RESEARCH SYNTHESIS

This section summarizes the body of literature related to the professional development of postsecondary staff and administrators to assure equal access to campus services for students with disabilities. The information is applicable to student service areas such as registration, recruiting and admissions, financial aid, housing and residential life, computer labs, tutoring and learning centers, distance learning, libraries, and career services. The topic areas discussed in the research synthesis were selected and developed in collaboration with twenty-three *DO-IT Admin* project team members. The *Implications for Practice* section for each topic shows how the specific body of knowledge can be applied to professional development.

The literature shared in this section provides the foundation for the presentation content included in other sections of this notebook. The delivery strategies in the sections *Presentation Tips* and *Presentations* are also based on this body of knowledge. Professional development facilitators may find this foundation useful as they develop effective staff and administrator training materials and programs.

Each subsection is organized around key questions that must be addressed in developing educational opportunities for postsecondary staff and administrators in campus service units. Key subsection topics and questions are listed below.

Professional Development: Need, Content, and Methods

- Why do campus staff and administrators need to make student services accessible to students with disabilities?
- What do we know about the knowledge, experiences, and attitudes of postsecondary staff and administrators regarding students with disabilities? What do staff and administrators want and need to know about providing accessible student services for students with disabilities? How do staff and administrators want to gain this knowledge?
- What do students with disabilities think staff and administrators need to know about providing accessible student services?

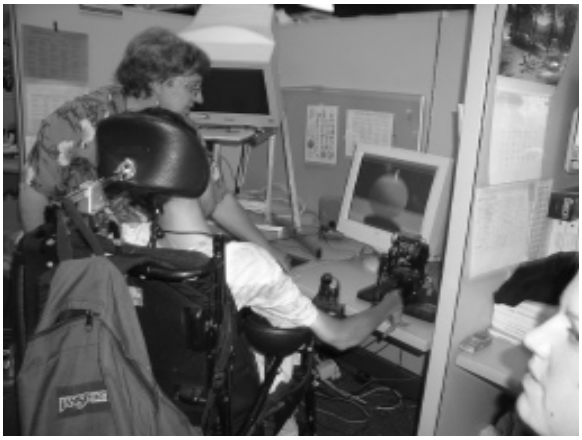
Adult Learning

- What do we know about adult learning that can be applied to the design and delivery of professional development for staff and administrators regarding equal access of students with disabilities to student services?

Universal Design

- What do we know about universal design that can guide the development of accessible facilities, services, and information resources for students with disabilities?

- What do we know about universal design of instruction that can guide the design and delivery of professional development for staff and administrators?



Systemic Change

- What do we know about systemic change that can guide the design and implementation of professional development for staff and administrators regarding universal access to their services and programs?

- What do we know about the institutionalization of professional development activities for staff and administrators?

In each topic area, specific questions are followed by an overview of research literature, as well as suggestions for applying the respective research to presentations. Note that research in several different areas supports some of the same recommendations, thereby reinforcing essential characteristics of successful professional development programs.

Professional Development: Need, Content, and Methods

Research Questions

- Why do campus staff and administrators need to make student services accessible to people with disabilities?

- What do we know about the knowledge, experiences, and attitudes of postsecondary staff and administrators regarding students with disabilities? What do staff and administrators want and need to know about providing equal access to their services for students with disabilities? How do staff and administrators want to gain this knowledge?

- What do students with disabilities think staff and administrators need to know about providing accessible student services?

Overview of Research

As a result of federal legislation such as the Individuals with Disabilities Education Act (IDEA, 1997), Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990 (ADA), young people with disabilities are being encouraged and better prepared to pursue higher education (Gajar, 1998; Henderson, 2001; Horn & Berktold, 1999; National Council on Disability, 2001, 2003). The number of students with disabilities enrolled in higher education continues to grow.

Students with Disabilities and Postsecondary Education

Approximately 6% of people in postsecondary programs report a disability (Horn & Berktold, 1999). The largest group have learning disabilities. Percentages of students reporting specific disabilities are as follows (Henderson):

- learning disabilities 40.4%
- blindness or partial sight 16.1%
- health impairments 15.4%
- hearing impairments 8.6%
- mobility impairments 7.1%
- speech impairments 2.9%
- other impairments 16.9%

Despite increasing college enrollment, individuals with disabilities are still underrepresented in postsecondary education when compared with their peers who do not have disabilities (Blackorby & Wagner, 1996; Stodden & Dowrick, 2000). It has been found that two years after high school, 63% of students with disabilities were enrolled in some form of postsecondary education, compared to 72% of students without disabilities. Of those enrolled in postsecondary education, 42% of students with disabilities and 62% of those without disabilities were enrolled in four-year schools (Horn & Berktold, 1999).

Students with disabilities are less likely than their counterparts without disabilities to stay enrolled in postsecondary education and earn a postsecondary degree or credential. Regarding degree attainment, it has been found that after five years, 53% of students with disabilities and 64% of those without disabilities attained a degree or certificate or were still pursuing their degree (Horn & Berktold, 1999). Clearly, postsecondary educational outcomes for students with disabilities are not as positive as they are for those without disabilities.

Individuals with Disabilities and Employment

People with disabilities, like other minority groups, face challenges in gaining employment. They are also negatively and disproportionately affected by changes in general employment trends. (Yelin & Katz, 1994; Stodden & Dowrick, 2000; Trupin, Sebesta, Yelin, & LaPlante, 1997)

The completion of some type of postsecondary education increases opportunities for people with disabilities to secure satisfactory and meaningful employment (Gilson, 1996; Stodden, 1998; Stodden & Dowrick, 2001; Yelin & Katz, 1994). A postsecondary education is highly correlated with vocational options, financial success, and adult quality of life. In fact, for people with disabilities, there is a stronger positive correlation between level of education and rate of employment than there is for the general population (Stodden; Stodden & Dowrick). The poor employment figures for people with disabilities, coupled with the positive impact of postsecondary education, makes increasing college success an important goal (Benz, Doren, & Yovanoff, 1998; Blackorby & Wagner, 1996; Gajar, 1998; Gilson, 1996; National Council on Disability, 2001; Phelps & Hanley-Maxwell, 1997; Reis, Neu, & McGuire, 1997; Stodden & Dowrick).

Professional Development Needs of Staff and Administrators

Section 504 of the Rehabilitation Act of 1973 prohibits discrimination against individuals with disabilities in programs and services that receive federal funds. The Americans with Disabilities Act reinforces and extends the requirements of Section 504 to programs and services regardless of whether or not they receive federal funds. These laws apply to postsecondary institutions. For qualified students who disclose their disabilities and present appropriate documentation, institutions must provide reasonable accommodations to assure equal access to program offerings (Frank & Wade, 1993; Heyward, 1998; McCusker, 1995; West et al., 1993). This legislation also applies to services provided in areas such as registration, admissions and recruiting, financial aid, housing and residential life, computer labs, tutoring and learning centers, distance learning, career services, and libraries (Milani, 1996; Simon, 2000).

Although most institutions provide specialized services for students with disabilities, the level and types of supports offered differ considerably by institution (Stodden, Whelley, Chang, & Harding, 2001). Student satisfaction with general campus wide access and the accommodations they receive on postsecondary campuses also varies (Lancaster, Mellard, & Hoffman, 2001; Lehman, Davies, & Laurin, 2000). Faculty and staff attitudes, physical barriers, and difficulties with staff and departmental support outside of the disability services office continue to be problematic for some postsecondary students with disabilities (Lancaster et al.; Lehman et al.; Paul, 2000). Challenges with institutional policies and procedures (e.g., credit-based eligibility criteria for financial aid and housing), as well as inadequate academic and nonacademic support services, have been reported (National Council on Disability, 2003).

Most disability-related professional development efforts have focused on increasing the knowledge and skills of postsecondary faculty (Burgstahler, 2003; U.S. Department of Education, 2003). Fewer reported efforts, however, have addressed the roles and responsibilities of nonacademic postsecondary administrators and support staff. Yet the need to address access barriers to student

service units has been identified, along with emerging recommendations to address attitudinal, facility, and information resource barriers experienced by students with disabilities (DO-IT, n.d.; Kroeger & Schuck, 1993; Higbee & Eaton, 2003; Schmetzke, 2002; Uzes & Connelly, 2003; Wisbey & Kalivoda, 2003).

Faculty, administrators, and auxiliary staff have expressed interest in learning how to more effectively support students with disabilities in their courses and services (Sheppard-Jones, Krampe, Danner, & Berdine, 2002). They want to learn about different types of disabilities, typical accommodations, legal issues, and campus resources. Staff and administrators want to know about campus resources relevant to their programs and about appropriate accommodations for students with specific types of disabilities. Other topics of interest include information on legal obligations, accessible transportation and parking, hiring students with disabilities, accessible library resources, and universal design (Burgstahler & Doe, in press; Leyser, Vogel, Wyland, & Brulle, 1998; Sheppard-Jones et al.; Vogel, Leyser, Wyland, & Brulle, 1999).

Staff members and administrators report interest in multiple types of delivery methods, including short printed publications, online resources, and presentations with case studies or student panels (Burgstahler, 2003). Students have also identified the need to provide professional development for staff, administrators, and faculty to help them understand their legal obligations, as well as the needs of students with disabilities (Burgstahler & Doe, in press; Leyser et al., 1998; Vogel et al., 1999).

Since student service staff members play a key role in supporting the academic and career success of all students, professional development for this audience has the potential to improve postsecondary outcomes for students with disabilities (Burgstahler, 2003; Caffarella & Zinn, 1999). Student service offices that will benefit from training, the materials in this notebook, and the complementary website include registration, recruiting and admissions, financial aid, housing and residential life, computer labs, learning/tutoring centers, distance learning, libraries, and career services.

Implications for Practice

Staff members and administrators need information about legal issues, accommodation strategies, and resources for working with students who have disabilities. Training should be provided in multiple ways to address differences in schedules, interests, previous knowledge, experience, and responsibility. Short printed publications and Internet-based resources, as well as short presentations and extended workshops, should be considered. Follow-up support to address specific needs should also be provided.

It is best to tailor professional development sessions to the needs of administrators and staff in specific student service offices, giving examples of access strategies appropriate for the specific units. Staff members in computer labs, distance learning programs, libraries, and other areas where advancing technology increases opportunities for the participation of students with disabilities should also be targeted for training in order to correct faulty assumptions about what students with disabilities can accomplish. For example, staff members in a campus computer lab may not be aware of assistive technology that allows individuals with a wide range of disabilities to access computers and the Internet. In addition, web developers may not be aware of legal obligations regarding the design of campus web pages that are accessible to people with disabilities.

Trainers should keep in mind that staff members may feel uncomfortable when working with students who have disabilities. Their attitudes may be based on stereotypes and/or lack of experiences working with people who have disabilities. Training sessions can provide opportunities for participants to openly discuss fears and concerns and to provide accurate information. Model an attitude of respect for the rights and responsibilities of the institution, students with disabilities, and campus personnel. Avoid generalizations about people with disabilities, and highlight similarities instead of differences between students with and without disabilities. Emphasize that accessible design and accommodation strategies do not need to be elaborate; creativity and common sense can lead to practical access solutions.

When delivering training to staff and administrators, assume the audience has varying levels of experience, knowledge, and interest. Some participants are eager to learn about disability-related issues; others are interested in only the minimum amount of information they need to perform their jobs. Leave time to discuss issues of special interest to audience members.

Following a review of research, focus group findings, and the collaborative efforts of a national team of postsecondary professionals and disability service providers, DO-IT (Disabilities, Opportunities, Internetworking, and Technology) developed five models of professional development for staff and administrators that may be adapted for a wide range of schedules and interests. The presentation models include a short overview, a comprehensive workshop, video presentations, email-based distance learning, and self-paced web instruction. In addition to materials provided in this book, information can be found in *The Student Services Conference Room* at *http://www.washington.edu/doit/Conf/*.

Conclusion

Professional development can help postsecondary student service providers develop accessible information resources and services for students with disabilities. Ultimately, increased knowledge and skills of staff members and administrators regarding legal issues, disabilities and accommodations, and resources can lead to more positive postsecondary and career outcomes for students with disabilities.

Adult Learning

Research Question

What do we know about adult learning that can be applied to the design and delivery of professional development for staff and administrators regarding equal access of students with disabilities to student services?

Overview of Research

Knowles (1980) used the term "andragogy" instead of "pedagogy" to clarify differences between meeting the learning needs of adults and meeting those of children, respectively. He identified the need for adults to be motivated to learn, to be active in the learning process, and to have their past experiences respected and valued in the learning environment (Millis & Cottell, 1998). Much of the current knowledge in this field is based on Knowles's work.

Transformative Learning

When adults participate in learning activities, they bring many years of experiences with them. They view new material through the lens of these experiences (Baird, Schneier, & Laird, 1983). As adults continue to acquire new knowledge and skills, they must integrate new learning with prior learning. When contradictions or dilemmas result, perceptions based on prior learning must be reexamined. Individuals can choose to reject the contradictory new information or revise their previous views. Transformative learning occurs when adjustments to prior learning are made (Cranton, 1996; Pilling-Cormick, 1997).

Self-Directed Learning

Adults often prefer to engage in self-directed learning, in which the learner has some control over content, materials, and methods. Self-directed learning can provide a foundation for transformative learning, in which individuals use critical thinking to challenge previous assumptions.

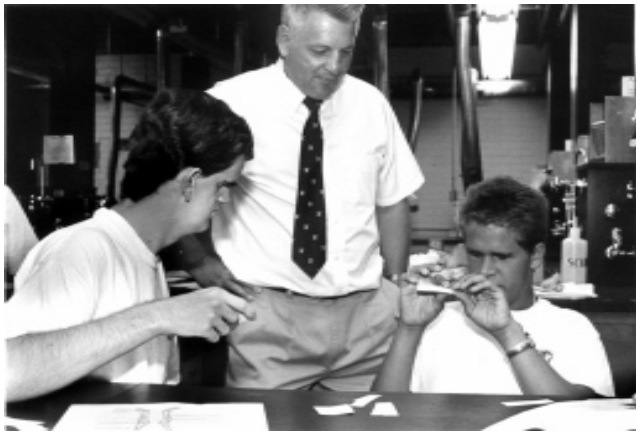
The Self-Directed Learning Process Model (Pilling-Cormick, 1997) consists of three components: control factors, interactions between educator and student, and influences on those interactions. Four factors affect the amount of control participants can exercise in the learning process: social constraints, environmental characteristics, learner characteristics, and educator characteristics. Environmental characteristics include both physical and affective components of teaching and learning situations (Heimlich & Norland, 1994).

In Pilling-Cormick's model of transformative learning, the adult learner and the educator influence each other as they interact. Learners may modify the educator's facilitation style. Similarly, a presenter who supports self-directedness influences participants' perspectives about their own learning (Pilling-Cormick, 1997). An important part of this process for both the presenter and the participants is reflection. What do participants want to learn? How will they go about learning it? Why is it important to learn it in the first place? Reflection becomes critical when it leads to questioning the validity of the learning.

One approach to teaching adults in a self-directed format is to address problems together in a collaborative manner, where uncertainty and differences of opinion are welcome. In this type of learning environment, the presenter and the participants are open to ideas that will support learning from both mistakes and successes (Schon, 1987).

Relevant Learning
Learning is greatest when content can be applied to situations of interest to learners and when there is an immediate benefit. If adults see the usefulness of the material presented, their motivation to learn increases. When adults are forced to learn against their own inclinations and desires, the resulting resentment may become a barrier to meaningful learning (Brookfield, 1993). To maximize learning, the instructor must convince the audience that the material presented is important and useful to them.

Active Learning
Adults tend to prefer active learning that is related to their real-life situations (Mezirow, 1983). Retention of information for adult learners can be maximized through activity (Thomas, 1991). Presentation strategies that encourage active engagement include role playing, discussions of issues and cases, and hands-on activities.



Implications for Practice

Some administrators and support staff have had little or no contact with people who have disabilities. Others have already worked with students with disabilities. Expect that your audience members will hold a wide range of beliefs and attitudes about working with students who have disabilities. Additionally, when training is voluntary, you can assume that your audience is motivated to learn. However, if your presentation is mandatory or a part of a program for a group gathered for another purpose, expect that some participants will be reluctant learners.

Consider the following suggestions as you prepare your presentation.

Transformative Learning
Present clear, situation-relevant learning objectives. Avoid abstractions, rhetoric, and theory with little immediate application. Include concrete examples of universal design, accommodations, legal requirements, and resources on your campus.

To promote transformative learning, consider sharing myths or misconceptions related to disabilities and refute them with factual information. Here are some examples:

- Students with learning disabilities see things backwards. (Actually, there are many types of learning disabilities; "seeing things backwards" is a symptom of one type.)
- All students with hearing impairments use sign language interpreters. (Actually, only 25% of individuals with a hearing loss use sign language.)
- Deaf students are good lip-readers. (Actually, not all deaf students lip-read. Those who do are guessing much of the time, since only about 30% of speech can be read on the lips.)

- People who use wheelchairs cannot drive automobiles. (Actually, hand controls and other assistive technology allow the operation of vehicles without the use of standard foot pedals.)

- Providing accommodations is difficult, time-consuming, and expensive. (Actually, most accommodations are simple and inexpensive.)

- Blind students read Braille. (Actually, only a small fraction of individuals who are blind read Braille.)

- People who are blind cannot use computers. (Actually, speech and Braille output systems provide blind computer users with full access to text that appears on a screen.)

- Students with learning disabilities are not very smart. (Actually, a diagnosis of a learning disability *requires* average or above average intelligence.)

In a professional development presentation, consider addressing each item in the list, correcting misconceptions, and discussing relevant experiences, resources, and procedures on your campus.

Respect audience members' expertise in their fields, and at the same time recognize that they may lack background and experience in the topic you are presenting. Ask them to explain circumstances in their position or office instead of assuming that you already know. When asking and responding to questions in presentations, be careful not to make participants feel wrong or ignorant if they are poorly informed (McLagan, 1978).

Openly acknowledge the difficulties that change can create and the extra time that might be required to implement universal design and/or accommodate a specific student with a disability. Be sure to balance the description of challenges in making student services accessible to everyone with the positive outcomes that result from doing so. With a straightforward approach, resistant or defensive participants are more likely to trust you and the information you present.

Relevant Learning

Make the content relevant to the work of the participants. Postsecondary administrators and support staff have multiple responsibilities that draw upon their time and energy. As with most adult learners, as a group they are goal-oriented, have set habits and strong opinions, and have little time to waste.

When providing training for administrators and support staff, it is important to be sensitive to the different needs of participants. For example, staff need information in order to provide accessible student services in their specific campus units. Administrators need enough information to make informed policy decisions. Although some participants may enjoy learning content simply for the sake of knowledge, many will prefer to receive only information that is relevant to their positions.

Tap into the positive motivations of the audience to help them want to learn. Consider why your audience is attending your presentation. If your presentation is part of a regularly scheduled staff meeting, a brief introduction delivered by the dean or department administrator can help emphasize the importance of the material you will present. To determine audience interests, consider making brief phone calls or conducting a survey prior to a presentation to gain infor-

mation, or ask participants to share their interests at the beginning of the presentation. Use the experiences of those in the session to develop examples and answer questions.

Active Learning
Audience participation can help keep your participants engaged and provide opportunities for you to reinforce key points. Ask your audience if they have worked with students with disabilities, and encourage participants to share their experiences and concerns. Incorporate information the participants wish to learn into the training session. Allow participants to discuss examples and case studies to explore how the information presented can be applied. Videos or panels of students with disabilities can provide real-life examples to promote discussion; the visual images can help participants assimilate the content.

Approach each presentation with an attitude that everyone can contribute to the learning process. Develop an environment of trust and respect by ensuring that the training is a safe place to discuss personal ideas without criticism. Let participants discuss challenges they currently face or have faced in the past, and help lead them to solutions.

Presentation Strategies
Successful presenters employ a variety of teaching strategies in response to the diverse set of learning styles found within most groups. They also consider diversity in age, experience, intellect, and background. This is particularly important when teaching new material. Successful instructional techniques include the following:

- Teach theory and general concepts by providing practical examples that relate to the theory.
- Use a variety of sketches, plots, schematics, computer graphics, and physical demonstrations, in addition to oral and written explanations in lectures and handouts.
- Provide adequate time for learners to think about the material being presented, organize their thoughts, reflect, and interact.
- Promote active participation and respond to individual questions. (Felder, 1996; Goad, 1997)

Conclusion

Keep concepts of adult learning theory in mind as you prepare and present professional development programs for staff members and administrators. Actively engage participants in the learning process, make the content relevant to their jobs, and work to transform inaccurate assumptions into accurate perceptions. Also, provide publications and web resources to complement presentations and address the needs of those who prefer to be self-directed in their learning. This notebook and *The Student Services Conference Room* at *http://www.washington.edu/doit/Conf/* can be used for these purposes. Ultimately, increased knowledge and skills of staff and administrators can result in more positive academic and career outcomes for students with disabilities.

Universal Design

Research Questions

- What do we know about universal design that can guide the development of accessible facilities, services, and information resources for students with disabilities?

- What do we know about universal design of instruction that can guide the design and delivery of professional development for staff and administrators?

Overview of Research

The term *universal design* (UD) refers to the practice of designing and delivering products and services that are usable by people with the widest range of characteristics. Disability is just one of many characteristics that an individual might possess; others to consider include age, gender, professional position, reading level, learning style, race/ethnicity, and socioeconomic status.

Universal design is defined by the Center for Universal Design at North Carolina State University as "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/univ_design/ud.htm*). It is desirable that environments, products, and services be directly usable without add-on technologies. If this is not possible, then they should be made usable with popular assistive technologies.

With the goal of providing guidance in the design of environments, communications, and products, a group of architects, product designers, engineers, and environmental design researchers established seven principles of universal design. They are listed below, along with examples of design guidelines for applying each principle.

Equitable Use
The design is useful and marketable to people with diverse abilities.

- Provide the same means of use for all users: identical whenever possible, equivalent when not.

- Avoid segregating or stigmatizing any users.

- Make provisions for privacy, security, and safety equally available to all users.

- Make the design appealing to all users.

Flexibility in Use
The design accommodates a wide range of individual preferences and abilities.

- Provide choices in methods of use.

- Accommodate right- and left-handed access and use.

- Facilitate the user's accuracy and precision.

- Adapt to the user's pace.

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.

- Eliminate unnecessary complexity.

- Be consistent with user expectations and intuition.

- Accommodate a wide range of literacy and language skills.

- Arrange information to be consistent with its importance.

- Provide effective prompting and feedback during and after task completion.

Perceptible Information
The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

- Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.

- Maximize legibility of essential information.

- Differentiate elements in ways that can be described (i.e., make it easy to understand instructions or directions).

- Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

Tolerance for Error
The design minimizes hazards and the adverse consequences of accidental or unintended action.

- Arrange elements to minimize hazards and errors.

- Provide warnings of hazards and errors.

Low Physical Effort
The design can be used efficiently and comfortably and with a minimum of fatigue.

- Allow user to maintain a neutral body position.

- Use reasonable operating sources.

- Minimize repetitive actions.

- Minimize sustained physical effort.

Size and Space for Approach and Use
Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

- Provide a clear line of sight to important elements for any seated or standing user.

- Create easy reach to all components, comfortable for any seated or standing user.

- Accommodate variations in hand and grip size.

- Provide adequate space for the use of assistive devices or personal assistance (Bowe, 2000, pp. 23–62).

Universal Design in Education

Originally applied in the field of architecture, universal design has more recently emerged as a paradigm for education (e.g., Bar & Galluzzo, 1999; Burgstahler, 2005d; Conuell, et al., 1997; DO-IT, 2003). While traditional design focuses on the average user and accessible design focuses on people with disabilities, universal design in education (UDE) promotes an expanded view of making educational products and environments useful to people with a wider range of characteristics that include those related to gender, race/ethnicity, age, socioeconomic status, ability, disability, and learning style (Bowe, 2000). It provides a philosophical framework for the design of a broad range of educational products and environments, including websites, educational software, instruction, and student services.

Examples of the seven principles of universal design applied in educational settings are listed below.

- **Equitable Use**. A website that is designed so that it is accessible to everyone, including people who are blind and using speech output technology, employs this principle.

- **Flexibility in Use.** An example is a campus museum that allows a visitor to choose to read or listen to the description of the contents of a display case.

- **Simple and Intuitive Use.** Science lab equipment with control buttons that are clear and intuitive is an example of an application of this principle.

- **Perceptible Information.** An example of this principle being employed is when television programming projected in a student union building includes captions.

- **Tolerance for Error.** An application of this principle is software used for online registration that provides guidance when the student makes an inappropriate selection.

- **Low Physical Effort.** Doors that open with sensors can be used by people with a wide variety of physical abilities and by those with an armload of books.

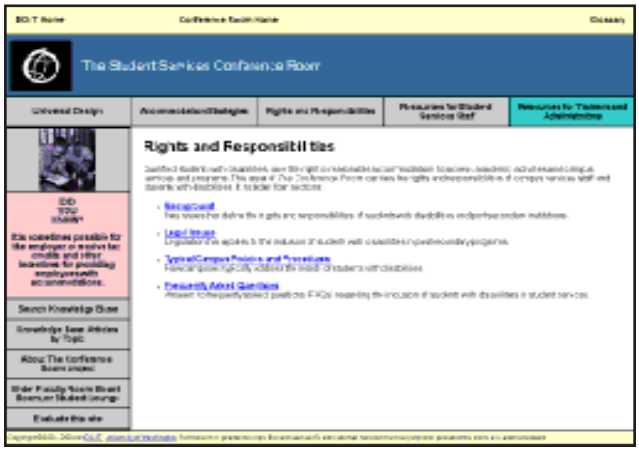
- **Size and Space for Approach and Use.** An accessible and adjustable study area in a library employs this principle.

Application of universal design to instruction gives each student meaningful access to the course curriculum and instructional activities, adding a new dimension to accepted principles of good teaching. It can be applied in classroom instruction, in web-based distance learning, and within campus tutoring centers (Burgstahler, 2002, 2005c, 2005d; Burgstahler, Corrigan, & McCarter, 2005; Mason & Orkwis, 2005; McGuire, Scott, & Shaw, 2003; Orkwis, 2003; Rose, Meyer, & Hitchcock, 2005; Silver, Bourke, & Strehorn, 1998).

Few published articles have focused on accessible or universal design of student services (e.g., Kroeger, 1993; Uzes & Connelly, 2003; Wisbey & Kalivoda, 2003). However, DO-IT at the University of Washington, with funding from the U.S. Department of Education, has worked with more than twenty postsecondary institutions nationwide to develop training materials for and deliver training to postsecondary student services

organizations (DO-IT, n.d.; DO-IT, 2003). *The Student Services Conference Room* at *http://www.washington.edu/doit/Conf/* provides a self-paced learning environment for student administrators and staff and a collection of train-the-trainer printed and video materials to use for on-site and online training.

Implications for Practice



The field of universal design can provide a framework for developing facilities, services, and information resources that are accessible to all students, including those with disabilities. This approach will minimize the need for specific accommodations and also benefit older adults, students for whom English is not their first language, and those using older technology.

Those presenting professional development programs to staff can also apply universal design principles to maximize learning and to model universal design principles that participants can apply in their own service areas. For example, use multiple modes of delivery and adjust to the needs and interests of your participants. Use videos with captions. Demonstrate how you can verbalize the content of projected materials and verbally describe graphs and cartoons so that they are accessible to people who cannot see them. Host presentations in facilities that are wheelchair-accessible.

Help participants learn to apply universal design to service development and improvement efforts. Use the checklists within the handouts included in this notebook to make student services accessible to students with disabilities. They are tailored to specific services such as libraries, tutoring and learning centers, registration, computer labs, and career centers. Several videos include powerful demonstrations of key concepts.

Customize your training options for specific audiences. Provide alternatives such as short and long presentations, interactive computer-based instruction, printed materials, and web resources.

Conclusion

Universal design maximizes access to facilities, programs, and resources and minimizes the need to provide individual accommodations for students with disabilities. Applying universal design principles in your presentation not only meets the accessibility needs for those attending but also models how accessible instruction can be delivered.

Systemic Change

Research Questions

- What do we know about systemic change that can guide the design and implementation of professional development for staff and administrators regarding universal access in their services and programs?

- What do we know about institutionalizing staff and administrator professional development activities for staff and administrators?

Overview of Research

It has been said that you cannot change one thing without changing the whole thing (Price Waterhouse, 1995). If you change processes on a college campus, you can expect that you will also need to change job descriptions, systems, and technologies, as well as train people to support them.

The increasing number of students with diverse abilities and other characteristics has created the impetus and necessity to change some of the traditional structures and procedures of colleges and universities. Postsecondary institutional experiences in promoting diversity related to gender, ethnicity, race, and socioeconomic status have taught us that change does not occur quickly and without conflict. Creating a more inclusive environment for students with disabilities often requires system wide change. Successful change efforts are more often gradual than radical.

Although there is typically resistance to change, change is central to college and university cultures (Andresen, 1991). New laws, demographics, and technologies are part of their realities (Englert & Tarrant, 1995). Competing theories about systemic change abound. However, success in implementing change is often more related to a specific context than to a general theory (Wilson, 1992).

> The argument has been largely against skill-based approaches, ready-made models of good organizational practice, and reliance upon analyzing change as primarily the outcome-oriented pursuit of great and charismatic individuals. The arguments have, rather, favored the potency of organizational structures, of economic determinism, and of institutionalization within which the manager must operate (Wilson, p. 122).

Change can be viewed from three perspectives: the reason for change, the process of change, and the content of change (Levy & Merry, 1986). We will first consider reasons to change and then the process of change.

Reasons for Change: External and Internal Forces

Postsecondary institutions experience pressure to change from both external and internal sources (Yee, 1998). Institutions must respond to external changes in order to thrive (Kozeracki, 1998). One of the external factors promoting change is the worldwide transformation to an information-based economy. New technologies have prompted educators to reexamine the content and delivery of instruction (Travis, 1995). The incorporation of new information technologies over recent years demonstrates how rapidly new products and behaviors can be assimilated into campus life. Some staff members welcome these changes; some resist. Nevertheless, technology plays a significant role in systemic change.

Another example of how systemic change can occur as a result of external forces is the way "tech-prep" and school-to-work movements have stimulated staff to collaborate with high school educators and to incorporate more career-related skill building into the curricula. (Horan, 1995).

Legislative and funding issues can also force institutions to change. For example, Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, and state legislation require that institutions provide reasonable accommodations for qualified students with disabilities in programs and services. In part because of such legislation, increasing numbers of students with disabilities are gaining access to programs.

Changing demographics call for increased multicultural awareness and more inclusive learning environments (Harris & Kayes, 1995; Rendon & Hope, 1996). Today's student body is also diverse with respect to age, gender, ethnic and racial background, and part-time student status (Yee, 1998). Stereotyping, social isolation, and alienation are experienced by women, racial and ethnic minorities, and adult learners, as well as by students with disabilities (Smith, 1989).

Forces internal to the institution can promote or retard change. Academic values and attitudes about diversity can motivate staff members and administrators to advocate for educational equity. Seeing students with disabilities as a minority group with civil rights to education instead of as a needy population deserving of charity has dramatically changed the service provision for students with disabilities in recent years (Oliver & Barnes, 1998; Shapiro, 1993). Diverse perspectives within organizations promote sensitivity to pluralism.

Process of Change

Staff and administrators can benefit from keeping four questions in mind as they begin change efforts (Bruce & Wyman, 1998):

- Who are the people involved in the change?
- What are the organization's abilities and resources?
- What is the climate for change?
- What are the mandates/objectives of the organization?

In addition, Creamer and Creamer (1986) identified several key environmental conditions that predict the likelihood that an institution will successfully adopt innovations that require systemic change. The Probability of Adoption of Change (PAC) Model is grounded in student affairs and higher education. The model can be used as a guide to organizing change and as a diagnostic tool for assessing progress. The model is developed around several variables that can contribute to the success of systemic change projects:

- **Circumstances**: the source of impetus for change, the environmental readiness for change, and the degree of need felt for change
- **Value compatibility**: the degree of harmony between the values and procedures of the project and the institution
- **Idea comprehensibility**: the clarity and simplicity of the project goals, the ability to articulate their implementation, and the timing of the project
- **Practicality**: the adequacy of the personnel and resources necessary to carry out the project

- **Superintendency**: the levels of authority and guidance that support the project
- **Top-level support**: persistent and continuous support from the chief administrator
- **Leadership**: a quality revealed by actions to gather resources and cultivate initial readiness for the idea within the organization
- **Championship**: persuasive advocacy for the idea by one or more persons with the authority to carry out the implementation plan
- **Advantage probability**: the likelihood that the project will solve a difficult institutional problem or problems
- **Strategies**: the adequacy of the procedures or methods used to institutionalize the project

Continuing with the issue of diversity as an example, some postsecondary administrators have responded to increasing student diversity by modifying the organizational culture, infusing multicultural education into the curriculum, reflecting a diversity in values and norms in organizational policies and practices, and creating campus wide action committees (Guy, Reiff, & Oliver, 1998; Harris & Kayes, 1995; Levy & Merry, 1986). However, a fundamental and continuing conflict exists between diversity and quality in postsecondary education. Staff may need to reform their understanding of quality service and then modify standards, performance criteria, and assessment tools (Smith, 1989). Infusing multicultural education at an organizational level requires simultaneous changes in the organization's values and culture (Guy et al., 1998). Strategies to initiate change include the following:

- Build a powerful case for change. Assume that people are not prepared for change and that you must convince them, using education and consensus building, that change is needed. Practical and immediate action steps should be shared in training sessions.
- Let the customer drive change. In postsecondary institutions, customers include both students with disabilities and faculty delivering courses, services, programs, and information resources.

Keep in mind that staff members may be more open to new ideas when they are actively involved in the process. An administrator at one school that successfully implemented a change process reported that effective communication was key. "Inherent was a mutual respect for the other's background and talents, plus a genuine perception of their equality" (Hord, 1986, p. 22).

In order for systemic change to take place, there must be adequate motivation from the institution, as well as a supportive social and cultural climate. Although staff may be motivated to learn new skills and knowledge that will enhance student life, a competing motivation may be to maintain their existing roles and procedures. Staff need practical examples of the benefits of change to their service unit. Sometimes it is effective to apply the power of peer example by sharing the experiences of other campus service units.

Implications for Practice

Transformation of the institution into a system that supports diversity means addressing a number of issues, including staff diversity; institutional mission and values; diversity education; the quality of interaction between students, staff, and administrators;

and the perceived conflict between quality and diversity (Townsend & Twombly, 1998). Institutional changes should be reflected in policies, procedures, and job assignments to assure that change efforts will not collapse abruptly if one person leaves a position.

Consistent quality support services for students with disabilities requires a campus wide commitment that includes administrative support and well-informed administrators and support staff (Duffy, 1999; Kalivoda & Totty, 2003). Administrators must assure that campus policies and procedures do not negatively impact students with disabilities. Staff providing front-line services to students should be knowledgeable about access challenges, the accommodation needs required by students with different types of disabilities, and campus resources. All staff should be aware of effective ways to communicate with students who have disabilities.

To make improvements in student service access on a postsecondary campus, provide training to staff and administrators on a regular basis. The content of professional development should include information and guidelines regarding universal design, disability-related accommodations, rights and responsibilities, and campus resources.

Consider the capabilities and limits of the institution and encourage gradual, sustained changes that involve all stakeholders in the change process. For instance, annual departmental in-services, new staff orientations, and mailings regarding topics such as accessible web design support systemic change more than would one large event. Consider setting up an ongoing community of practice that includes a diverse set of stakeholders all interested in improving the accessibility of campus services.

Conclusion

In postsecondary institutions, long-lasting positive changes supporting equal access to facilities, services, and resources require more than isolated actions of individuals; they require institution wide systemic change. Collaborative efforts of administrators, faculty, and support staff, as well as students with disabilities, should work toward a goal of equity throughout the institution.

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