Universal Design for Learning
UDL in Online Environments: The HOW of Learning

By Lillian Nave

This is the third in a series of three columns focused on Universal Design for Learning (UDL) in online environments. The first column, published in Fall 2020, addressed providing multiple means of engagement online. The second column, published in Winter 2021, addressed multiple means of representation and accessibility. This, the third column in the series, will focus on multiple means of action and expression related to assessment of learner knowledge. Many of the ideas in these columns come from conversations with experts in pedagogy and instructional design on the Think UDL podcast. Please see the reference list for links to episodes and full transcripts.

The UDL guidelines (CAST, 2018) provide the framework for these articles and are applicable in K-16 settings as well as other learning environments. This series pays particular attention to the application of UDL guidelines in online environments in higher education.

Action and Expression: The HOW of Learning

This third UDL principle focuses on the strategic networks of the brain. In order to demonstrate what they know, learners must plan, organize, and then demonstrate in written, oral, or physical form what they know. Since learners vary, there is not one means of expression that works best for every person; therefore, choices should be offered in how learners demonstrate their knowledge. *UDL: The UDL Guidelines* (CAST, 2018) offer three areas in which to provide multiple means of action and expression: physical action, expression and communication, and executive functions.

Physical Action

1. To allow for learner variability in physical action, instructors must offer multiple ways for students to navigate physical tasks such as using pen or pencil, paper, keyboards, and manipulatives. Instructors should provide alternatives for students who have difficulty navigating physically in order to demonstrate knowledge. In online courses especially, this may include offering variations for the rate of completion of timed tests and allowing for alternatives to keyboards such as joysticks, mouse controls, or adaptive keyboards. This also includes allowing for multiple ways for students to indicate responses in synchronous sessions including annotations, voice, or written responses (CAST, 2018).

2. Learners with physical disabilities may function differently and therefore need access to tools and assistive technology. Dody Pelts, the Director of the Jones Learning Center Center at the University of the Ozarks, notes that "professors who have incorporated some UDL practices, make students so much more independent," allowing students with disclosed and undisclosed learning and physical disabilities to fully participate in the learning environment. Design elements such as keyboard commands in the place of a mouse or digital marking in assessments are key to including those learners who rely on assistive technology. Additionally, online instructors should consider the accessibility of the software that is used in the learning environment to make sure that all students would be able to participate fully (Nave, 2020a).

Expression and Communication

1. Designing for the use of multiple media is important. This ensures that all learners may be able to express themselves optimally and that needless barriers are not added to the learning environment, unless a certain medium is a required element of the class or represents a particular learning goal (such as public speaking or the use of soldering equipment in a metals studio class). Michelle Pacansky-Brock advocates for options such as written, oral, or video responses in the online environment using LMS-compatible programs such as VoiceThread or FlipGrid that allow students to comment in oral, written, or video form (Nave, 2020c). Martha McCaughey also advocates that students can be given options to communicate their ideas through multiple media such as memes, storyboards, comics, drawings, concept maps, and other electronic or fine art media (Nave, 2019b). Additionally, Patrick Sullivan suggests student choice through the use of the "unessay" in which students choose their own form of expression that is not necessarily written form and could include a wide variety of formats such as needlepoint, board game design, handicrafts, or museum displays (Sullivan, 2015).

2. Providing a variety of tools for students to construct knowledge is essential. Paula Cocce, in the Program for Advancement of Learning (PAL) at Curry College, offers multiple tools for text-to-speech, dictation, writing support, spell checkers, and grammar checkers among others. Instructors should provide the tools needed for the construction and expression of their students' learning so that they can more successfully demonstrate what they know (Nave, 2019a).

3. Providing opportunities for practice to create fluency throughout a course, along with graduated levels of support, builds learner confidence. Allowing for multiple ways for students to practice their knowledge in low stakes situations before more high stake assessments helps in building fluency. In addition, Dr. Lindsay Masland advocates for a tiered feedback system in which each learner is able to receive exactly the amount of feedback they need in each situation, from a simple rubric feedback model, to an expanded more in-depth evaluation, or a full one-on-one conference (Nave, 2021b)

Executive Functions

1. Helping students to become expert learners themselves means that instructors should guide the creation of goals by students, rather than setting all of the goals themselves. This means that instructors help students to plan and organize their own goals and support students as they accomplish these goals. Todd Zakrajsek and Kevin Kelly advocate for this by offering options for students to create their own goals in their courses and helping to monitor their progress throughout the course (Nave, 2021a).

2. After identifying goals, strategies to attain those goals must be implemented. Strategies may include breaking up long-term goals into a series of short-term, more easily obtainable goals or creating checklists, templates, or schedules to reach goals incrementally. Dr. Melissa Wehler emphasizes another strategy that proves helpful in attaining learning goals. She implements a "pause procedure" often in her online courses which prompts students to stop and think about their learning to determine in which direction to go next (Nave, 2020b).

3. Including ways for students to manage information and resources in the course design and learning environment is critical. This may consist of note-taking guides, tools for mind-mapping, or even organizing data in a shared drive such as Google drive. Helping students to categorize or systematize information and resources by providing tools and guides assists students in managing and attaining their goals (Nave, 2019a).

4. Providing feedback is vitally important for students to monitor their progress. This feedback can be from peers or instructors and can also be marked by self-reflection prompts as progress is being made toward goals. Kevin Kelly and Todd Zakrajsek suggest that students can give each other vital feedback in discussion boards or through other peer feedback methods, and both instructors and peers can offer clarifying questions to help students refine their ideas going forward. Providing templates for self-assessment strategies, successful student work, or annotated examples of exemplary work all help students to successfully monitor their progress and successfully reach their learning goals (Nave, 2021a).

Conclusion

Offering multiple means for action and expression provides students with the scaffolding and flexibility they need to learn and gain essential skills. Not all learners can navigate the learning environment the same way. Therefore instructors must provide various options for physical action, flexible communication avenues, and also guide and support goal-setting to support students in their learning environments.

References

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For Your Information

July 7 - 8, 2021 – The 35th Annual Ruffalo Noel Levitz's (RNL) National Conference. For more information visit ruffalonl.com/events/rnl-national-conference/

September 23-24, 2021 -- Minnesota Association for Developmental Education's (MNADE) 2021 Conference at Chase on the Lake, Walker, MN. For more information visit http://www.mnade.net/

28-Oct. 1, 2021 -- National College Learning Center Association (NCLCA) 2021 Conference "Forging Academic Success," at the Sheraton Birmingham Hotel, AL. For more information visit https://nclca.wildapricot.org/page-18431

30-Oct. 1, 2021 -- Tennessee Association for Student Success and Retention (TASSR) 2021 Conference, "Surviving and Thriving: Engaging Students for Success," at the Chattanooga Hotel, TN. For more information visit http://tassr.org/conferences.html

October 6-9, 2021 – National Academic Advising Association's (NACADA) Annual Conference, "Together, All Things are Possible," at the Duke Energy Convention Center in Cincinnati, OH. For more information visit nacada.ksu.edu/Events/Annual-Conference.aspx

22-25, 2021 -- Association for Orientation, Transition, Retention in Higher Education's (NODA) 2021 Annual Conference, "Celebrating Today, Imagining Tomorrow," at Disney's Coronado Springs Resort, Orlando, FL. For more information visit https://www.nodaweb.org/page/nodac

28-29, 2021 – National Organization for Student Success: Michigan Chapter's (NOSSMi) 2021 Annual Conference, at Schoolcraft College, Detroit, MI. For more information visit http://nossmi.org/events/

28-31, 2021 – American Mathematical Association of Two-Year Colleges' (AMATYC) 46th Annual Conference, "Fired up for Math," at the Sheraton Phoenix Downtown, Phoenix, AZ. For more information visit amatyc.org/page/2021ConfHome

November 17-20, 2021 -- College Reading and Learning Association's (CRLA) Annual Conference, "Legacies; Futures," at the Hilton Cincinnati Netherland Plaza, Cincinnati, OH. For more information visit 2021conference.crla.net/index.php