



What is Universal Design?¹

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Universal Design (UD) is a set of principles which allows schools and other institutions to serve people with a variety of learning styles, abilities, experiences, and cultural backgrounds. UD allows us to provide instruction and materials which can be used by everyone.

University of Washington Professor Sheryl Burgstahler, PhD, defines Universal Design of Instruction as “the design of instruction to be usable by all students, without the need for adaptation or specialized design” (“Universal Design of Instruction (UDI): Definition, Principles, Guidelines, and Examples,” DO-IT, University of Washington, 2008).

Universal Design provides a means for students to access classroom material outside of the classroom environment. The classroom material is made available through multiple modalities in order to provide a second chance to access information shared in the classroom. For example, an aural learner may be able to listen to a podcast of a lesson in the privacy of his or her own home. This allows the student a second chance to study and analyze the material.

Classrooms and programs which use UD take into account that the student may be unprepared, may have grown up in a different culture, or may have another language as his or her first means of communicating. It is important to note that while UD may make certain classroom materials available to those with disabilities, UD is not equivalent to accessibility. In fact, there is no legal connection between UD and accessibility. Teachers who have incorporated the principles of Universal Design into their instruction may still have to take additional action to make the class materials accessible to those who cannot see or hear, for example.

According to Sheryl Burgstahler, PhD of the University of Washington:

Designing any product or environment involves the consideration of many factors, including aesthetics, engineering options, environmental issues, industry standards, safety concerns, and cost. Typically, products and environments are designed for the average user. In contrast, UD is “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (http://www.design.ncsu.edu/cud/about_ud/about_ud.htm). For example, a standard door is not accessible to everyone. If a large switch is installed, the door becomes accessible to more people, including some wheelchair users. Applying UD

¹ Christopher Luna, “What is Universal Design,” Center for Teaching and Learning, Clark College, Wisconsin. Retrieved on June 22, 2010 from <http://www.clark.edu/tlc/universaldesign.php> and modified by J.E. MacDonald for the Center for Teaching and Learning at Trinity College, Hartford, CT.

principles could lead to the installation of sensors that signal the door to open when anyone approaches, making the building accessible to everyone—a small child, a man carrying a large box, an elderly woman, a person using a walker or wheelchair (“Universal Design of Instruction (UDI): Definition, Principles, Guidelines, and Examples,” DO-IT, University of Washington, 2008).

In the same article, Dr. Burgstahler provides the seven principles of Universal Design developed by the Center for Universal Design at North Carolina State University:

Equitable use.

The design is useful and marketable to people with diverse abilities. Example: A professor’s website is designed so that it is accessible to everyone, including students who are blind and using text-to-speech software.

Flexibility in use.

The design accommodates a wide range of individual preferences and abilities. Example: A museum, visited as a field trip for a course, allows each student to choose to read or listen to a description of the contents of display cases.

Simple and intuitive use.

Use of the design is easy to understand, regardless of the user’s experience, knowledge, language skills, or current concentration level. Example: Control buttons on science equipment are labeled with text and symbols that are simple and intuitive to understand.

Perceptible information.

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user’s sensory abilities. Example: A video presentation projected in a course includes captions.

Tolerance for error.

The design minimizes hazards and the adverse consequences of accidental or unintended actions. Example: Educational software provides guidance and background information when the student makes an inappropriate response.

Low physical effort.

The design can be used efficiently, comfortably, and with a minimum of fatigue. Example: Doors to a lecture hall open automatically for people with a wide variety of physical characteristics.

Size and space for approach and use.

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of the user’s body size, posture, or mobility. Example: A flexible science lab work area has adequate workspace

for students who are left- or right-handed and for those who need to work from a standing or seated position.

Dr. Burgstahler also provides the following examples of how these principles can be applied in the classroom:

Class climate.

Adopt practices that reflect high values with respect to both diversity and inclusiveness. Example: Put a statement on your syllabus inviting students to meet with you to discuss disability-related accommodations and other special learning needs.

Interaction.

Encourage regular and effective interactions between students and the instructor and ensure that communication methods are accessible to all participants. Example: Assign group work for which learners must support each other and that places a high value on different skills and roles.

Physical environments and products.

Ensure that facilities, activities, materials, and equipment are physically accessible to and usable by all students, and that all potential student characteristics are addressed in safety considerations. Example: Develop safety procedures for all students, including those who are blind, deaf, or wheelchair users.

Delivery methods.

Use multiple, accessible instructional methods that are accessible to all learners. Example: Use multiple modes to deliver content; when possible allow students to choose from multiple options for learning; and motivate and engage students—consider lectures, collaborative learning options, hands-on activities, Internet-based communications, educational software, field work, and so forth.

Information resources and technology.

Ensure that course materials, notes, and other information resources are engaging, flexible, and accessible for all students. Example: Choose printed materials and prepare a syllabus early to allow students the option of beginning to read materials and work on assignments before the course begins. Allow adequate time to arrange for alternate formats, such as books in audio format.

Feedback.

Provide specific feedback on a regular basis. Example: Allow students to turn in parts of large projects for feedback before the final project is due.

Assessment.

Regularly assess student progress using multiple accessible methods and tools, and adjust instruction accordingly. Example: Assess group and cooperative performance as well as individual achievement.

Accommodation.

Plan for accommodations for students whose needs are not met by the instructional design. Example: Know campus protocols for getting materials in alternate formats, rescheduling classroom locations, and arranging for other accommodations for students with disabilities.

Applying the principles of Universal Design allows the instructor to create a classroom environment which is both student-centered as well as collaborative. Because the material being used is available in several modalities, the instructor has more flexibility to change the material, or how the material is being presented, at a moment's notice. Besides the obvious benefit for the student, the instructor of a class that has integrated universal design may find that he or she is better able to concentrate on the task at hand, since the information contained in a particular lesson or class activity will be available for the student to review outside of class. In addition, having access to this material both empowers the student and allows him or her to spend more time with the material than the classroom environment affords.

Universal Design allows the instructor to start where his or her learners are. It helps students with note taking. When an instructor makes his or her PowerPoint presentation available elsewhere, the student can review it at his or her convenience.

Further Information on Universal Design:

From <http://www.washington.edu/doi/Brochures/Programs/ud.html>

AccessIT

(National Center on Accessible Information Technology in Education)

<http://www.washington.edu/accessit/>

AccessSTEM

(Alliance for Access to Science, Technology, Engineering and Mathematics)

<http://www.washington.edu/doi/Stem/>

Applications of Universal Design:

<http://www.washington.edu/doi/Resources/udesign.html>

Center for Applied Special Technology (CAST)

<http://www.cast.org/udl/>

Center for Universal Design

<http://www.design.ncsu.edu/cud/>

Center for Universal Design in Education

<http://www.washington.edu/doi/CUDE/>

Trace Center

<http://www.trace.wisc.edu/>

References

“Universal Design of Instruction (UDI): Definition, Principles, Guidelines, and Examples” by Sheryl Burgstahler, PhD, University of Washington, 2008 from

<http://www.washington.edu/doi/Brochures/Academics/instruction.html>

Connell, B. R., Jones, M., Mace, R., Mueller, J., Mullick, A., Ostroff, E., et al. (1997). The principles of universal design. Retrieved January 22, 2008, from http://www.washington.edu/doi/Brochures/Academics/equal_access_udi.html

Council for Exceptional Children <http://www.cec.sped.org/osep/udesign.html>

National Center for Accessible Media (NCAM) <http://main.wgbh.org/wgbh/pages/ncam/>

Orkwis, R., & McLane, K. (1998). A curriculum every student can use: Design principles for student access. Retrieved November 1, 2007, from <http://www.cec.sped.org/osepudesign.html>

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