



DO-IT

Equal Access: Universal Design of Instruction

A Checklist for Inclusive Teaching
by Sheryl Burgstahler, Ph.D.

Universal Design

The universal design of instruction—where universal design (UD) principles are applied in selecting and developing curriculum, choosing and implementing teaching methods, and developing assessments—is gaining increased attention by educational researchers and practitioners at K-12 and postsecondary levels. UD means that, rather than designing your instruction for the average student, you design for potential students with a broad range in ability, disability, age, reading level, learning style, native language, race, ethnicity, and other characteristics. Universal design of instruction (UDI) can be discussed as a process, as a set of strategies applied to specific aspects of instruction, or as a goal.

A Process for UDI

To implement universal design of instruction, an instructor can select appropriate strategies for the delivery of instruction and then apply universal design to specific activities within a class. Specifically, the instructor needs to

1. *Identify the course.* Describe the course, its learning objectives, and its overall content.
2. *Define the universe.* Describe the overall population of students eligible to enroll in the course and then consider their potential diverse characteristics (e.g., with respect to gender; age; ethnicity and race; native language; learning style; and abilities to see, hear, manipulate objects, read, and communicate).
3. *Involve students.* Consider perspectives of students with diverse characteristics, as identified in Step 2, in the development of the course. If they are not available directly from students, gain student perspectives through diversity programs such as the campus disability services office.
4. *Adopt instructional strategies.* Adopt overall learning and teaching philosophies and

methods. Integrate these practices with universal design guidelines or strategies for learning or instruction.

5. *Apply instructional strategies.* Apply universal design strategies in concert with good instructional practices (both identified in Step 4) to the overall choice of course teaching methods, curricula, and assessments. Then apply universal design to all lectures, classroom discussions, group work, handouts, Web-based content, labs, fieldwork, assessment instruments, and other academic activities and materials to maximize the learning of students with the wide variety of characteristics identified in Step 2.
6. *Plan for accommodations.* Learn campus procedures for addressing accommodation requests (e.g., arrangement of sign language interpreters) from specific students for whom the course design does not automatically provide full access.
7. *Evaluate.* Monitor the effectiveness of instruction through observation and feedback from students with the diverse set of characteristics identified in Step 2, assess learning, and modify the course as appropriate.

Guidelines and Examples

To apply universal design, instructors should consider the potential variation in individual skills, learning styles and preferences, age, gender, culture, abilities, and disabilities as they select instructional strategies and apply the following guidelines, put together by consulting publications of leaders in the field of universal design of instruction.

The following checklist can guide you in making your course universally accessible. Your disabled student services office may also be able to assist you in increasing the accessibility of your unit. This content does not provide legal advice. Consult your campus legal counsel or ADA/504



compliance officer regarding relevant legal issues. Consultation with your regional Office for Civil Rights (OCR) can also help clarify issues.

Class Climate

Adopt practices that reflect high values with respect to both diversity and inclusiveness.

- *Welcome everyone.* Create a welcoming environment for all students. Encourage the sharing of multiple perspectives. Demonstrate and demand mutual respect.
- *Avoid stereotyping.* Offer instruction and support based on student performance and requests, not simply on assumptions that members of certain groups (e.g., students with certain types of disabilities or from a specific racial or ethnic group) will automatically do well or poorly or require certain types of assistance.
- *Be approachable and available.* Learn students' names. Welcome questions in and outside of class, seek out a student's point of view, and respond patiently. Maintain regular office hours, encourage students to meet with you, and offer alternatives when student schedules conflict with those hours; consider making a student-instructor meeting a course requirement. Be available for online communication as well.
- *Motivate all students.* Use teaching methods and materials that are motivating and relevant to students with diverse characteristics, such as age, gender, and culture.
- *Address individual needs in an inclusive manner.* Both on the syllabus and in class, invite students to meet with you to discuss disability-related accommodations and other learning needs. Avoid segregating or stigmatizing any student by drawing undue attention to a difference (e.g., disability) or sharing private information (e.g., a specific student's need for an accommodation) unless the student brings up the topic in front of others. Remind students of their role in making requests early and contributing to a positive relationship. Communicate effectively with teaching assistants (TAs) about student accommodations.

Interaction

Encourage regular and effective interactions between students and the instructor and ensure that communication methods are accessible to all participants.

- *Promote effective communication.* Employ interactive teaching techniques. Face the class, speak clearly, use a microphone if your voice does not project adequately for all students, and make eye contact with students. Consider requiring a meeting with each student. Supplement in-person contact with online communication. Use straightforward language, avoid unnecessary jargon and complexity, and use student names in electronic, written, and in-person communications.
- *Make interactions accessible to all participants.* For example, use a telephone conference only if all students can participate, given their abilities to hear, speak, and meet, and their schedule constraints. Also, require that small groups communicate in ways that are accessible to all group members. Be flexible regarding interaction strategies.
- *Encourage cooperative learning.* Assign group work for which learners must support each other and employ different skills and roles. Encourage different ways for students to interact with each other (e.g., in-class discussion, group work, and Internet-based communications). Ensure full participation by insisting that all students participate; facilitate their participation as needed.

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.

- *Ensure physical access to facilities.* Use classrooms, labs, workspaces, and fieldwork sites that are accessible to individuals with a wide range of physical abilities.
- *Arrange instructional spaces to maximize inclusion and comfort.* Arrange seating to encourage participation, giving each student a



clear line of sight to the instructor and visual aids and allowing room for wheelchairs, personal assistants, sign language interpreters, captionists, and assistive technology. Minimize distractions for students with a range of attention abilities (e.g., put small groups in quiet work areas). Work within constraints to make the environment as inclusive as possible. Encourage administrators to apply UD principles in facility design and renovation.

- *Ensure that everyone can use equipment and materials.* Minimize nonessential physical effort and provide options for operation of equipment, handles, locks, cabinets, and drawers from different heights, with different physical abilities, with one hand, and by right- and left-handed students. Use large print to clearly label controls on lab equipment and other educational aids, using symbols as well as words. Provide straightforward, simple oral and printed directions for operation and use.
- *Ensure safety.* Develop procedures for all students, including those who are blind, deaf, or wheelchair users. Label safety equipment in simple terms, in large print, and in a location viewable from a variety of angles. Consider the impact of specific disabilities on emergency procedures. Provide safety instructions, as well as instructions for specific equipment, in writing prior to class. Repeat printed directions orally.

Delivery Methods

Use multiple, accessible instructional methods that are accessible to all learners.

- *Select flexible curriculum.* Choose textbooks and other curriculum materials that address the needs of students with diverse abilities, interests, learning styles, preferences, and other characteristics. When possible, use curriculum materials that are well organized, emphasize important points, provide references for gaining background knowledge, include comprehensive indices and glossaries, and have chapter outlines, study questions, and practice exercises. Consider technology-based materials that provide prompting and feedback opportunities for multiple levels of

practice, background information, vocabulary, and other supports based on student responses.

- *Make content relevant.* Put learning in context. Incorporate multiple examples and perspectives with respect to specific concepts to make them relevant to individuals with diverse characteristics such as age, ability, gender, ethnicity, race, socioeconomic status, and interests.
- *Provide cognitive supports.* Summarize major points, give background and contextual information, deliver effective prompting, provide scaffolding tools (e.g., outlines, class notes, summaries, study guides, copies of projected materials with room for note-taking) and other cognitive supports. Deliver these materials in printed form and in a text-based electronic format. Provide opportunities for gaining further background information, vocabulary, and different levels of practice with variable levels of support. Encourage and support students to develop their own scaffolding materials.
- *Provide multiple ways to gain knowledge.* Keep in mind that learning styles and levels of familiarity with background vary among students. 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, small group discussions, hands-on activities, Internet-based communications, online review materials, educational software, fieldwork, and so forth.
- *Deliver instructions clearly and in multiple ways.* Provide instructions both orally and in printed form. Ask for questions and have students repeat directions and give feedback.
- *Make each teaching method accessible to all students.* Consider a wide range of abilities, disabilities, interests, learning styles, and previous experiences when selecting instructional methods. Provide the same means of participation to all students—identical when possible, equivalent when not. Vary teaching methods.



- *Use large visual and tactile aids.* Use manipulatives to demonstrate content. Make visual aids as large as reasonable (e.g., use large, bold fonts on uncluttered overhead displays and use a computer to enlarge microscope images).

Information Resources and Technology

Ensure that course materials, notes, and other information resources are engaging, flexible, and accessible for all students.

- *Select materials early.* 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 or in Braille which, for textbooks, can take longer than a month.
- *Use multiple, redundant presentations of content that use multiple senses.* Use a variety of visual aids and manipulatives.
- *Provide all materials in accessible formats.* Select or create materials that are universally designed. Use textbooks that are available in a digital, accessible format with flexible features. Provide the syllabus and other teacher-created materials in a text-based, accessible electronic format. Use captioned videos and provide transcriptions for audio presentations. Apply accessibility standards to websites.
- *Accommodate a variety of reading levels and language skills, when appropriate, given the goals of the course.* Present content in a logical, straightforward manner and in an order that reflects its importance. Avoid unnecessary jargon and complexity and define new terms when they are presented. Create materials in simple, intuitive formats that are consistent with the expectations and needs of students with a diverse set of characteristics.
- *Ensure the availability of appropriate assistive technology.* If computer or science labs are used, ensure that assistive technology for students with disabilities is available or can be readily acquired.

For specific guidelines for online content, consult the video and publication *Real Connections: Making Distance Learning Accessible to Everyone*.¹

Feedback

Provide specific feedback on a regular basis.

- *Provide regular feedback and corrective opportunities.* Allow students to turn in parts of large projects for feedback before the final project is due. Give students resubmission options to correct errors in assignments or exams. Arrange for peer feedback when appropriate. Solicit feedback from students regarding course effectiveness.

Assessment

Regularly assess student progress using multiple accessible methods and tools, and adjust instruction accordingly.

- *Set clear expectations.* Keep academic standards consistent for all students, including those who require accommodations. Provide a syllabus with clear statements of course expectations, assignment descriptions, and deadlines, as well as assessment methods and dates. Include a straightforward grading rubric.
- *Provide multiple ways to demonstrate knowledge.* Assess group and cooperative performance, as well as individual achievement. Consider using traditional tests with a variety of formats (e.g., multiple choice, essay, short answer), papers, group work, demonstrations, portfolios, and presentations as options for demonstrating knowledge. Provide students choices in assessment methods when appropriate. Allow students to use information technology to complete exams.
- *Monitor and adjust.* Regularly assess students' background knowledge and current learning informally (e.g., through class discussion) and formally (e.g., through frequent, short exams), and adjust instructional content and methods accordingly.
- *Test in the same manner in which you teach.* Ensure that a test measures what students have learned and not their ability to adapt to a new format or style of presentation.
- *Minimize time constraints when appropriate.* Plan for variety in students' ability to complete work by announcing assignments well in



advance of due dates. Allow extended time on tests and projects, unless speed is an essential outcome of instruction.

Accommodation

Plan for accommodations for students whose needs are not met by the instructional design.

— *Know how to arrange for accommodations.*

Know campus protocols for getting materials in alternate formats, rescheduling classroom locations, and arranging for other accommodations for students with disabilities. Make sure that assistive technology can be made available in a computer or science lab in a timely manner. Ensure the course experience is equivalent for students with accommodations.

For more examples of UDI consult CAST², FacultyWare³, and Fast Facts for Faculty.⁴

Checklist Updates and Resources

This checklist was field tested at more than twenty postsecondary institutions nationwide.⁵ The results of a nationwide survey to test face-validity of checklist items led to further refinement of the checklist. To increase the usefulness of this working document, send suggestions to sherylb@uw.edu. For more information and resources regarding UDI, principles of UD, and checklists for making a tutoring and learning center or other student service accessible to students with disabilities, consult the Center for Universal Design website⁶ or the book *Universal design in higher education: From principles to practice* published by Harvard Education Press and edited by Sheryl Burgstahler and Rebecca Cory. To receive a 20% discount on your order of this book through DO-IT, visit the website.⁷

Cited Web Resources

1. http://www.washington.edu/doi/Video/real_con.html
2. <http://www.cast.org/udl/>
3. <http://www.facultyware.uconn.edu/home.cfm>
4. <http://telr.osu.edu/dpg/fastfact/undesign.html>
5. <http://www.washington.edu/doi/Brochures/Academics/admin.html>

6. <http://www.washington.edu/doi/CUDE/>
7. <http://www.washington.edu/doi/UDHE/coupon.html>

About DO-IT

DO-IT (Disabilities, Opportunities, Internetworking, and Technology) serves to increase the successful participation of individuals with disabilities in challenging academic programs and careers such as those in science, engineering, mathematics, and technology. Primary funding for DO-IT is provided by the National Science Foundation, the State of Washington, and the U.S. Department of Education. This publication and the accompanying video are based on work supported by the U.S. Department of Education (grant #P333A020044). However, these contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government. For further information, to be placed on the DO-IT mailing list, or to request materials in an alternate format, contact:

DO-IT
 Box 354842
 Seattle, WA 98195-4842
doi@uw.edu
<http://www.uw.edu/doi/>
 206-221-4171 (FAX)
 206-685-DOIT (3648) (voice/TTY)
 888-972-DOIT (3648) (toll free voice/TTY)
 509-328-9331 (voice/TTY) Spokane
 Director: Sheryl Burgstahler, Ph.D.

Copyright © 2009, 2008, 2007, 2006, 2005, 2004, 2003, and 2001, University of Washington. Permission is granted to copy these materials for educational, noncommercial purposes provided the source is acknowledged.



University of Washington
 College of Engineering
 UW Technology
 College of Education

Communication Hints

Treat people with disabilities with the same respect and consideration with which you treat others. There are no strict rules when it comes to relating to people with disabilities. However, here are some helpful hints.

General

- Ask a person with a disability if he or she needs help before providing assistance.
- Talk directly to the person with a disability, not through the person's companion or interpreter.
- Refer to a person's disability only if it is relevant to the conversation. If so, mention the person first and then the disability. "A man who is blind" is better than "a blind man" because it puts the person first.
- Avoid negative descriptions of a person's disability. For example, "a person who uses a wheelchair" is more appropriate than "a person *confined* to a wheelchair." A wheelchair is not confining—it's liberating!
- Do not interact with a person's guide dog or service dog unless you have received permission to do so.

Blind or Low Vision

- Be descriptive. Say, "The computer is about three feet to your left," rather than "The computer is over there."
- Speak all of the content presented with overhead projections and other visuals.
- When guiding people with visual impairments, offer them your arm rather than grabbing or pushing them.

Learning Disabilities

- Offer directions or instructions both orally and in writing. If asked, read instructions to individuals who have specific learning disabilities.

Mobility Impairments

- Sit or otherwise position yourself at the approximate height of people sitting in wheelchairs when you interact.

Speech Impairments

- Listen carefully. Repeat what you think you understand and then ask the person with a speech impairment to clarify or repeat the portion that you did not understand.

Deaf or Hard of Hearing

- Face people with hearing impairments so they can see your lips. Avoid talking while chewing gum or eating.
- Speak clearly at a normal volume. Speak louder only if requested.
- Use paper and pencil if the person who is deaf does not read lips or if more accurate communication is needed.
- In groups raise hands to be recognized so the person who is deaf knows who is speaking. Repeat questions from audience members.
- When using an interpreter, speak directly to the person who is deaf; when an interpreter voices what a person who is deaf signs, look at the person who is deaf, not the interpreter.

Psychiatric Impairments

- Provide information in clear, calm, respectful tones.
- Allow opportunities for addressing specific questions.