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## Universal Design for Learning: Implications and Applications in UT Knoxville FUTURE Program

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### INTRODUCTION

In the1960s, architects began using the principles of Universal Design to create accessible environments for people with and without disabilities. For the first time, curb cuts, ramps, and automatic doors allowed physical access for all. In this same spirit, Universal Design for Learning (UDL) can increase access to higher education for diverse learners, including students with intellectual and developmental disabilities (ID/DD). This brief will provide an overview of UDL, describe how it is supported in the Higher Education Opportunity Act of 2008, and share strategies for using UDL in college programs for students with ID/DD.

### OVERVIEW OF UDL

According to CAST (2011), UDL

*is a set of principles for curriculum development that give all individuals equal opportunities to learn. [It] provides a blueprint for creating instructional goals, methods, materials, and assessments that work for everyone—not a single, one-size-fits-all solution but rather flexible approaches that can be customized and adjusted for individual needs.*

**Tablet devices (such as iPads) allow the students to use touch screens to read aloud words that they might have difficulty reading independently.**

UDL supports the view that individuals' abilities differ due to neurological and experiential differences. It also recognizes that these differences are a natural part of the human experience, and that the needs of diverse learners are best met through proactive curriculum design, rather than reactively after failure has occurred (Hehir, 2005).

Curriculum designed with UDL guidelines in mind includes opportunities for multiple means of representation, multiple means of expression and action, and multiple means of engagement (Rose & Meyer, 2012). These correspond to three primary "brain networks" (CAST, 2011).

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|---|---|
| **Multiple means of representation** | **Recognition Networks**—the What of Learning: How we gather facts and categorize what we see, hear, and read. Identifying letters, words, or an author's style are recognition tasks. |
| **Multiple means of expression and action** | **Strategic Networks**—the How of Learning: Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks. |
| **Multiple means of engagement** | **Affective Networks**—the Why of Learning: How learners get engaged and stay motivated. How they are challenged, excited, or interested. Developing an understanding of why a homework assignment is important is an affective task. |

### UDL in HEOA

The Higher Education Opportunity Act (HEOA) was signed into law on August 14, 2008. In Title I, General Provisions, HEOA defines UDL as a scientifically valid framework for guiding educational practices that:

(A) provides flexibility in the ways information is presented,

in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and

(B) reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students who have limited English proficiency. (HEOA, 2008)

HEOA provides for grant funds to bolster the use of UDL principles in college and university classrooms across the country.

## UDL and The FUTURE Program at the University of Tennessee

The FUTURE Postsecondary Education Program is a two-year nonresidential experience at the University of Tennessee. It provides students ages 18–29 with ID/DD or autism with individualized academic, social, vocational, and independent living skills training.

Most FUTURE students completed high school without earning a regular diploma and/or were not able to meet regular college entrance requirements. The FUTURE Program provides these students with an option for continuing their education beyond high school to increase their employment opportunities. In the 2011–2012 academic year, the program had eight participating students with a wide range of skills, abilities, background knowledge, learning strengths, and career goals. The incorporation of UDL principles into all parts of FUTURE was a key part of the development of the program.

The FUTURE Program creates an individualized schedule for each student based on his or her career aspirations, generated through a person-centered planning process. Students audit university courses with instructor permission and also take specialized FUTURE Core Courses, which cover independent living and career and life planning skills. During 2011–2012, program staff focused on UDL in the FUTURE Core Courses and other program activities. For 2012–2013, plans are underway to increase the use of UDL in the inclusive general education courses that our students participate in throughout the university.

## The Three Principles and Nine Guidelines of UDL and their use in the FUTURE Program

CAST (2011), a leader in promoting UDL across the country, has developed principles and guidelines for practitioners and policymakers. In Table 1, these are presented, along with examples of how the FUTURE Program has used them in its Core Courses.

## UDL: Special Considerations in Higher Education and Faculty Involvement

One of the difficulties faced at UT Knoxville (and most other colleges) is that instructors have a limited understanding of UDL and its implications for their courses (Burgstahler, 2008). Thousands of college classes have heavy lecture requirements and textbooks filled with technical writing and jargon. UDL proponents believe that if faculty and staff in higher education increase 1) options for perception, 2) options for students to express their knowledge, and 3) options for engaging students, more opportunities will be available to students with diverse abilities.

One FUTURE program goal is to promote UDL among UT Knoxville faculty through training, in-class support, and communication. We will do this by working with the university's Teaching and Learning Center. We know that one of the most important factors in the success of an inclusive college course is the professor's ability to engage all students, and the success of FUTURE may depend on this.

## CONCLUSION

It is encouraging that HEOA specifically mentions adopting UDL to ensure access to and flexibility in postsecondary education for students with disabilities. The use of UDL in postsecondary education programs for students with ID/DD has great potential to help students develop new skills to support a lifetime of learning, and to become more empowered and more independent.

**Table 1: Principles and Guidelines of UDL and Their Implementation in the FUTURE Program**

| Principle I. Provide multiple means of representation | |
| --- | --- |
| **Guidelines** | **How the FUTURE Program Follows These Guidelines** |
| *1. Provide options for perception:* Students with limited reading abilities can use screen reading tools to listen to a test question in order to prepare a response either orally or through an electronic means. | Students are encouraged to use browser extensions which read selected text aloud from a screen, like Chromespeak for Google Chrome, to make Web text more accessible. |
| *2. Provide options for language and symbols:* Graphic organizer tools allow students to perceive connections between subject matter areas. | • Students can create storyboards or graphic organizers or draw pictures to represent concepts.<br>• Students use mind-mapping tools such as Mind42.com, bubbl.us, and traditional printed brainstorming templates to help organize information and establish relationships. |
| *3. Provide options for comprehension:* To scaffold comprehension, connect current events to individual background experiences. Personal connections will allow students to make connections while comprehending a new topic or idea. | • Students use Google Earth to locate events and find images and videos from around the globe, which helps them visualize the events.<br>• During instructional activities, students are encouraged to stop and describe the topics in their own words.<br>• Students use guided notes to help develop higher-order thinking skills. |
| **Principle II. Provide multiple means of action and expression** | |
| **Guidelines** | **How the FUTURE Program Follows These Guidelines** |
| *4. Provide options for physical actions:* Designing lessons that include physical activity encourages students to be engaged and to participate in learning. | • Tablet devices (such as iPads) allow the students to use touch screens to read aloud words that they might have difficulty reading independently.<br>• Students frequently work in groups and use project-based learning to maximize options for physical actions. They engage in role-plays to explain concepts, including acting out employment skills activities.<br>• Students participate in group projects that involve physical engagement, such as movie-making. |
| *5. Provide options for expression and communication:* Students with varying ability levels may choose to express ideas in different ways. | • Students are encouraged to present assignments through a variety of communication techniques or media outlets, including posters, writing, online posters at Glogster.com, or videos.<br>• Student can use OPENID (www.openid.net) email/logins if they struggle to remember multiple passwords and/or usernames. With a Google ID or a Facebook ID, students are able to log in and create content using multiple web-based applications to present their research. |
| *6. Provide options for executive functions:* One of the most important precursor skills to teach self-determination is goal setting. Students should be encouraged to break down long-term assignments into short-term objectives. | • Students use daily planners to develop executive function skills. Weekly planning sessions help students make and assess short- and long-term goals.<br>• A problem-solving curriculum is being designed to develop these skills. |
| **Principle III. Provide multiple means of engagement** | |
| **Guidelines** | **How the FUTURE Program Follows These Guidelines** |
| *7. Provide options for recruiting interest:* Another important key to self-determination is choice-making and the pursuit of autonomy. There are hundreds of opportunities each day in a college or university setting to offer students a chance to make a choice and practice the first steps to independence. | • Choice and self-determination are critical features in our program. Choosing a lunch location or workout partner is a first step that will often lead to making other choices.<br>• Instructional activities often include engaging videos, mobile technology, and other attention-getting tools that recruit student interest. Allowing students to create digital products that they can share with their family and peers increases their interest in the topic and their excitement about their work. |
| *8. Provide options for sustaining effort and persistence:* There are countless ways to support collaborative and community-oriented efforts among students. For instance, peer mentoring allows students who complete an assignment quickly to support those who are still working on it. This lets students at various proficiency levels engage with their peers in a productive way. | • Students are encouraged to seek assistance from each other when completing group tasks and to encourage each other throughout the semester. |
| *9. Provide options for self-regulation:* Finally, navigating a college campus can be overwhelming and difficult for students of any ability level. | • Students are encouraged to develop coping strategies for stress. They learn relaxation and reflection techniques to minimize stress and maximize the potential to learn. Providing dedicated space and planning down-time allows students to regroup when they need to. |

Adapted from Principles and Guidelines from CAST (2011).

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