



Bringing Universal Design for Learning (UDL)

To an Innovative Classroom
With Technology



What is Universal Design for Learning?

Universal Design for Learning (UDL) is an education framework that supports better access to, and sharing of, learning for all. At its core, UDL is an approach that uses a variety of teaching and learning methods to benefit every learner in ways that help them achieve their best.

Accessibility is not just about supporting individuals, but about access for all.

While this may sound like supporting specific needs, UDL goes beyond that to meet ALL learners' needs, not just react to the needs of individual students. **The goal is to make learning inclusive and transformative for everyone.**



The Cambridge dictionary has two definitions for accessibility:

1

The fact of being able to be reached or obtained easily.

2

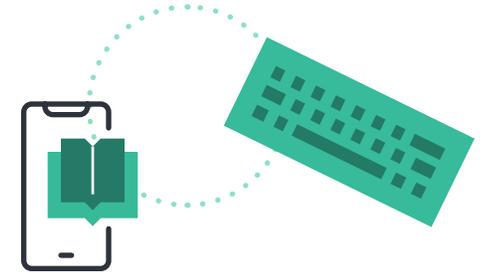
The quality of being easy to understand.

UDL approaches learning and accessibility with this understanding: The way we learn is as unique as our fingerprints.

“Students with high levels of self-motivation, persistence, and independence have thrived, while others have struggled.”

Top 10 Skills in 2025

How do we prepare students for the modern workplace?



Analytical Thinking and Innovation



Leadership and Social Influence



Active Learning and Strategies



Technology Use, Monitoring and Control



Complex Problem Solving



Technology Design and Programming



Critical Thinking and Analysis



Resilience, Stress Tolerance and Flexibility



Creativity, Originality, Initiative



Reasoning, Problem Solving and Ideation



What is the impact on education and classroom practice?

The term *differentiation* is used in schools to determine how we meet the needs of learners. Tasks are differentiated to meet students' general needs — made easier to understand for those that need it, or extension activities provided for those needing more challenge. Technology can play a huge part in supporting both the teacher and the learner in designing these new approaches.

With Universal Design for Learning, the **design of the learning** considers the different approaches a student might choose to take.



UDL focuses on three aspects:

Engagement – the **WHY** of learning.

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

Representation – the **WHAT** of learning.

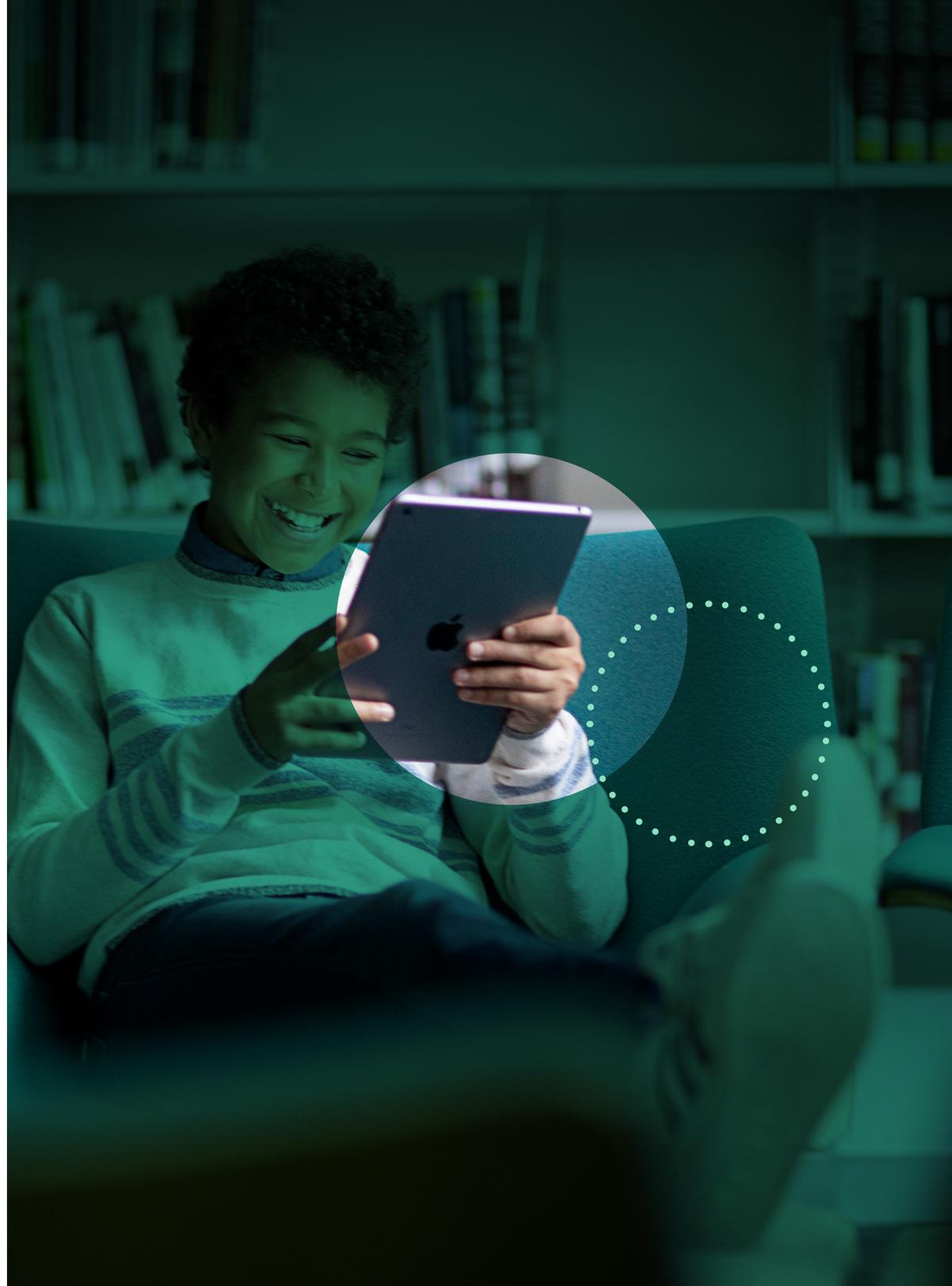
For resourceful, knowledgeable learners, present information and content in different ways.

Action and Expression – the **HOW** of learning.

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



UDL Guidelines





UDL Guidelines: Engagement

What is Engagement to UDL?

UDL guidelines for Engagement focus on providing multiple means of engagement focused on the “why” of learning, to encourage learners to be purposeful and motivated.

Providing multiple methods of Engagement means options for:



Recruiting interest

Information that does not engage learners is inaccessible. Because learners differ significantly in what attracts their attention and engages their interest, it's important to have alternative ways to recruit learner interest.



Sustaining Effort and Persistence

Many kinds of learning require sustained attention and effort. **Learners differ considerably in their ability to self-regulate in this way.**



Self-Regulation

It's important to develop abilities to regulate emotions and motivations. **Teachers and settings that address self-regulation will be most successful in applying the UDL principles.** Provide alternatives to support learners with different aptitudes and experiences to effectively manage their own engagement and affect.

What does UDL Engagement look like in practice?

Recruiting interest:

To engage all learners equally, it's critical to provide options that optimize what is relevant, valuable, and meaningful to the learner. While the learning objective itself doesn't vary, you can offer choices in how that objective can be reached, the context for achieving the objective, and the tools or supports available.

Provide a choice in how to interact with a subject. For example, provide options for how learners can choose to access content (by video, teacher input or written text.)



Sustaining effort and persistence:

Some learners need support to remember the initial goal or maintain a consistent vision of the rewards of reaching it. Learners also vary in the challenges that motivate them to do their best work. Providing a range of demands and possible resources allows all learners to find motivating challenges. This choice serves to help engagement and empowerment, an important aspect of UDL.



Self-Regulation:

Learners need to be able to set personal goals that can be realistically reached with positive beliefs that they can meet them. They also need to be able to deal with frustration and avoid anxiety. Provide differentiated models, scaffolds and feedback to help students facilitate personal coping skills and strategies.

What is Representation to UDL?

UDL guidelines for Representation focus on providing multiple means of representation, focused on the “what” of learning, to encourage learners to be resourceful and knowledgeable.

Providing multiple methods of Representation means options for:



Perception

Key information should be equally perceptible to all learners by providing the same information through different modalities and providing information in user-adjustable formats.



Language and Symbols

Learners vary in their familiarity with both linguistic and non-linguistic forms of representation. **Provide alternative representations not only for accessibility but for clarity and comprehensibility across all learners.**



Comprehension

Individuals differ greatly in information processing skills, and in their access to prior knowledge. **Proper design and presentation of information can help ensure that all learners have access to knowledge.**

What does UDL Representation look like in practice?



Perception:

It's important for instructors to offer different ways of customizing the display of information, and to offer alternatives for both auditory and visual information. Visual information can be dense with complex meanings. To ensure all learners have equal access to information, it's essential to provide non-visual alternatives.



Text:

Text is a special case of visual information. Transformation from text into audio can increase accessibility, with the following caveats:

- Follow accessibility standards when creating digital text
- Allow for a competent aide, partner, or “intervener” to read text aloud
- Provide access to text-to-speech software



Language and Symbols:

Vocabulary that clarifies concepts for one learner, may be foreign to another. Ensure that alternative representations are provided not only for accessibility, but for clarity and comprehensibility across all learners. Tap into Dual-coding theory's belief that text plus imagery leads to greater learning potential by providing both words and images to assist learners.

Semantic information—words, symbols, numbers, and icons—is differentially accessible to learners with varying backgrounds, languages, and lexical knowledge.

- Translate all idioms, archaic expressions, culturally exclusive phrases, and slang
- Link key vocabulary, labels, icons, and symbols to:
 - ▶ alternate representations of their meaning
 - ▶ embedded glossary or definition
 - ▶ graphic equivalent, chart or map



Comprehension:

Information is more accessible and likely to be assimilated when it's presented in a way that primes, activates, or provides any pre-requisite knowledge.

To increase comprehension accessibility:

- Provide explicit cues or prompts to help identify features that matter most
- Provide models, scaffolds, and feedback to assist learners who have diverse abilities in effective mental strategies and skills for processing information
- Use techniques designed to heighten the memorability of information, as well as those that prompt and guide learners to employ explicit strategies

What is Action and Expression to UDL?

UDL guidelines for Action and Expression focus on providing multiple means of action and expression focused on the “how” of learning to develop learners who are strategic and goal-directed.

Providing multiple means of action and expression means options for:



Physical Action: Provide materials with which all learners can interact.

Use assistive technologies so that individuals with movement impairments can navigate and express what they know, allowing navigation or interaction with a single switch, voice activated switches, expanded keyboards and others.



Expression and Communication: Provide alternative modalities for expression,

both to level the playing field among learners and to allow the learner to express knowledge, ideas and concepts in the learning environment.



Executive Functions*:

Expand learners' higher-level functions (executive capacity) by:

- ▶ Scaffolding lower-level skills so that they require less executive processing
- ▶ Scaffolding higher level executive skills and strategies so that they are more effective and developed.

What does UDL Representation look like in practice?

Offer students a choice in how they show what they have learned.

When we judge a learner by their ability to write what they know, what we are actually assessing is their writing, not their knowledge. By offering learners choices in action and expression, we remove access barriers and enable them to show what they really know.



Physical Action: Learners differ both in their capacity to navigate their physical environment and in their optimal means for navigating through information and activities.

- Provide alternatives for rate, timing, speed, and range of motor action required to interact with instructional materials, physical manipulatives, and technologies.
- Provide equal opportunity for interaction with learning experiences by providing multiple means for navigation and accessible controls
- Provide alternatives to physically responding or indicating selections
 - ▶ alternatives to marking with pen and pencil
 - ▶ alternatives to mouse control
- Provide alternatives for physically interacting with materials by hand
 - ▶ voice, single switch, joystick, keyboard, or adapted keyboard



What does UDL Representation look like in practice?

Expression and Communication: No medium of expression is equally suited for all learners, or for all kinds of communication.

Embrace opportunities for multiple forms of expression – including using various forms of media and multiple tools for construction and composition.

- Unless specific media and materials are critical to the goal (painting specifically with oils, handwriting with calligraphy) provide alternative media for expression
- Unless a lesson is focused on learning to use a specific tool (drawing with a compass), allow the use of alternatives. Learners should be given the opportunity to use tools that are an optimal match between their abilities and the demands of the task.

Executive Functions: Learners need to develop the skill of effective goal setting.

- UDL embeds graduated scaffolds for learning to set personal goals that are both challenging and realistic.
- Feedback is crucial. While learners need a clear picture of their progress, it is important to ensure that options can be customized to provide feedback that is explicit, timely, informative, and accessible. Provide feedback that allows learners to monitor their own progress effectively and guide their own effort and practice.

How can technology help?

In the classroom, technology opens the door to easy alterations within a lesson plan to work with a student's needs.

Let's apply the previous pages to some real examples.



Consider a child who has difficulty reading. If verbal instructions support the learner, why not record the instructions alongside a visual demonstration of the task?

It's simple to use either iPad's built-in screen recording or voice notes functions to attach verbal feedback. Learners can then see what is being asked, hear the instruction, and replay it as needed. When learners hear language used alongside a visual representation, it also helps develop their language skills. From the teacher's point of view, the additional work is limited because they already give the instruction verbally and, no doubt, visually model it in some way.



If a student is an introvert, what if when having to create a verbal presentation, it didn't need to be 'performed' live?

By using iPad's screen record function, or a voiceover tool, they can create a presentation, adding a voiceover that explains the slides, and export it as a video to be shared to the class. The learner completes the task in the same way, but technology provides a way to overcome the initial difficulty of standing in front of the class.



When asked to write about a photo, what if students can verbalize descriptive words but when writing, struggle with spelling and only use those they know how to spell, rather than the more descriptive words they can't? So how about using the speech-to-text function instead?

Rather than trying to write tricky, descriptive words, they say them into their iPad. With the speech transformed into text, they can now see how the word is spelled and even have the iPad to read back the sentence they just wrote to check punctuation. This process not only develops skills and vocabulary, but enables students to show what they know.



Summary

These simple solutions use basic accessibility tools to support learners and are the tip of the iceberg when exploring how technology supports learners.

The important thing is to look at what you are specifically trying to develop: what is the learning intention? If altering the output method doesn't interfere with the objective, what alternative ways can learners engage and share what they have learned?

Video, drawings, music, acting, paintings, photography - the list is endless. When you reconsider how a learner can show what they have learned, you provide equity to the learning.

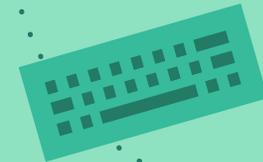
Choice is a powerful learning tool

Universal Design for Learning is all about empowering students in a way that supports them.

By giving students a choice of how they can best learn in the classroom — and demonstrate their learning — UDL both creates engagement and fosters success.

When you pair the UDL framework with technology, you give teachers and students the choice to create the learning experience they want. By using the proper technology with the RIGHT technology partners, you create more choices for everyone.

With this approach, the use of technology in the classroom isn't a burden in the already overloaded teacher's world, but a tool to lighten the workload. Planning becomes more adaptable, assessment becomes more personalized and focused, and student engagement and motivation increase as they see there is a route to success in their learning.





Learn Fearlessly with Jamf

Apple has been a leader in digital accessibility from day one. Apple technology helps meet the goals of UDL by making educational experiences more accessible for all. But to truly make the most of the technology in your student's hands, there's no better investment than a powerful mobile device management (MDM) and security solution like Jamf.

Jamf helps schools commit to UDL at scale, from first device rollout to management and updates to the continuing evolution of technology to meet future needs.



Jamf provides tools that enable educators to personalize work by sharing the workload with the student. **Classroom management** with **Jamf Teacher** and **Jamf Student** enables instructors to easily set boundaries while still empowering students with tools for personalization.

Structuring and employing a Universal Design for Learning framework can be daunting but Jamf offers schools the ability to structure UDL, and make it work, without retraining staff.



Jamf Teacher supports learners and teachers by providing clear pathways to allow learner choice, without overwhelming them with unlimited options. Removing distractions of unneeded apps on the device, giving access to supportive content through the internet, and directing access to ask for more help, without making it obvious to the rest of the class, can have a huge impact on individuals.



When instructors run **Apple Classroom** with Jamf, classrooms become more flexible as learners can learn where they work best, while students get the support they need.



Whether students learn remotely or sit in the classroom, content filtering is an important consideration for student safety. **Jamf Safe Internet** provides peace of mind to ensure students are focused on websites that will support and not hinder learning while still providing the opportunity to search beyond the initial websites provided.



Bring Universal Design for Learning to life with Jamf

Apple mobile device management for schools. Helping IT administrators, teachers and parents.

[Request a Trial](#)

Or contact your preferred reseller of hardware.