

In the module regarding legal rights and protections, you will learn about two legislative acts: Section 504 of the Rehabilitation Act and The Americans with Disabilities Act (ADA). These two acts provided for physical accessibility for people with disabilities. This issue of physical accessibility is what we will discuss in this unit. First, you will gain a general understanding of just what it means to provide physical access. Then we will take a look at some of the specific things that must be considered in order for a place to be physically accessible. Keep in mind, however, that the list of things in this unit that make a building accessible is not exhaustive. This list is merely an example of some of the things to take into consideration when providing physical access.

Once you have an understanding of the elements pertaining to physical accessibility, you will move on to assistive technology. Assistive technology devices have become widely used in classrooms over the past several years. Just as technology has become widespread in most areas of our lives, it is also helping students and individuals with disabilities learn, and complete daily living tasks. As you will see, assistive technology devices don't need to be high-tech and expensive to be effective. You will also see that assistive technology is a benefit to a wide range of individuals with a wide range of disabilities.

The last section of this unit, universal design, is a bit more complicated to understand. Universal design is a term that was derived from studies in architecture and has recently been applied to other areas, such as teaching and learning. The term universal design implies that adaptations and/or accommodations have been taken into consideration when creating the unit as part of the design process itself, as opposed to first coming up with a

design, building that design, and then adding in accommodations “after the fact”.

Upon completion of this unit and the related activities, you should have a clear understanding of universal design, assistive technology, and physical accessibility issues.

Let’s proceed now to the section on physical accessibility.

Physical Accessibility

As you approach a building with a flight of steps leading to the front entrance, what do you think? Probably nothing! In all likelihood, you just walk up the steps and go in the door without thinking twice about it. But what if you used a wheelchair to get around? How would your perspective differ in this same situation? Before passage of the Americans with Disabilities Act and Section 504 of the Rehabilitation Act (See the *Legal Rights and Protections* unit for more information on these Acts), which legally ensured accessibility to all private and public sectors for persons with disabilities, there was no guarantee that a person using a wheelchair, for example, could actually access any building he or she chose. In fact, prior to the passage of these Acts, there were no laws protecting the civil rights of persons with disabilities in terms of accessibility. That means if a building, restaurant, restroom, elevator, city bus, etc. were not accessible for a person with disabilities, he or she had no legal rights protecting him or her against such an injustice.

So now that you know laws are in place to ensure the accessibility of private and public places, what exactly makes a place accessible? There are 6 main areas of

consideration that a facility must provide for in order to be accessible. Below is a *general* list of things to look for within each of the 6 areas:

➤ **Entrances**

- Is there a path of travel to the building that does not require using stairs?
- If the main entrance has stairs, is there a ramp, lift, or alternative entrance that is accessible?
- Are the slopes of the ramps such that they are not too steep?
- Are there an adequate number of accessible parking spaces available?

➤ **Access to goods and services**

- Are all public spaces in the building accessible and have an accessible path of travel?
- Do doors have a large enough opening? Can doors be opened without too much force? Are door handles operable with a closed fist?
- Are all aisles and pathways wide enough and provide enough space for a wheelchair to turn around?
- Are obstacles cane detectable?
- Are all controls located at an accessible height and operable with a closed fist?
- Are there ramps or accessible elevators to all levels?
- Is there space for wheelchair seating at tables and counters?

➤ **Telephones**

- Is there clear floor space in front of the phone(s)?
- Does the phone have push button controls?
- Is it hearing aid compatible?
- If there are four or more public phones in the building, is at least one phone equipped with a telecommunications device for the deaf?
- Is there a hands free speaker phone with a large keypad available for individuals who have difficulty holding a receiver and dialing numbers?

➤ **Restrooms**

- Is at least one restroom fully accessible (entrance/exit, height of handles, a stall with a railing and large enough for a wheelchair, etc.)?
- Are there signs at inaccessible restrooms that direct individuals to an accessible restroom?
- Is at least one stall door operable with a closed fist?
- Can the faucet be operated with a closed fist?
- Are soap and hand dryers reachable for a person in a wheelchair?

➤ **Signage**

- Are signs well lit?
- Are signs in clear, contrasting colors?
- Are signs also in Braille?

➤ **Additional access:** Other amenities that are available to the general public should be accessible to people with disabilities. For example:

- Is there at least one drinking fountain with clear floor space in front?
- Are controls on drinking fountains mounted on the front and operable with a closed fist?

These are just some of the main points that need to be considered when thinking about accessibility. Another concern might include accessing a building from the parking lot. Is there a clear path of travel from the parking lot to the building? What about in between buildings (such as on a college campus)? While moving about an environment for one person may require no thought or effort, this same task can be quite daunting to another person if that person has special needs that have not been accounted for. It is important to consider the accessibility of buildings and other areas in our society so we can ensure that *nobody* is ever excluded.

ACTIVITY

You are at a point in your life where you are likely thinking about your plans after high school. For many people this will include going to college. Think about being on a college campus and some of the accessibility issues that might arise. Jot your thoughts down on a piece of paper. Then visit the University of Kentucky's accessibility map at <http://kgsmmap.uky.edu/website/accessmap/homepage.htm> and see if you covered all of the issues. Does the map account for accessibility issues you hadn't thought of? Did you come up with things that the map does not cover? Write down your discoveries.

Reference:

National Center on Workforce and Disability/Adult. Access for All in Workforce Development. Retrieved from:
http://www.onesteps.info/article.php?article_id=15&subcat_id=21

Assistive Technology

Assistive technology, as defined by the Individuals with Disabilities Education

Act (IDEA), is:

any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability. (20 U.S.C., 1401, Section 602 [1])

Assistive technology devices can be low-tech, like adapted eating utensils, or picture books, or high-tech, such as computerized speech devices or electronic switches that are activated by eye movements. It all depends on the individual's needs. Assistive technology can help individuals in a wide range of areas like mobility, sight, performance of daily living skills, and recreation and leisure.

Using assistive technology devices in the classroom is a means of increasing a person's independence and participation in activities. For example, without the assistance of a mobility device, such as a wheelchair, some people would not be able to move about freely from one place to another. As you can see, a wheelchair is something that helps a person perform better in his or her environment. Therefore, it is not appropriate to say that a person is "confined to a wheelchair". Most people who use a wheelchair do leave their chair to rest, exercise, travel in a car, etc. It is more appropriate to say that a person uses a wheelchair to get around, or that they have a wheelchair.

Another form of assistive technology includes communication aids. These are typically used by students who have physical impairments that prevent them from speaking, or being able to speak clearly and/or audibly. For example, a student may use a communication board to express his or her needs and feelings. A communication board can range from a very simple, hand-made device to an expensive top of the line piece of electronic equipment with thousands of words of vocabulary. A communication board may contain different pictures, or switches that a student can use to indicate being thirsty, hungry, needing to use the restroom, wanting to rest, wanting to play, being tired, being happy, sad, or angry, etc. There is no limit to the different types of things a communication board or device can include. A communication device can also include

words and/or pictures illustrating concepts from the general curriculum, so that the student can participate in general education classes with you. For example, visit http://www.abledata.com/Site_2/assistiv.htm and check the section about communication devices – notice how many different types are available to meet individual students' needs!

Before giving a student an assistive technology device to use, it is important to assess that student's academic and social skills, and physical capabilities. The needs of the family should also be considered. Paying attention to such factors is necessary to determine the specific goals and objectives for using the technology and also in finding the most effective devices for that specific student. Personal preference is also important. If a person is going to be using an assistive technology device frequently, it is important that he or she is comfortable with that device.

Assistive technology can help a person with just about anything, whether it be mobility, sight, sound, or communication. Assistive technology can compensate for potential barriers that a disability may create. Without assistive technology, some students may not have the opportunity to be included in regular academic settings with their peers. When you look at it this way, it is easy to see just how important and beneficial assistive technology is!

ACTIVITY

Visit <http://www.infinitec.org/> and choose one area of interest from each of the four sections (live, learn, play, and work). For example, in the “live” section, you may wish to choose voting. Once you have picked something from each section, read about those areas and then write a brief report on the issues and suggested solutions in those domains.

References:

Heward, W. L. (2003). *Exceptional children: An introduction to special education* (7th ed.). Columbus, OH: Merrill Prentice Hall.

Universal Design

Universal design is a concept that originally came from architectural studies. With universal design, we take into account considerations of physical access (for example, being able to get into buildings), which in turn lead to the incorporation of adaptations that people need. Curb cuts, automatic doors, and ramps are examples of such adaptations. When using universal design principles, accommodations are originally built into a design, as opposed to being added later. Universal design principles have extended beyond architecture and are now being applied to learning environments, such as your own classes!

In terms of learning, universal design refers to designing instructional materials and activities in such a way that the learning goals can be achieved by students with varying differences in ability. Universal design for learning offers a flexible curriculum that provides alternatives for students with disabilities. As in architecture, alternatives are directly built into the instructional design instead of being added on later.

Universal design is important because simply providing physical access to general education does not guarantee that the student is benefiting academically, and cognitively. More is needed to ensure full academic inclusion. There are certain prerequisites to learning that should be built into the curriculum. These prerequisites include information that is accessible, available support for the development of skills, and the student perceiving the learning as important. Universal design builds these prerequisites into the curriculum by:

- Providing multiple representations of the information that is presented. For example, let students learn through books, on the computer, or by an audio tape - depending on which variation produces the best results.
- Providing alternative means of expression. Students should be given more than one way to express what they have learned, such as a standard pencil and paper method, and oral discussion of what they know, a computer game that assesses the student's knowledge, etc.
- Providing multiple means of motivating and engaging students. Not all students will be motivated by the same things. Earning free time may work for some students, but not others. Visual displays may engage certain students but may be a problem for other students. Remember, variety is the spice of life!

Below are some aspects of universal design:

- ***Inclusiveness***: It is crucial to create a learning environment that values and respects diversity. Teachers should encourage students to meet with them to discuss disability related issues and special learning needs. Teachers should always respect the privacy of their students.
- ***Physical Access***: All learning environments (classrooms, labs, etc.) should be accessible to students with a wide range of physical abilities and disabilities. Equipment and activities should minimize prolonged physical effort, and provide different options for operation. Accommodations should be made for both right and left handed students, as well as students with physical disabilities, or limited physical abilities.
- ***Delivery Methods***: Alternative methods of delivering information should be provided including lectures, discussion, hands-on activities, fieldwork, and Internet based activities. It is helpful to provide printed materials that summarize the information that was delivered in class orally.
- ***Access to Information***: Videotapes should be captioned. Printed materials should also be available in electronic format. Provide students with printed materials prior to a lecture or discussion so they may prepare before the topic is presented.
- ***Interaction***: Encourage different ways for students to interact with one another and the teacher. Examples are in-class questions, discussion, and group work.
- ***Feedback***: Effectively prompt students during an activity, and provide adequate feedback after the activity is completed.

- ***Demonstration of Knowledge***: Multiple ways for students to demonstrate knowledge should be provided. This means finding other ways to assess knowledge than just the traditional tests. Examples are essays, group work, demonstrations, presentations and portfolios.

By employing the universal design approach to learning, inclusive environments are designed so that they are accessible to everyone, which minimizes the need for individual accommodations. For students with severe disabilities, universal design can be the difference between participation and exclusion. For students with mild disabilities, or varied learning styles, universal design can enhance their performance and allow them to participate equally with their peers. By making educational opportunities accessible to students with disabilities, we can reach the ultimate goal of creating a level playing field for everyone. When you think about it, universal design truly benefits all students, including yourself!

ACTIVITY

Think of a lesson in one of your general education classes. How could principles of universal design be incorporated into that activity or class? How could those principles of universal design benefit your *own* learning? How could they benefit a student with a moderate or severe disability?

References:

Universal design in the classroom and computer lab. Retrieved from:
http://staff.washington.edu/sherylb/univ_pacer.html

Ensuring access to the general education curriculum (Fall, 1999). Retrieved from:
<http://ericec.org/osep/recon5/rc5sec1.html>