

M3-S2: Universal Design for Learner Variability Across Learning Environments

GK	<p>Hello Christina, and hello listeners! Welcome! This is Session 2 in the third module of your TALE Academy learning experience, Universal Design for Learner Variability Across Learning Environments.</p> <p>Christina, did you know that In 1970, U.S. schools educated only one in five children with disabilities? And that many states had laws excluding certain students, including children who were deaf, blind, emotionally disturbed or who had an intellectual disability?</p>
CLH	<p>I did! It's pretty troubling. Now fast forward almost 50 years. In 2018-19, our nation's public schools provided more than 7.5 million children with disabilities with special education and related services designed to meet their individual needs. What's more, 64% of students with disabilities were educated in general education classrooms for 80% or more of their school day.</p> <p>That's a lot of change in 50 years.</p>
GK	<p>The most obvious changes were legislative. In 1975, Congress enacted the Education for All Handicapped Children Act to support states in protecting the rights of, meeting the individual needs of, and improving the results for infants, toddlers, children, and youth with disabilities and their families. When it was reauthorized in 1990, the name of the law was changed to what we know it as, the Individuals with Disabilities Education Act, known as IDEA. This law guaranteed a free and appropriate public education for children with disabilities from birth through age 21. What also changed were our collective mindsets toward meeting the needs of students with disabilities. We have moved beyond basic compliance to a focus on quality outcomes, which requires inclusive classrooms for all students.</p> <p>Christina, do you want to walk us through the origins of UDL?</p>
CLH	<p>Sure thing! In 1973, an architect in North Carolina advocated for and helped gain passage of the country's first accessibility-focused building code. That architect was Ronald Mace, considered the "father of universal design." At the age of 9, Ronald Mace contracted polio and had to use a wheelchair for the rest of his life. So when he arrived at architectural school, he brought with him a lifetime of experience navigating structural designs that typically did not have him in mind. He approached design – of buildings, products, and learning experiences – from the perspective of removing barriers for access and then, more importantly, redesigning those buildings, products, and learning experiences so that they meet the needs of all individuals, regardless of their ability. He called this design approach "universal design."</p> <p>It's a good moment to note that universal design does not mean one-size-fits-all; it means that we make everything we do universally accessible.</p>

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GK	<p>I appreciate you saying that. UDL can be a big conceptual leap– especially when we layer in the piece about neuroscience.</p> <p>By 1984, the Center for Applied Special Technology – or CAST – began to apply the concept of universal design to a developmental framework based on three brain networks that serve as prerequisites for learning:</p> <p>The first is the affective network – you know, how we feel about things. The affective network accounts for student engagement with the learning task.</p> <p>The second is the recognition network, which accounts for recognition of the information to be shared.</p> <p>The third and final brain network is the strategic network, which accounts for the application of strategies to process information.</p> <p>So learning involves coordinating how we feel about a task, how we take information in, and how we apply it. With me so far?</p>
CLH	<p>I’ve got it. You’ve just described the “universal” aspects of learning. UDL focuses on three domains that align with those three brain networks:</p> <p>The first domain is Engagement - UDL provides multiple means of engagement by recruiting interest, sustaining effort and persistence, and supporting student self-regulation.</p> <p>The second domain is Representation - UDL provides multiple means of representation in terms of perception, language and symbols, and comprehension.</p> <p>The third domain is Action and Expression - UDL provides multiple means of action and expression through physical action, expression and communication, and executive functioning.</p>
GK	<p>I’m kind of seeing those three brain networks lining up with those three domains of learning and teaching...and our listeners can hop over to the READ if they want a visual representation. Because it’s a lot!</p> <p>Which is why CAST created UDL Guidelines to provide educators with a set of concrete suggestions for implementing UDL. The guidelines can be applied to any discipline to ensure that all learners can access and participate in meaningful, challenging learning opportunities.</p> <p>The first guideline is to provide multiple means of engagement, which impacts the Affective Networks, or the “why” of learning.</p> <p>You can provide options for engaging interest when you:</p>

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	<ul style="list-style-type: none">• Optimize individual choice and autonomy,• Optimize relevance, value and authenticity, and• Minimize threats and distractions.
CLH	<p>You can provide options for sustaining effort and persistence when you:</p> <ul style="list-style-type: none">• Make goals and objectives relevant to students,• Vary demands and resources to optimize challenge,• Foster collaboration and community, and• Increase mastery-oriented feedback.
GK	<p>You can provide options for self-regulation when you:</p> <ul style="list-style-type: none">• Promote expectations and beliefs that optimize motivation,• Facilitate personal coping skills and strategies, and• Develop self-assessment and reflection. <p>This work results in expert learners who are purposeful and motivated. AKA, engaged.</p>
CLH	<p>Next, let's look at the UDL guidelines that provide multiple means of representation.</p> <p>This affects the recognition networks, or the "WHAT" of learning.</p> <p>You can provide options for perception when you:</p> <ul style="list-style-type: none">• Offer ways of customizing the display of information,• Offer alternatives for auditory information, and• Offer alternatives for visual information. <p>You can provide options for language and symbols when you:</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, and• Illustrate through multiple media.

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GK	<p>You can provide options for comprehension when you:</p> <ul style="list-style-type: none">• Activate or supply background knowledge,• Highlight patterns, critical features, big ideas and relationships,• Guide information processing and visualization, and• Maximize transfer and generalization. <p>This work results in expert learners who are resourceful and knowledgeable.</p>
CLH	<p>Finally, let's look at the third UDL guideline - provide multiple means of action and expression This affects the strategic networks, or the "HOW" of learning.</p> <p>You can provide options for physical action when you:</p> <ul style="list-style-type: none">• Vary the methods for response and navigation and• Optimize access to tools and assistive technologies <p>You can provide options for expression and communication when you:</p> <ul style="list-style-type: none">• Use multiple media for communication,• Use multiple tools for construction and composition, and• Build fluencies with graduated levels of support for practice and performance.
GK	<p>You can provide options for executive functions when you:</p> <ul style="list-style-type: none">• Guide appropriate goal setting,• Support planning and strategy development,• Facilitate managing information and resources, and• Enhance capacity for monitoring progress. <p>This work results in expert learners who are strategic and goal-directed.</p>
CLH	<p>The website Understood.org, which partners with CAST, breaks the UDL guidelines down into a series of questions that teachers can ask themselves as they design learning experiences. They also provide some examples of solutions. We linked their chart in the podcast transcript that includes examples of how teachers can integrate the tools, resources, and strategies of teaching across learning environments, or TALE, to address the fundamental design questions.</p>

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	<p>Let's first look at questions, examples, and strategies for providing multiple means of engagement.</p> <p>How can I engage all students in my class? Questions you can ask are:</p> <ul style="list-style-type: none">● In what ways do I give students choice and autonomy?● How do I make learning relevant to students' needs and wants? And,● In what ways is my classroom accepting and supportive of all students? <p>Here are some examples.</p> <ul style="list-style-type: none">● Survey students about their interests, strengths, and needs. Incorporate the findings into lessons.● Use choice menus for working toward goals. And,● State learning goals clearly and in a way that feels relevant to students.
GK	<p>Here are some sample TALE strategies for engaging students using digital tools.</p> <ul style="list-style-type: none">● Use online polling tools to survey interests and needs. These can be used in a "flipped" format by having students respond to the polls as part of their homework.● Use online self-assessment tools to help students recognize their interests and needs. This allows students to experience metacognitive learning, which helps them gain ownership and autonomy of their own learning.● Create learning maps that connect the objective of the lesson/activity with choice boards. This provides an opportunity for students to visualize their learning and make choices that are aligned with learning objectives and their interests/needs.● Use apps for students to express engagement, including flash polls and Jamboards. This supports equity-centered, trauma-informed teaching by moving beyond traditional measures of engagement, such as hand-raising and spoken responses.
CLH	<p>Next let's look at questions, examples, and strategies for providing multiple means of representation.</p> <p>How can I engage all students in my class? Questions you can ask are:</p> <ul style="list-style-type: none">● Have I considered options for how printed texts, pictures, and charts are displayed?

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	<ul style="list-style-type: none">● What options do I provide for students who need support engaging with texts and/or with auditory learning? <p>Here are examples.</p> <ul style="list-style-type: none">● Make it easy for students to adjust font sizes and background colors through technology.● Provide options for engaging with texts, such as text-to-speech, audiobooks, or partner reading.
GK	<p>Here are some sample TALE strategies you can use when moving online or to embed digital tools:</p> <ul style="list-style-type: none">● Use Google Classroom to post digital materials that students can access through web browsers that accommodate accessibility needs. This strategy also allows teachers to harness the power of open educational resources – or OER – and maintain an organized, central location for learning materials and resources.● In addition to using text-to-speech and audiobooks, link to translated versions of materials – such as Spanish-language OER textbooks – and use online translation software to support translingual learning. Here’s a tip: in the OER Commons, use the advanced search option to select specific languages.● Support at-home learning by assigning partners to work together through video conferencing, discussion boards, voice and/or video threads, and other online tools.
CLH	<p>Finally let’s look at questions, examples, and strategies for providing multiple means of action and expression.</p> <p>How can I engage all students in my class? Questions you can ask are:</p> <ul style="list-style-type: none">● When can I provide flexibility with timing and pacing?● Have I considered methods aside from paper-and-pencil tasks for students to show what they know? And,● Am I providing students access to assistive technology, or AT? <p>Here are some examples of this in action.</p> <ul style="list-style-type: none">● Provide calendars and checklists to help students track the subtasks for meeting a learning goal.● Allow students to show what they know through a variety of formats, such as a poster presentation or a graphic organizer. And,

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	<ul style="list-style-type: none">● Provide students with access to common AT, such as speech-to-text and text-to-speech.
GK	<p>Sample TALE strategies you can use for this are:</p> <ul style="list-style-type: none">● Set deadlines, reminders, and notifications in your learning management system – or LMS. The examples provided here are for Google Classroom.● Use push notifications that students and families can receive via email or text.● Integrate explicit instructions that students can access throughout a lesson/activity through hyperlinks. Consider providing instructions in multiple modalities, including written, video, audio.● Create learning paths for students to follow by sequencing activities in an app or LMS. When a student completes a step in the sequence, the LMS records it as complete.● Use the wide world of learning apps to allow students to express learning in multiple formats.● Allow students to demonstrate what they know in their primary language and use online translation tools to help you review the content to ensure that they've met learning objectives. If you have a co-teacher who is fluent in the primary language, share online access to the assignment so that they can collaborate on the review.
CLH	<p>Implementing UDL in classrooms requires a significant amount of instructional planning time. However, using a TALE approach can streamline this work over time as you take pre-existing materials – such as learning paths in an LMS – and update them with links to new OER materials, new apps, etc. Similarly, you can update explicit instructions in one file that is hyperlinked throughout their lesson/activity. And, if you are able to work with professional learning communities in a PDSA – or plan-do-study-act– cycle, you can easily share your materials and samples of student work with your peers for review and then immediately implement improvements the next time you teach the lesson/activity.</p>
GK	<p>While the focus of a teacher's work in UDL is on curricular and instructional design, it begins with understanding our students. In an inclusive classroom, teachers work to gain an understanding of learner variability across their students.</p> <p>Learner variability describes each student who enters the classroom, bringing with them a unique constellation of abilities and experiences that matter when it comes to learning, spanning cognitive, social, cultural, and emotional learning and much more. Barbara Pape, author of "Learner Variability Is the Rule, Not the Exception," explains it like this:</p>

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	<p>[L]earner variability...embraces both students who struggle and those who thrive...Learner variability is the young person who lives in poverty, or is learning to speak English and may not yet have the background knowledge to enable comprehension of a reading passage. Or, the student who already has the skills to excel at a pace beyond the curriculum and is bored because traditional methods of instruction do not engage her or meet her needs. It is the student who has experienced trauma in a single event or on a day-to-day basis. Learner variability is the learner whose learning difference, color, ethnicity, or gender makes them susceptible to stereotype threat and low expectations.”</p> <p>Thinking about learner variability rather than disability reframes the work of teaching in an inclusive classroom. Digital Promise, a nonprofit organization, created a free tool to help teachers understand how different learning factors impact student learning as well as identify specific strategies to address those factors. You can explore the Learner Variability Navigator on the Digital Promise website.</p> <p>Shall we see how this looks with specific examples, Christina?</p>
CLH	<p>Let’s consider the learner variability of three students, Jamal, Sydney, and Caleb, and how addressing their learner variability through UDL can benefit all students.</p> <p>Let’s start with Jamal’s learner variability story.</p> <p>Jamal likes working in groups and is a collaborative and flexible peer partner. He has strong visual memory skills and is very good at completing hands-on activities. He receives supports and services in the areas of reading fluency, comprehension, and writing skills. Jamal’s teachers know that he benefits from direct, explicit instruction.</p> <p>Jamal’s teachers leverage differentiation as part of his learning plan.</p> <p>Jamal’s teachers use engagement activities such as Think-Pair-Share during a lesson. Jamal uses his verbal strengths to express ideas with a partner to reinforce the learning. Jamal also has access to a partially filled concept map of ideas as a scaffold to make connections and build meaning as he listens to and engages with new content. Jamal has access to assistive tech, a text-to-speech tool to quickly record his thoughts for brief activities such as exit tickets.</p> <p>For Jamal, UDL in remote learning looks like the following:</p> <p>In synchronous online learning, Jamal’s teachers provide students with a choice of audiobook or reading partner as a way of consuming new content. The class participates in small-group collaborative learning in breakout rooms to support verbal sharing. The class uses Whittle it Down, a scaffolded comprehension strategy, as a way to learn to summarize key ideas through a series of sequenced and active steps.</p> <p>In asynchronous online learning, Jamal’s teachers use Flip to support students’ self-paced video responses to instructional prompts. Jamal’s classmates frequently</p>

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	<p>participate in digital gallery walks, which gives the teacher an opportunity to scaffold question prompts for student response.</p>
GK	<p>For UDL across learning environments, Jamal's teachers use a flipped classroom model in which students engage in think-pair-share processes outside of class time via Flip as homework. Students are prompted to use the think-aloud technique to verbalize their thought processes to make them explicit in their videos. Students reflect on what they learned from the video discussion in a live Think-Pair-Share during class that extends and deepens their learning experiences. Students use prompts from the See-Think-Wonder protocol as a scaffolded prompt to organize their thinking during their share. To summarize learning, students are provided with choices on how to share, including a visual storyboard, podcast-style audio, or TED talk-style presentation.</p> <p>Next, let's look at Sydney's learner variability.</p>
CLH	<p>Sydney is a strong reader and has exceptional math skills. She shows unusually deep interest in very specific topics in both science and social studies. She shies away from group activities, and most social interaction creates anxiety. She receives support and accommodations to manage transitions and interruptions to her typical routine. She thrives with predictability in her schedule. A social worker has been assigned to assist Sydney with managing anxiety and social interaction.</p> <p>Here's how Sydney's teachers leverage differentiation as part of her learning plan:</p> <p>Sydney uses a self-regulated strategy development, a plan designed jointly by her and her teachers to self-monitor her behavior during times she feels anxious. SRSD includes six steps that gradually shift the practice of the strategy from teacher-led to students practicing it independently. Sydney has an individualized visual schedule to know her schedule for the day and so she can be aware of changes in advance.</p> <p>Sydney's teachers use social stories to illustrate successful social interactions. Each story includes decision points to actively engage Sydney in the scenario and promote generalization of decisions in real-life scenarios.</p>
GK	<p>For UDL across learning environments, Sydney's teachers use choice boards for learning content that encompass multiple modalities, including reading. They also use choice boards for learning activities that include independent and group options. The choice boards, which are available to all students, are provided with explicit instruction on Google Classroom, where adults who support students, such as Sydney's social worker, can be granted access to support their work. They continue to use Nearpod to request support and provide feedback. The choice board allows her to alternate between highly desired and less desired activities.</p> <p>In synchronous online learning, Sydney's teachers allow choice of independent and group activities for breakout sessions. Teachers and aides circulate through the</p>

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	<p>classroom to provide students one-on-one and small-group support. During synchronous learning, Sydney's class uses the silent digital chalk talk strategy as a way to make connections between ideas without having to engage in spoken group conversation, which gives Sydney a less challenging way to engage with a small group.</p> <p>In asynchronous online learning, Sydney's teachers provide multiple modes for learning content, including independent reading. Students and teachers access Nearpod to request support and provide feedback. Sydney's class uses Kahoot in challenge mode for asynchronous formative assessment and independent practice. The engaging format allows all students to practice content independently while working alongside and in friendly competition with classmates.</p> <p>Sydney's class uses the placemat strategy, a scaffolded comprehension support which provides structured ways for all students to work in groups, even those students with limited social interaction skills. Sydney's class uses peer-led groups, which allows her teachers to take a strengths-based approach, leveraging her deep interests in specific topics and giving her meaningful opportunities to engage and be a leader among her peers.</p>
CLH	<p>Teachers do so much! Finally, let's look at Caleb's learner variability story.</p> <p>Caleb has a lot of energy and is always on the move. He is the first to shout out an answer and the first to jump out of his seat to line up before the bell rings. He receives supports and services to support him in prioritizing information when he takes notes, organizing his materials, and planning long-term tasks.</p> <p>Here's how Caleb's teachers leverage differentiation as part of his learning plan:</p> <p>Caleb has been instructed in the use of the Cornell note-taking system to help him with information organization and retrieval. Caleb sets individualized goals, uses an individualized self-assessment checklist, and then reflects to build self-awareness around his organization and work habits. Caleb uses digital tools to visualize and categorize concepts to support his growth in organizing information in notes.</p>
GK	<p>For Caleb, UDL in remote learning looks like the following:</p> <p>In synchronous online learning, Caleb's teachers record live instruction for students to review later. This allows Caleb to pause the recording and complete the written "Record" portion of the notes column. In synchronous online learning, students use a digital whiteboard to participate in frequent checks for understanding which helps students build self-awareness and improve metacognition.</p> <p>In asynchronous online learning, Caleb uses Quizlet, where he clicks through "Cue Cards" and recites what he has learned. In asynchronous online learning, students</p>

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	<p>have access to a Pomodoro timer on their dashboard to manage focus and break time.</p> <p>For UDL in TALE, Caleb’s teachers use online discussion boards where students post their summary of their class notes related to a specific lesson. Caleb posts his summaries and reviews those of his classmates to deepen his own understanding of the subject matter.</p> <p>The daily class schedule is set up to include both movement and mindfulness breaks and to regularly practice self-awareness strategies.</p>
CLH	<p>In the next part of this session, you will have opportunities to practice what you learned in this session about UDL and learner variability across learning environments.</p> <p>The goal of the TALE Academy is to help teachers rethink education so that everyone—students, families, educators, school leaders, and communities—all have the opportunity to succeed. You’ve just added another tool to your toolbox when you implement universal design for learning across learning environments.</p> <p>Thanks for listening! Bye!</p>
GK	Bye!