



When UD is in the School's 'Fabric'

Pa. School Embraces Design for All

What started more than 30 years ago at Edinboro University in Pennsylvania as an interest in increasing access for students with disabilities, has grown into a campus-wide pursuit of universal design.



Crawford Hall features a two story interior ramp that is appreciated by the building's users.

According to Bob McConnell, Director of the Office for Students with Disabilities at Edinboro, in the mid-1970's, the university decided to make the campus accessible for students with disabilities. "As we made the campus more accessible for students using wheelchairs, we began to hear comments from the maintenance department that power door openers and ramps were making

their work easier," he says. "We also heard comments from delivery people -- vending companies and UPS -- that they appreciated ramps. Now, whenever we build something on campus, we are keenly aware of not only our need to provide access, but also how can things be

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Universal Design Theory in Action

A Practical Approach to Teaching

by Denise Hofstedt

When we focus on "what" we want people to learn rather than on "how" we want them to learn it, we are moving toward universally designed instruction, according to Sue Kroeger and Gladys Loewen. For the past two decades, disability service providers have been focused on arranging accommodations for students with disabilities when instructors would not allow any flexibility in how the class would be taught. When embracing the universal design principles and applying them in the instructional setting, the focus shifts to a flexible environment where differences are planned for in the delivery of the course materials, thus reducing the need for accommodations.

Educators and promoters of universal design in instruction, Kroeger,
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designed to allow others to use the facilities with ease.”

Universal design is a natural outgrowth of the university's philosophical position that students, employees and the general public using the campus should be able to do so without needing to request an accommodation. Universal design is not just some special priority, it is the fabric of the university, says McConnell who has been at the school for 21 years.

“As the campus is renovated, as new instructional equipment is purchased, as new facilities come on line, my office along with the construction office, the deans and vice presidents all look for ways that we can incorporate universal design. We look not only at facilities but also teaching methods, faculty development and policies for ways to be more inclusive,” he says.

UD Features

On campus, the Crawford Center, completed in 2002, offers a variety of universal design features, including:

- Motion sensor power activated door openers.
- Every new entrance is covered and the landing has heating to keep the ground from heaving and clear of snow.
- The main entrance to the back has a large canopy that allows accessible vans and anyone else using the building (maintenance, delivery, other students, etc.) to drive up under shelter from the elements.
- Wide hallways facilitate interior circulation. The interior fire/security doors are held open by electromagnets connected to the fire alarm system. The doors are wide open during the day to keep the flow of the building open. They are closed at the end of the day for security. If the fire alarms are activated, the doors automatically close.

• A two-story window atrium area is well lit. It is a popular place to study and hang out. The abundance of light allows students with diminished vision to use their residual vision for mobility.

- The main feature of the building is the interior ramp to the second floor. While the building does have steps and an elevator, the ramp is heavily used by all, according to McConnell. “It never breaks, a group can use it all at once, it is used by folks to deliver or move equipment, food service, etc. It is also an excellent awareness component as many people -- including students with disabilities -- have never seen a ramp like this on the inside of a building,” he says.

The Crawford Center also has an accessible apartment. It has two outside entrances with power doors, living room, kitchen, bedroom and large bathroom that has both a roll-in shower and tub shower seat. It is used to help students learn how to manage their daily living needs; for short stays by students visiting the university to help them determine if they might want to attend; and for visiting scholars.

McConnell notes while the university has been successful with some aspects of universal design, it has struggled with other components. “We are not perfect. We do make mistakes and we continue to have people who have not bought into the concept of universal design. The good news is we can do something about that and we continue to work to make the campus more universally designed,” he says. 

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? PROBLEM: How can you make card keys (used by students) accessible to people who have limited use of their hands or fingers?

TIP: This idea comes from the hospitality industry. Kirby Payne says that his company's Holiday Inn Express in Boynton Beach Florida solved



this problem by giving guests with hand dexterity limitations, guestroom key cards with a hole punched in the corner and an attached flexible coiled key bracelet. This cost effective idea provides the security of key card systems to students while making it possible for students with limited hand dexterity to handle the cards.

? PROBLEM: How do you make a doorway with a closer and latch usable by a person who uses a wheelchair or other mobility assistance device when the door does not have the necessary push side clearance called for in accessibility standards that allows the person to get close enough to the latch to operate it and push the door open?

TIP: One method is to install an automatic operator on the door, so that there is no need for the push-side clearance. That solution, however, can be costly and complicated. Another solution, when allowed by code, is to eliminate the closer or the latch. By eliminating the closer, there is no force requirement, and once a latch is operated, the door can easily be pushed open. By eliminating the latch,

the door can be pushed open from any point on its surface.

? PROBLEM: Locating accessible signage at a height of 5' above the floor on the wall adjacent to the door as required by the ADA Standards for Accessible Design may be difficult, impractical or impossible in some situations.

TIP: The ADAAG and the recent versions of ANSI A117.1 Standard on Accessible & Useable Buildings & Facilities allow accessible signs to be located on the face of the door, instead of on the adjacent wall if three conditions are met:

- The door swings away from the side on which the sign is located.
- The door has a closer.
- The door has no hold open device.

These features help assure that the sign will always be found in a consistent location and that a person who must get very close to the sign in order to read it will not be hit in the face by the door as it opens.

? PROBLEM: Placing toilet paper and other dispensers around grab bars can obstruct use of the bar. What can be done to avoid this problem?

TIP: When using recessed units, it is important to insure that the unit is mounted and remains flush



to the wall. Offsets and projections of as little as 1/2 inch of the doors or edges of the unit can obstruct the gripping area and can cause problems with use of the grab bar. 

This cost effective idea provides the security of key card systems to students while making it possible for students with limited hand dexterity to handle the cards.

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the Director of the Disability Resource Center at the University of Arizona and Loewen, the Manager of Assistive Technology-British Columbia, say that universal design in instruction is simply the application of good teaching techniques. They think of it as multiple ways of demonstrating material. Whether training employees or teaching college students, instructors who can employ a variety of practical techniques can reach more people.

Kroeger and Loewen have embraced the thinking of Carol Gill who has developed a model on disability that maintains if a disability is defined as a deficit needing to be fixed, the actual problem, an environment that excludes people, will not be addressed. She believes the focus should be on changing the environment to be more inclusive rather than exclusive.

Universally designed instruction is a way to make a learning environment inclusive. Kroeger thinks of it as instruction that works for “more” people regardless of learning style or background. “My classes have a variety of people in them — people with disabilities, people with diverse backgrounds, international students.... I ask myself ‘How can I deliver the material to reach the most people? How do I deliver the material so that the number of necessary accommodations can be reduced or eliminated?’,” she says.

On the Web

Often simple website postings can eliminate the need for accommodations. For example, if notes are posted to a class website, the need to take notes is eliminated. It helps everyone. Loewen noted that a student with low vision once asked a professor to make his PowerPoint presentations available two days in advance of the class meeting. The student was then able to view the material with the Braille display before the class and be “on the same page” during the class.

Now the professor posts it on the website in advance for everyone. There are techniques that require little technology, such as Kroeger’s mini lecture format. In a class where there are students with disabilities and students for whom English is a second language, Kroeger presents a mini lecture, then splits the class into groups. In the groups, the students work together to answer assigned questions. The group responses are turned in for points. “The students work together,” says Kroeger. “It allows for all the students to feel more included. No accommodations are necessary.”

Testing

Other professors have also adopted innovative techniques in teaching and testing. Loewen recalled a professor who posted the exam on the class website. Students were given a week to complete it. The students were told to complete three drafts of the exam and then pick one to submit for a grade. Students who might have normally needed accommodations, didn’t. They didn’t need extra time and they didn’t need a reader or a writer as they were able to write the exam when and where it suited them, using whatever technology that served them best.

She also remembers one innovative instructor who allowed students multiple ways of showing what they learned. The professor provided an outline of the course goals and objectives at the beginning of the semester. Students were asked to determine how they would demonstrate the learning of the materials using four activities of choice.

Each student was asked to make a contract outlining their plan. Options to demonstrate their learning included exams, term papers, oral presentations, group presentations, and research projects.

There, of course, have been challenges to making instruction more universal. Kroeger says that some faculty and employers get caught in the grips of the “how” instead of the “what” they want students/employees to learn.

She notes one particularly inflexible statistics professor who required students to memorize formulas. He wouldn’t let anyone bring cards into class with formulas on them. “We kept asking him ‘what is it that you want students to know?’ He finally came to conclusion he wanted them to know how to appropriately apply the formulas,” she says. “Then he let everyone bring in cards and found it didn’t compromise what he wanted them to learn.”

Often simple website postings can eliminate the need for accommodations.

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