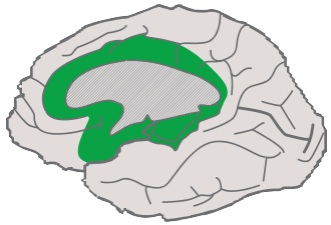
Universal Design for Learning Principles



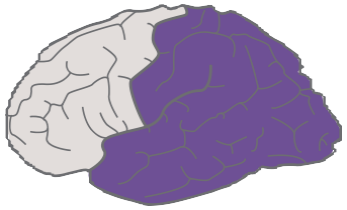
Provide Multiple Means of Engagement

Purposeful, motivated learners

Provide options for self-regulation
+ Promote expectations and beliefs that optimize motivation
+ Facilitate personal coping skills and strategies
+ Develop self-assessment and reflection

Provide options for sustaining effort and persistence
+ Heighten salience of goals and objectives
+ Vary demands and resources to optimize challenge
+ Foster collaboration and community
+ Increase mastery-oriented feedback

Provide options for recruiting interest
+ Optimize individual choice and autonomy
+ Optimize relevance, value, and authenticity
+ Minimize threats and distractions



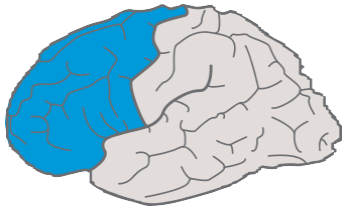
Provide Multiple Means of Representation

Resourceful, knowledgeable learners

Provide options for comprehension
+ Activate or supply background knowledge
+ Highlight patterns, critical features, big ideas, and relationships
+ Guide information processing, visualization, and manipulation
+ Maximize transfer and generalization

Provide options for language, mathematical expressions, and symbols
+ 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 perception
+ Offer ways of customizing the display of information
+ Offer alternatives for auditory information
+ Offer alternatives for visual information



Provide Multiple Means of Action & Expression

Strategic, goal-directed learners

Provide options for executive functions
+ Guide appropriate goal-setting
+ Support planning and strategy development
+ Enhance capacity for monitoring progress

Provide options for expression and communication
+ Use multiple media for communication
+ Use multiple tools for construction and composition
+ Build fluencies with graduated levels of support for practice and performance

Provide options for physical action
+ Vary the methods for response and navigation
+ Optimize access to tools and assistive technologies

UDL—Provide Multiple Means of Engagement

The Guidelines and Checkpoints	Translation	What Does This Look Like in the Classroom?
Provide options for recruiting interest. • Optimize individual choice and autonomy. • Optimize relevance, value, and authenticity. • Minimize threats and distractions.	• Allow students to make choices so they are more likely to be engaged in the curriculum. • Tell students at the beginning of a lesson why it will be relevant to them; make the connection explicit. • Create a classroom environment where students feel safe and can express knowledge in ways that are best and most engaging to them.	
Provide options for sustaining effort and persistence. • Heighten salience of goals and objectives. • Vary demands and resources to optimize challenge. • Foster collaboration and communication. • Increase mastery-oriented feedback.	• Ask students to restate a lesson's learning objective in their own words, and remind them what the learning objective throughout the lesson (check with students and ask "have we met our objective yet" or "are we on our way to meting our learning objective?") • Providing varying levels of challenge so students can pick assignments that interest them and are in their range of abilities. • Allow students to work together, use mentors, peer support, and collaborate groups. • Give feedback often throughout the lesson using various methods like self-reflection, peer review, and teacher feedback. Don't just limit feedback to final assignments.	
Provide options for self-regulation. • Promote expectations and beliefs that optimize motivation. • Facilitate personal copings skills and strategies. • Develop self-assessment and reflection.	• Offer students tips on how to stay motivated and provide resources to prevent frustration. • Give students the language (the words and images) so they can appropriately express their frustration. • Prevent students from getting upset or quitting by giving them scaffolds, positive reinforcement, break time, and other tools to deal with emotions. • Encourage students to assess their own learning by using checklists and rubrics.	

Adapted from UDL Now!: A Teacher's Monday Morning Guide to Implementing Common Core State Standards using Universal Design for Learning. Katie Novak. 2014.

Provide Multiple Means of Representation

The Guidelines and Checkpoints	Translation	What Does This Look Like in the Classroom?
Provide options for perception: • Offer ways of customizing the display of information. • Offer alternatives for auditory information. • Offer alternatives for visual information.	• Provide digital copies of all class materials so students can access and personalize them. • Don't just lecture to students; provide visuals and hard copies so all students can access at least one of the mediums. • Don't just have students read; also provide audio, visuals, and things for students to manipulate.	
Provide options for language, mathematical expressions, and symbols: • Clarify syntax and structure. • Support decoding of text, mathematical notation, and symbols. • Promote understanding across languages. • Illustrate through multiple media.	• Pre-teach vocabulary and math symbols in student-friendly language. • Point out text structure (like compare-contrast), sentence structure, or math formulas if they are important for learning. • If you provide reading, provide scaffolding to bring student attention to most important content. • If English is a second language for students, offer instruction and materials in their home language(s). • Simplify complicated directions to make student friendly. • Always offer visuals like charts, pictures, movies, audio clips, and things for students to touch and manipulate.	
Provide options for comprehension: • Activate or supply background knowledge. • Highlight patterns, critical features, big ideas, and relationships. • Highlight patterns, critical features, big ideas, and relationships. • Guide information processing, visualization, and manipulation. • Maximize generalization and transfer.	• Remind students what they already know about the content. If nothing, teach the necessary information. • Make it clear what the most important information is by modeling comprehension strategies, such as monitoring, highlighting, asking questions, and note taking. • Provide work exemplars, explicit directions, and scaffolds so students can persist through the lesson. • Help students see how they can use the new information in other classes, units, or settings.	

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Provide Multiple Means of Action and Expression

The Guidelines and Checkpoints	Translation	What Does This Look Like in the Classroom?
Provide options for physical action: • Vary the methods for response and navigation. • Optimize access to tools and assistive technologies.	• Give students the option of composing with different media (writing, typing, physically manipulating objects, recording, and so on) when completing assignments. • Allow students to use technology to express knowledge like using speech recognition software, typing, and so on.	
Provide options for expression and communication: • Use multimedia for communication. • Use multiple tools for construction and composition. • Build fluencies with graduated levels of support for practice and performance.	• Give students choices about how they will respond; instead of just a written response, they could perform a skit, create a poster, create a storyboard, use an avatar, and so on. • Provide students with the tools they need to complete assignments: dictionaries, thesauruses, computers with spell check, voice recognition software, calculators, handouts with necessary formulas, and exemplars. • Build scaffolding into every assigning and provide feedback while students are working.	
Provide options for executive functions: • Guide appropriate goal-setting. • Support planning and strategy development. • Facilitate managing information and resources. • Enhance capacity for monitoring progress.	• Begin all assignments with an objective and rationale and provide work exemplars, scaffolds, rubrics, and checklists for all assignments. • At the beginning of each assignment, give student tips and checklists to help them work through the assignment. • Give students a lot of tips and strategies on how to stay organized while they are completing each assignment. • Have students reflect on their learning by asking questions, and always provide many opportunities for students to get feedback before completing final drafts.	

Adapted from UDL Now!: A Teacher's Monday Morning Guide to Implementing Common Core State Standards using Universal Design for Learning. Katie

Lesson Plan Overview For Engaging All Learners

GRADE LEVEL CCSS/ CONTENT AREA(S):	GRADE(S):	ESTIMATED TIME:	**PREREQUISITES:** Consider routines, academic content knowledge, behavioral, communication, and social/emotional rules and expectations (self-regulation, perseverance). Frontload with executive functioning skills such as planning, organizing, prioritization, and goal setting. Also, take a materials inventory to fully assess the resources and tools that are available to implement the lesson.

GOAL(S)/LESSON OBJECTIVE(S): Goals most effectively used in conjunction with the UDL framework are written with the outcome in mind but do not specify how that outcome will be reached. In other words, the target or purpose (the what) of the lesson is stated, but the methods used to reach this (the how) are not included (Coyne et al., 2009). A well-written goal allows the teacher to analyze the lesson. The goal is both the gateway to the lesson and the path to determining the lesson's effectiveness. If you write a well-defined learning goal you can examine the alignment between your instruction and the goal, your students' achievement of the goal, and make the necessary revisions for the later use of the lesson.

CONSIDERATIONS FOR LEARNER VARIABILITY: We now understand from scientific research that brains and even genes are highly responsive to their environments. Individual differences in our brains are not innate or fixed, but are developed over time and are thus malleable. Therefore, providing students the context of their learning has a tremendous impact on brain development. This is the best news yet for educators who have the opportunity to provide environments that facilitate positive growth, or learning, for all students. This modern view also reframes our understanding of variability. We are steadily moving away from the vision of the normal curve, where "average students" can be counted upon to experience curriculum and to act in an "average" way. We now know that variability is the rule both within and between all individuals. We can respond to variability as a natural thing—as an asset, not a liability.

ENGAGEMENT	REPRESENTATION	ACTION AND EXPRESSION
It is critically important to design learning contexts that offer flexibility in the domain of engagement so that each student can find a way into the learning experience, remain persistent in the face of challenge or failure, and continue to build self-knowledge. We know that what sparks learners' interest and keeps them engaged differs radically from person to person. Some individuals are highly engaged by spontaneity and novelty; others may be put off or even threatened by spontaneity, preferring predictable routine and structure. A particular subject or activity inspires passionate interest in some people and bores others to tears. Their histories as learners also exert strong influences on learners' optimism and confidence about engaging with new ideas and disciplines.	**This principle requires that students construct knowledge by perceiving information in their environment. Recognizing predictive patterns in information, understanding and integrating new information, interpreting and manipulating a wide variety of symbolic representations of information, and developing fluency in the skills for assimilating and remembering that information are required for knowledge construction. Learners' ability to perceive, interpret, and understand information is dependent upon the media and methods through which it is presented. For learning environments to support varied learners in all of these recognition processes, three broad kinds of options for representation are needed: options for perception; options for language, mathematical expressions, and symbols; and options for comprehension.**	**This principle supports the development of expertise in executive functions such as goal setting, monitoring one's progress and adjusting approaches as needed, strategy development, and managing information and resources. Also important for strategic expertise is providing options for expression and communication including multiple media, multiple tools for construction and composition, and support for the development of fluency through graduated support in practice and performance. Finally, in keeping with this principle, it is important to provide options for physical action such as varied response methods and access to a variety of tools and assistive technologies.**

ASSESSMENTS:

Formative:

Formative assessment gives teachers a concrete and visible means of getting the data they need to inform their instructional decision-making. Teachers may use the results from formative assessment as the basis for coaching and goal setting sessions with students and for helping students build self-regulation abilities. The more overt and transparent the process is, the more it will help, not only teachers, but other stakeholders such as parents, administrators, and others in the community. Formative assessment may have a formal structure, such as progress monitoring which is a scientifically based practice that is used to assess what students have learned and to evaluate the effectiveness of instruction. It can also be as simple as regular check-ins: "How is the student doing?" or, "How am I, as a teacher, doing?" Quick techniques such as prompting students to summarize a concept in their own words or asking students to articulate a specific question related to the instructional content can provide rich data that allow teachers to gauge their students' understanding and to develop instructional modifications. When teachers are continually evaluating learners and making decisions about instruction based on what they observe, they are rarely surprised by student performance on summative assessments at the end of a unit or year. Most importantly, explicit formative assessment can provide a basis for individual learners to become more self-aware; more metacognitive -- about their learning. By modeling continuous prompts for reflection, teachers can begin to support students in monitoring their own progress. Effective scaffolding and mentorship helps students learn to assess their individual effort and persistence over time and ultimately gain a sense of autonomy over their own learning. The data collected from formative assessment can also be valuable to other teachers and parents as they work with that same learner. Intentional, ongoing assessments benefit not only individuals but also whole school communities.

Summative:

State-mandated summative tests, some with "high stakes" attached such as promotion to the next grade or graduation from high school, garner the most attention. Parents, teachers, students, and policy makers all fret about the results. In general, research shows that the increased emphasis on summative assessments has had some positive effects by focusing attention on the need to raise achievement levels for all students. Many researchers and practitioners argue that the emphasis on summative assessment, especially in the form of high-stakes testing, has drawn attention and resources away from effective practices and forced educators to "teach to the test" rather than focus on teaching meaningful content and skills in effective ways. We believe well-crafted, thoughtful summative assessments can be important but only when used in conjunction with an array of other types of assessments designed to improve both teaching and learning. Other examples of summative assessments are unit exams and chapter summaries. The primary purpose is to capture the "big picture:" to gauge the effectiveness of curriculum materials and methods; to compare achievement levels within and across schools, school systems, districts, and states; to evaluate students' knowledge and skills for the purposes of making assignments, including promotion to the next grade or for the awarding of diplomas and degrees. This information may serve as a criterion for admittance to schools and colleges. Such summative tests are intended to provide general information about the effectiveness of teaching and learning in a particular class or district or how a particular student performs in general on specific subject matter relative to his or her peers.

METHODS:
OPENING/ANTICIPATORY SET

This is where you quickly grab the attention of the students. The activity might be brief or it might take longer so as to establish a solid base from which to work. The activities can be designed to entice interest (e.g., provide options for recruiting interest under the principle of Engagement), establish relevance (mentioned in the same principle, or work within the students' background knowledge (e.g., provide options for comprehension under the principle of Representation).

METHODS:
DURING

Model New Skills and Knowledge

This literally named practice encourages the teacher to take the students through the steps within a strategy, the order of operations within an algorithm, or the stages of a development. This is meant to be a time when teachers observe whether students have a firm understanding before they move into guided or independent practice.

Guided Practice and Independent Practice

Guided practice comes before independent practice and is structured with supports from peers and teachers. Supports refer to any structures or person to person interactions that help the students move toward an initial and then deeper understanding of the skill or concept. Independent practice should be designed to strengthen the skills acquired by the students. While they work independently, students apply the newly learned skill or concept to a new situation. This demonstrates their ability to transfer and generalize the information, which means they are more likely to be able to do the same in the future. Both guided and independent practice can be interlaced with options listed under the principle of Representation. Focusing on the principle of Action and Expression, both guided and independent practices should have formative assessment underlying them.

METHODS:
CLOSING

Within the lesson format, this is the time set aside to assess the students' level of understanding. It is an extremely important step because it gives you one more opportunity to check in on the students' levels of understanding. Closing activities must be aligned with the UDL framework. Through use of the framework teachers will know exactly why they are using the activity and what potential barriers need to be addressed (e.g., do all the students have the equal ability to respond during a full class discussion?) Equally as important, these are only useful activities if they are structured to tie directly back to the stated goal.

Example:

Activity: Postcards (exit ticket)
Materials: Notecards
Method: Have students write a postcard to a person who is not in the classroom about an identified skill, concept, or topic they learned.
Purpose: Allows students to reflect on what they learned

MATERIALS AND SUPPLIES:

Materials encompass the media used to present learning content and the tools and media used by students while learning and to demonstrate knowledge. Within the UDL framework, materials need to be varied and flexible. For engaging with learning, UDL materials offer alternative pathways to success, including choice of content where appropriate, varied levels of support and challenge, and options for recruiting and sustaining interest and motivation. For conveying conceptual knowledge, UDL materials offer multiple media and embedded "just-in-time" supports such as hyperlinked glossaries, background information, on-screen coaching, etc. For strategic learning and expression of knowledge, UDL materials offer tools and supports needed to access, analyze, organize, synthesize, and demonstrate understanding in varied ways. Of course, the selection of instructional materials is not about picking "the right one" but rather having options available to meet the needs of diverse learners.

Nelson, "Design and Deliver: Planning and Teaching Using Universal Design for Learning, 2014
Meyer, Rose, Gordon, Universal Design for Learning: Theory and Practice, 2014