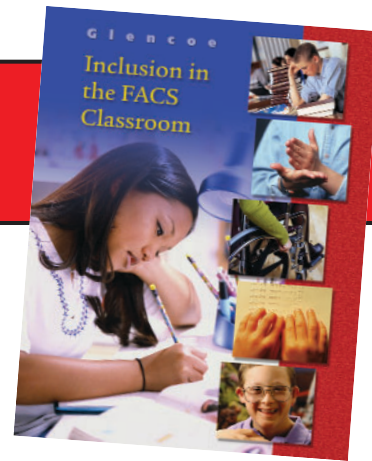# MEETINGS THE NEEDS OF ALL LEARNERS

Family and Consumer Sciences (FACS) teachers across the country are teaching a more diverse student population than ever before. Students with disabilities, students who speak English as a second language, or other at-risk students present new challenges. Many teachers are struggling with how to assure that students learn course objectives and meet the high academic standards and assessments that schools must implement.

One approach to instructional design that has received increasing attention from federal legislators and national leaders is called "Universal Design for Learning," or simply "UDL." According to Skip Stahl, senior associate at the Center for Applied Special Technology (CAST), UDL is an approach to creating course instruction, materials, and content to benefit people for all learning styles and disabilities without adaptation or specialized design. The thrust of UDL is that it makes essential course content accessible to all students by making curricula flexible and customizable. It is important to mention that UDL does not water-down the curricula in any way or adjust academic standards; rather, it allows for essential course content to be taught in multiple ways. Basically, UDL is a new name to an old concept—good teaching.

Good teaching involves sensitivity to the different ways students learn. Teaching and assessment methods that engage the senses and include relaying information visually, auditorally, and kinesthetically tend to produce the best instructional outcomes. In short, making course content accessible to all students, regardless of impairment or learning style, maximizes learning.

What is UDL?

The term "Universal Design" has its roots in the field of architecture. Architects are mandated by federal legislation and encouraged by best practice to design structures that accommodate the widest spectrum of people. So buildings, parks, and streets are designed with curb cuts, wheelchair ramps, and other accessibility (or barrier-free) features. For example, people of all ages and abilities benefit from curb cuts and ramps as business people pull their luggage through airports and children ride their bikes through neighborhoods. In fact, these more accessible buildings and streets are used and appreciated by persons without disabilities, as much as by people who use assistive mobility devices.

Applied to learning, the concept of Universal Design is extended in two ways:

1. Building an educational curriculum that is flexible to meeting students' diverse needs.
2. Building a curriculum that provides not only access to information, but also access to learning.

The goal of UDL is not to make learning easier for the student or to minimize the effort the student needs to put forth in the classroom. Rather, the goal is to make the curriculum accessible so that students have the opportunity to view, process, and retain information in a variety of ways that maximize their strengths and promote engagement in the learning process.

Three Principles of UDL

To clearly demonstrate these ideas, the Center for Applied Special Technology (CAST) has formulated three basic principles of UDL:

1. **Recognition:** To provide many examples of information in multiple formats and media.
2. **Strategic:** To provide multiple pathways for students to interact with the information and express what they know.

3. Affective: To provide multiple ways to engage and motivate students on an intrinsic level.

These three principles, as identified in the book, *Teaching Every Student in the Digital Age: Universal Design for Learning*, written by CAST co-executive directors David H. Rose and Anne Meyer and published by ASCD, are based on three corresponding brain networks.
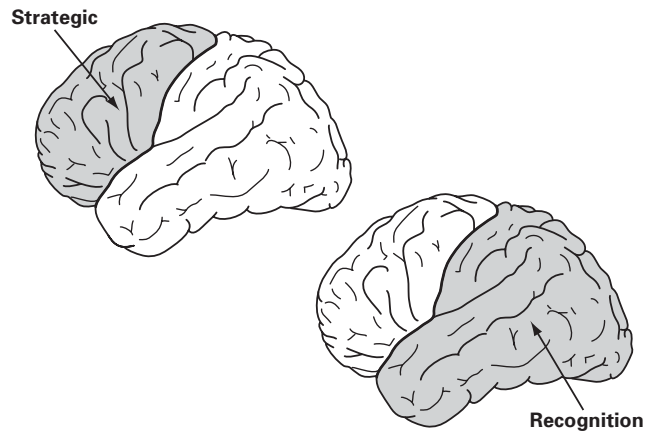
Recognition Networks

Recognition networks are devoted to pattern recognition—being able to identify basic patterns, such as letters and words, to more complex patterns such as paragraphs, themes, and relationships among concepts. Recognition networks bring cohesion to the information. When you organize vocabulary words by color using red to represent foods, blue to represent food preparation techniques, and yellow to represent equipment, you help your students recognize vocabulary patterns.

Strategic Networks

Strategic brain networks are responsible for knowing how to do things, such as reading a recipe, browning ground meat, making a casserole, or budgeting a trip, etc. Because actions, skills, and plans are highly organized and patterned activities, strategic networks work in conjunction with recognition networks to perform academic tasks, such as writing a weekly meal plan, completing a project, or comparing prices. When teachers require students to learn how to do something, skills and strategies are the focus.

Affective Networks

The affective network is embedded deep in the center of the brain. This network is devoted to emotion and motivation. The affective network is pivotal in engaging and motivating the student to set goals and establish priorities to master the learning objectives. As students receive feedback to validate their understanding of course materials, their self-esteem and confidence increase and they are more willing to persevere when learning becomes more challenging. When teachers select goals or activities that students find relevant and stimulating, affective networks are activated. Students are more likely to learn when *what* they are learning has relevance to their lives. See Figure 2-1.

Figure 2-1 The recognition, strategic, and affection networks of the brain work together as students learn.

Learning Involves the Whole Brain

The recognition, strategic, and affective brain networks function together in learning. While some learning may rely more on one network than another, much of learning involves the whole brain as an integrated unit. The three basic principles of UDL tap into these interrelated brain networks. Providing many examples of information in multiple formats allows students to learn content through their preferred way of learning.

Students with disabilities who may have processing disorders or sensory impairments are more likely to gain an understanding of a concept if one of the ways it's presented taps into their strengths. A student who is hearing impaired or has an auditory processing disorder needs to see many examples to learn a concept. If you are teaching students to find recipes, allowing them to use recipe search engines on the Web provides another avenue of access to information in addition to classroom textbooks and cookbooks. For a student with a visual or reading disability, screen reader software can read the Web, making it easier for the student to access the information and meet your class objectives.