Universal Design for Learning: A Literature Review

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Universal Design for Learning (UDL) is a researched based framework for curriculum design that gives all students, even those with disabilities, the same learning opportunities and curricular access as their non-disabled peers (Basham et al., 2010; Rose & Meyer, 2002). The UDL principles, which were developed by the Center for Applied Special Technology (CAST), are used to support learning for students with diverse needs. The goal of UDL is to "provide educators with a framework for understanding how to create curricula that meets the needs of all learners from the start" (CAST, 2011, p. 4). It is designed to remove the barriers to educational access faced by students with disabilities while preserving the academic challenges (Gargiulo & Metcalf, 2017).

The principals of universal design for learning were created by two historical movements. The original concept of universal design was formulated by architect Ron Mace in the 1980's in an effort to eliminate architectural barriers for people with disabilities (Origins of UDL, 2015). During the same period, the Reagan administration published *A Nation at Risk,* a report that called for increased educational opportunities for all students (Meyer, Rose, and Gordon, 2014). With the passage of the American with Disabilities Act (ADA, 1990), universal design was prominent as buildings and streets were being designed with accessibility in mind. The Center for Applied Special Technology (CAST) began to develop an approach to teaching that focused on "the disabilities of schools rather than students" (Meyer, Rose, and Gordon, 2014, p. 3). The foundation of UDL is that curriculum planning should include practices that make classroom content "accessible and appropriate" for all learners despite their individual learning styles and abilities (Rose & Meyer, 2002, p. 70).

Giving students multiple means of representation and opportunities for individual expression and engagement are some of the principles of Universal Design for Learning (UDL).

"A universally-designed curriculum includes multiple means of representation (to allow various ways of acquiring information and knowledge), multiple means of expression (to allow alternatives for demonstrating knowledge), and multiple means of engagement (to challenge appropriately, to motivate, and to allow learners to express and participate in their interests)" (Jackson, 2005, p. 9). Unlike differentiated instruction which is a process of teaching and learning, UDL is a theoretical framework for designing curriculum (Dell, Newton, & Petroff, 2017). Classrooms where teachers use a variety of teaching methods and materials, and there is a high level of engagement tend to have a higher level of student success (Hayden, 2011).

Assistive technology and universal design for learning are two complementary concepts when thinking about the role of technology for students with disabilities. "UDL has goals similar to those of assistive technology, including the overarching goal of increasing the access, participation, and progress of students with disabilities in our schools" (Rose et al., 2005, p. 508). Many of the technologies available to students with disabilities are frequently the same technologies used by teachers as they implement UDL principles into their lessons. Incorporating universally designed e-books into literacy instruction (Coyne et al., 2012), using video clips, pictures, graphs and audio files (Dell, Newton, & Petroff, 2017) or utilizing speech to text, graphic organizers, and presentation software (Rose et al., 2005) are just some of the examples of how universal design for learning can be used as a means of representing material and student expression to benefit all learners.

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