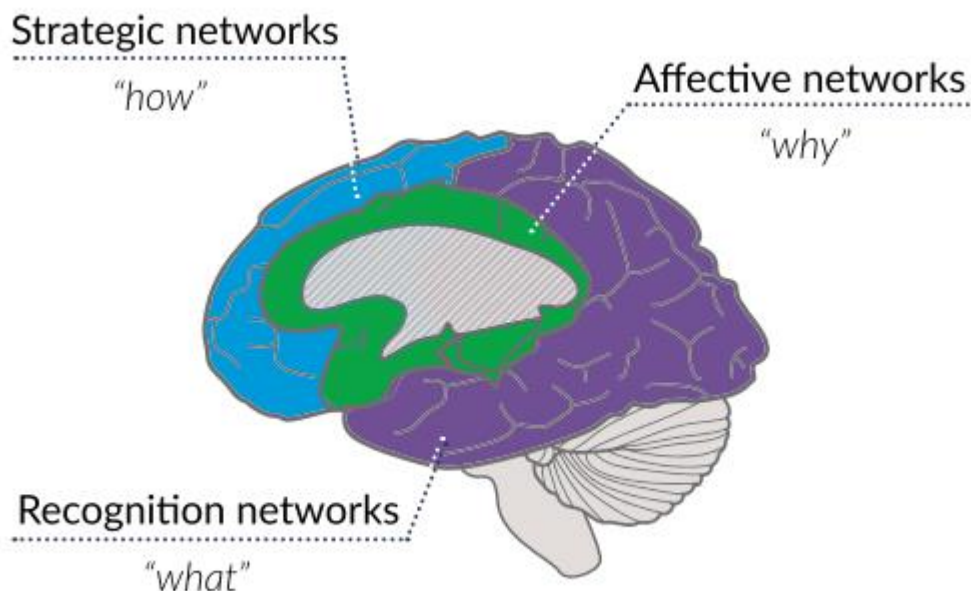
- purposeful and motivated,
- resourceful and knowledgeable, and
- strategic and goal-oriented.

UDL grew out of research into how to use computer technology to enhance learning for children with disabilities. At its core is an important principle – when you consider the needs of people otherwise on the margins, you improve the quality of the learning experience for a far wider audience.

The learning theory behind UDL

UDL's teaching and learning approach draws on the field of neuroscience for an understanding of how brains learn and applies this using pedagogy and social philosophy principles.

This learning theory forms the organisational structure of UDL. In broad terms: incoming sensory information is received and processed by the occipital and temporal lobes of the brain – the **recognition** networks; it is processed and relayed for meaning in the centre of the brain – the **affective** networks; and organised for response and action in the frontal lobes – the **strategic** networks.



CAST (2018). UDL and the learning brain.

UDL recognises that parts of the brain work together to create learning. It also keeps in mind – pun intended – that there is no average brain. The different networks and how they work together varies based on a range of psycho-social and physical factors.

Principles of UDL

In recognition of the three networks, UDL outlines three core principles to foster increased opportunities to flexibly meet the diverse needs of individuals. These principles can be used to guide the design of learning outcomes, assessments, methods and resources. UDL reflects good teaching; many course coordinators at UniSA already incorporate practices that are well aligned with UDL principles:

- **Engagement:** A range of student engagement activities that tap into learners' interests that challenge and motivate them to learn.
- **Representation:** Multiple representation approaches to give learners a variety of ways of accessing information and building knowledge.
- **Action and Expression:** Different ways for students to engage in active learning that provide them with alternatives for demonstrating or what they have learned.

UDL Guidelines

The table below supplements the three principles with specific guidelines, including options you can consider building into your learning design. The framework can also act as a guide for reviewing how to improve your courses and assessments.

Links in the table will take you to the respective page in the [UDL framework website](#), which offers concrete examples of how you might implement each guideline or checkpoint in your lecture, learning activity, assessment or course design.

	Engagement The WHY Affective networks	Representation The WHAT Recognition networks	Action and Expression The HOW Strategic networks
Access	Provide options for Recruiting Interest <p>Spark excitement and curiosity for learning</p> <ul style="list-style-type: none"> • Optimise individual choice and autonomy • Optimise relevance, value and authenticity • Minimise threats and distractions 	Provide options for Perception <p>Interact with flexible content that doesn't depend on a single sense like sight, hearing, movement, or touch.</p> <ul style="list-style-type: none"> • Offer ways of customising the display of information • Offer alternatives for auditory information • Offer alternatives for video information 	Provide options for Physical Action <p>Interact with accessible materials and tools.</p> <ul style="list-style-type: none"> • Vary the methods for response and navigation • Optimise access to tools and assistive technologies
Build	Provide options for Sustaining Effort and Persistence <p>Tackle challenges with focus and determination.</p> <p>Heighten salience of goals and objectives</p> <p>Vary demands and resources to optimise the challenges</p> <ul style="list-style-type: none"> • Foster collaboration and community • Increase mastery-oriented feedback 	Provide options for Language and Symbols <p>Communicate through languages that create a shared understanding.</p> <ul style="list-style-type: none"> • 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 and Communication <p>Compose and share ideas using tools that help attain learning goals.</p> <ul style="list-style-type: none"> • Use multiple media for communications • Use multiple tools for construction and composition • Build fluencies with graduated levels for practice and performance

	Engagement The WHY Affective networks	Representation The WHAT Recognition networks	Action and Expression The HOW Strategic networks
Internalise	Provide options for Self-Regulation <ul style="list-style-type: none"> • Harness the power of emotions and motivation in learning. • Promote expectations and beliefs that optimise motivations • Facilitate personal coping skills and strategies • Develop self-assessment and reflection 	Provide options for Comprehension <ul style="list-style-type: none"> • Construct meaning and generate new understandings. • Activate or supply background knowledge • Highlight patterns, critical features, big ideas and relationships • Guide information processing and visualisation • Maximise transfer and generalisation 	Provide options for Executive Functions <ul style="list-style-type: none"> • Develop and act on plans to make the most out of learning. • Guide appropriate goal-setting • Support planning and strategy development • Facilitate managing information and resources • Enhance capacity for monitoring progress
Goals	Expert Learners who are <ul style="list-style-type: none"> • Purposeful and motivated 	Expert Learners who are <ul style="list-style-type: none"> • Resourceful and knowledgeable 	Expert Learners who are <ul style="list-style-type: none"> • Strategic and goal oriented

How do you put UDL into practice?

Applying UDL is an iterative process. You don't have to dismantle your course, throw out everything you've been doing and start from scratch to get the benefit of UDL.

For an existing course, start by looking at issues your students or tutors have already raised as problematic. Do your learning activities all involve the same mechanisms and formats? What variety do you offer in your learning resources and content? Are your tutors always getting the same questions? Do some students indicate they are struggling? What's

engagement like in your course? Have a chat with your team to identify what needs improvement.

Then, use the checkpoints under the guidelines in the table above for suggestions on how you can use UDL to tackle your issues.

If you're planning a new course, implementing UDL from the start will provide a strong foundation for helping your students achieve both the course learning objectives as well as the incidental or informal learning they'll need to become effective lifelong learners. Browse the table above for ideas on how to build an inclusive, engaging, effective course.

UDL is more than a problem solving or design tool. It is an inclusive mindset for planning courses, content, activity and assessments. Whether or not you have a specific problem to solve, the suggestions below can get you started.

Five simple ways to get started

Here are five options to make your courses more inclusive. Each suggestion indicates the relevant UDL guidelines that informs it.

1. Provide multiple “ways in” to knowledge acquisition

University learning can sometimes be reading intensive. For English as a Second Language (ESL) students or those with reading, cognitive or sight impairments, this can be exhausting. It can also be tiring and time-consuming for students juggling family and work commitments with study.

Consider replacing some of the course readings with audio or video content that have optional text supports such as transcripts and closed captions. These supports are essential so that students who can only access text – such as the hearing impaired – won't miss out. Other students who will benefit are students for whom English is a second or third language, as they will have both text and audio-visual content to enhance their understanding. Sight-impaired students will get a break from robotic screen readers. And time-poor students can listen to podcasts as they commute or can

watch and listen to videos while on a treadmill or doing household tasks.

Remember, you don't have to create audio and video content. UniSA's digital librarians and the information available on the UniSA library site for teachers

(<https://www.library.unisa.edu.au/teaching/course-materials/>)

can help you curate rather than create media rich resources that are engaging and relevant for your course.

UDL Guidelines: Perception, Language and Symbols, Expression and Communication, Recruiting Interest

2. Provide optional supports for foundation knowledge

When learning new terms or concepts, some students require repeated exposure to understand them. In learnonline, the Moodle's Glossary has auto-linking functionality which highlights specific words or concepts in a course. By clicking on the words or phrases the definition will appear in a pop-up.

Another option is to consider foundational knowledge videos from online sources such as Khan Academy or LinkedIn Learning. You can provide links to these as optional resources.

Not only will this help students who need repeated exposure to new concepts or foundational knowledge, but it will also save your teaching team countless hours in answering FAQs or having to use tutorial time to cover the basics repeatedly.

UDL Guidelines: Recruiting Interest, Language and Symbols, Comprehension

3. Answer the "Why" for students

Many learners don't recognise that they are making progress. This causes them to lose interest and motivation and become less engaged with learning. It is important that learners develop metacognition, build self-regulation, and better understand and

use the strategies and tools that strengthen and support their executive functions.

Explain to students why you recommend or require a reading, explain what they will achieve by completing a learning activity which will not be assessed, discuss why you've structured the course as you have, and tell them what completing the assessment will achieve beyond a grade.

Providing a rationale for these course elements not only creates "buy in" for students, it also gives them a context for their learning so they can more effectively and efficiently work through the course materials.

UDL Guidelines: Self-Regulation, Executive Function

4. Vary learning activities

UniSA students come from a wide range of cultures and socioeconomic backgrounds. Some students are confident writers, others express themselves more confidently when speaking, others through creating visuals or demonstrating something they've built. Think about what is authentic for your discipline and topic area and the level of technical expertise required for creation as well as what feedback can be provided and how quickly, then offer options that make sense for your context.

Students will benefit from having activities where their strengths shine as well as developing a variety of communications skills they'll need in their future workplaces. You may find this variety helps your course to more richly reflect the UniSA graduate qualities and course learning objectives.

UDL Guidelines: Physical Action, Expression and Communication

5. Explain your charts, diagrams and visuals

Whether you are in front of a classroom, recording a video or creating text-based content – if you include a graph, chart or diagram which is essential to understanding the content, you need to explain it. Explain both the individual elements that make up the



visual – the axes, the data points or curves, the arrows or symbols and flow arrows - and the story they are telling of trends, processes or relationships.

Doing so will not only aid students with sight, cognitive or language challenges (and those seated in the back of your classroom), it will also help students learn how to read and interpret commonly found visuals in research documents, on government websites and business documents. This contributes to students' information literacy, critical thinking and analysis skills.

UDL Guidelines: Comprehension, Language and Symbols, Perception

Develop a plan

Once you've evaluated what you'd like to improve in your course, create an action plan.

1. Use the UDL Guidelines to explore the suggestions made in the checkpoints as a starting point. <http://udlguidelines.cast.org/>
2. If you're not sure what's possible technically or policy-wise, take advantage of the TIU Zoom drop-in sessions <https://lo.unisa.edu.au/course/view.php?id=20251> with Academic Developers and Online Education Designers to ask questions, find out what's possible and identify any gaps in your skills; or browse through the support resources created by the Technology Enhanced Learning Team <https://lo.unisa.edu.au/course/view.php?id=49>
3. Scope the work involved. Prioritise the changes you'd like to make and implement them as time permits. As you create new content or learning activities, start with the learning objectives in mind then visit the UDL Guidelines page <http://udlguidelines.cast.org/> and consider how you can make your content as accessible as possible.

Support and resources

- The main UDL website is a treasure trove of resources for helping teachers, tutors and course designers learn how to implement the principles in course design – face to face or online.
<http://udlguidelines.cast.org/>
- There is also a UDL on Campus website
<http://udloncampus.cast.org/home>. This site explicitly targets academics and course designers in higher education. It includes case studies, examples, interviews and a wide range of resources on how to plan and write learning goals and how to develop courses, learning materials, activities and assessments that are as inclusive and engaging as possible. It also includes advice on how to take a UDL approach to data analytics and feedback.
- The UniSA Library offers a range of services and resources to help you diversify your content and resources.
<https://www.library.unisa.edu.au/teaching/course-materials/>

If you would like to ask online teaching and learning questions related to your course, you can look through our [FAQs](#), write to TIU@unisa.edu.au, have an [online consultation with a member of the TIU](#) or complete the online modules as part of [*Introduction to Engaging Learners Online*](#).