

Educator's Toolkit

UDL: A Framework for Meeting Diverse Learning Needs

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The demographics of students entering post-secondary education are changing. Today's students have diverse backgrounds. They are more likely than in the past to be first-generation college students, military students, nontraditional (e.g., older) students, minorities or English language learners. Additionally, more students with disabilities are enrolling in colleges and universities. Studies and other data documenting these demographic shifts are cited throughout the literature, including by Boothe et al.,¹ McGuire et al.² and Scanlon et al.³ Diverse learners have diverse learning needs and face various barriers to learning successfully.

This increasingly diverse population of post-secondary students is the applicant pool for schools and colleges of optometry. Therefore, it becomes more important than ever for optometric educators to decrease barriers to learning so the instructional needs of all optometry students continue to be met. While compliance with the federal Americans with Disabilities Act of 1990 and section 504 of the Rehabilitation Act of 1973 remains mandatory, UDL provides an enhanced approach as it can meet the learning needs of a wider range of students.⁴

The UDL Framework



Figure 1.
[Click to enlarge](#)

Based on the science of how people learn, UDL is a teaching framework designed to provide a flexible learning environment to meet the needs of diverse students.⁵ Applying UDL principles to instructional settings reduces learning barriers by providing instructional environments that are more accessible and effective for students.

UDL was developed in 1984 and has been defined as “a set of principles for curriculum development that gives all individuals equal opportunities to learn.”⁶ UDL employs the universal design concept from architecture, which holds that tools and buildings should be accessible to everyone. Similarly, instructional techniques, strategies, materials and activities should be accessible to everyone.⁷ The three primary principles of UDL are 1) engagement, 2) representation, and 3) action and expression. Engagement (the *why* of learning) refers to stimulating motivation and interest in multiple ways. Representation (the *what* of learning) refers to presenting and collecting information and content in multiple ways. Action and expression (the *how* of learning) refer to allowing learners alternative ways to navigate the learning environment and demonstrate knowledge. **Figure 1** provides a fundamental description of UDL. CAST, the nonprofit education research and development organization that created the UDL framework, has published guidelines to assist educators with implementation. The guidelines

contain cross-discipline suggestions for ensuring learners can access and participate in learning activities (**Figure 2**). Additional detailed information can be found in the [interactive UDL guidelines graphic organizer](#). With its *UDL Rising to Equity* initiative, CAST is currently updating the UDL guidelines to redress systemic barriers to equitable learning access and outcomes.



Figure 2. [Click to enlarge](#)



Table 1. [Click to enlarge](#)

Changes Can Be Incremental

The goal of implementing the UDL framework is to design learning experiences that consider learner variability and eliminate unnecessary barriers to learning. Although developing inclusive learning environments can be a daunting task, it is possible to begin by incorporating relatively simple and minimally time-consuming changes (**Table 1**). Additional course changes can be made incrementally over time.

More resources pertaining to UDL and UDL implementation are below.

Links to Additional UDL Resources

WEBSITES

[About Universal Design for Learning](#)

[The IRIS Center](#)

[UDL Toolkit by Fred Cochran](#)

[Accessibility of Electronic and Information Technology \(for compliance with Rehabilitation Act, section 508\)](#)

[Web Content Accessibility Guidelines, \(WCAG\) 2.1 \(for compliance with Rehabilitation Act, section 508\)](#)

PODCASTS

[Think UDL, Hosted by Lillian Nave](#)

[The UDL Approach, Hosted by Loui Lord Nelson, PhD](#)

TEXTS

[Chardin M, Novak K. Equity by Design: Delivering on the Power and Promise of UDL. Corwin Press; 2020 Jul 20.](#)

[Dirksen J. Design for How People Learn. New Riders; 2016.](#)

[Novak K, Rose D. UDL Now!: A Teacher's Guide to Applying Universal Design for Learning in Today's Classrooms. CAST Professional Publishing; 2016.](#)

[Ralabate PK. Your UDL Lesson Planner: The Step-by-Step Guide for Teaching All Learners. Brookes Publishing; 2016.](#)

References

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2. McGuire JM, Scott SS. Universal design for instruction: extending the universal design paradigm to college instruction. *Journal of Postsecondary Education and Disability*. Fall 2006;19(2):124-34.
3. Scanlon E, Schreffler J, James W, Vasquez E, Chini JJ. Postsecondary physics curricula and Universal Design for Learning: planning for diverse learners. *Physical Review Physics Education Research*. 2018 Jul 2;14(2):020101.
4. Scott SS, McGuire JM, Shaw SF. Universal design for instruction: a new paradigm for adult instruction in postsecondary education. *Remedial and Special Education*. 2003 Nov;24(6):369-79.
5. The UDL Guidelines [Internet]. Wakefield, MA: CAST Inc.; c2022 [cited 2022 Feb 15]. Available from: <https://udlguidelines.cast.org>.
6. UDL On Campus by CAST [Internet]. Wakefield, MA: CAST Inc. [cited 2022 Feb 17]. Available from: https://udloncampus.cast.org/page/udl_about.
7. Universal Design for Learning: Creating a Learning Environment that Challenges and Engages All Students [Internet]. Nashville, TN: The IRIS Center Peabody College Vanderbilt University; c2021 [cited 2022 Feb 15]. Available from: <https://iris.peabody.vanderbilt.edu/udl/>.

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