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Universal Instructional Design in Higher Education: An Approach for Inclusion

PATRICIA SILVER, ANDREW BOURKE, and K. C. STREHORN

With its goal of full integration into our society for individuals with disabilities, the disability rights movement raises many issues of civil and human rights. One primary step to full integration is accessibility, or access to such physical structures as buildings, housing, and programs that nondisabled individuals may take for granted. Since 1968 with the passage of the Architectural Barriers Act, which is the first legislation founded on civil rights for individuals with disabilities, accessibility issues have been at the forefront of the movement to ensure equal participation in our society. Although a small number of post-secondary institutions (e.g., University of Illinois) developed accessible buildings in the 1950s, primarily to serve World War II veterans who were disabled and attending higher education on the GI Bill, it was not until the passage of the Rehabilitation Act of 1973 that federal law required educational programs (preschool to post-secondary) who receive federal funds to be physically accessible to students with disabilities. The Americans with Disabilities Act (ADA) (1990) required that both private and public entities (e.g., private schools, restaurants, theaters) become physically accessible to individuals with disabilities.

UNIVERSAL DESIGN

With ADA as a guide, the 1990s have seen architects, businesses, communities, and schools place more attention on accessible design of physical space and technological devices with the idea of making objects and functions simple to use by individuals with and without disabilities (Shapiro, 1993). That is, architects emphasize that the designs used to make buildings accessible to disabled individuals (e.g., ramps, lowered water fountains, levered door handles) benefit others such as the elderly, children, and individuals with temporary disabilities. This concept, termed universal design (Mace, 1988), is newly in fashion among architects and designers (Shapiro, 1993). Mace notes that universal design emerged from the desire to develop comprehensive plans that would be attractive to all the individuals who use the space. For example, an individual who is delivering heavy packages to a firm within the building may benefit from pressing the device that automatically opens the doors.

In the area of instruction for elementary and secondary education, universal design is being applied to educational materials. In this approach, commercial materials developers are working on products that “alter information within modalities, such as making text larger or sounds louder” (Council for Exceptional Children, 1998, p. 5). These universally designed materials allow students with special needs access to regular educational curricula.

UNIVERSAL INSTRUCTIONAL DESIGN IN HIGHER EDUCATION

The universal design concept also may be applied to post-secondary educational environments—an approach we have initiated and termed Universal Instructional Design (UID). If this approach becomes part of the institution’s instructional methodologies, students with disabilities in higher education will no longer need to rely as heavily on support systems that are secondary to the primary instructional programs. In the typical service delivery program, modifications in an instructor’s approaches or assessment procedures for students with disabilities require that students identify themselves as disabled, request specific accommodations, and wait for these specific adjustments to be implemented—a process that often takes weeks to complete. This traditional case-by-case instructional approach is quite conservative when compared to UID, which places accessibility issues as an integral component of all instructional planning. With UID, students may find that many of the instructional accommodations they would request are already part of the faculty members’ overall instructional design. Furthermore, these approaches may benefit all students in the class. For example, most of the requests by students with learning disabilities at our institution, which is a large northeastern public university, are for...
untimed tests, notes, prepared materials before class, and study guides (Silver, 1995). Such accommodations are typically helpful to all students, and in fact may be representative of effective instructional practices. In the January 1996 issue of Disability Compliance for Higher Education, Betty Aune, Assistant Director of Disability Services at the University of Minnesota, notes specific accommodations that benefit all students: visual aids, accessible class notes, overhead transparencies, various types of teaching methods, interactive teaching, and varying test formats (p. 12). Other types of instructional design that are advantageous to all students are study guides, discussion groups, exams on disk (so font size and format may be readily altered), and multimodal presentations (visual and auditory) (Aune, 1996).

UID is a complement to the more flexible and innovative approaches to higher education instruction that are currently proffered (e.g., Bruno, Forbes, & Etheredge, 1997; Coleman & Jenkins, 1997; Fast & Cabal, 1997; Lawall, 1997; McNead & D’Avanzo, 1997). Such approaches as cooperative learning, computer assisted instruction, and alternative measures are being explored by faculty in various disciplines (e.g., the arts, sciences, history). Also, accommodations with universal appeal are related to the specific study strategies for a content area. For example, students with disabilities, especially students with learning disabilities, profit from guided instruction and strategies such as how to organize notes, specific text reading, test preparation, vocabulary review, identification of supplementary learning materials and appropriate technology, and reading for analysis (Butler, 1995; Ellett, 1993). Most students can use these strategies to gain knowledge and skills related to the specific content areas.

PROCEDURES

This pilot study, sponsored by the University of Massachusetts Center for Teaching, was an attempt to engage university faculty members in the definition of universal instructional design from their perspective, to describe how they would implement such an approach, and to identify barriers to implementation within a university setting.

The methodology used for the study was the focus group. This format was selected by the authors as the data gathering method for several reasons. First, as outlined by Vicinanza and Voorhess (1993), it provides an efficient manner with which to collect viewpoints. Second, the group nature of this format allows participants to not only provide their own perspective, but to also build upon others during the session. Because the UID concept is new, the authors believed that the focus group format would provide the necessary environment to embellish the UID's working definition.

This investigative approach, first used for market research and also as a means of quality control in industry, is now being applied in education and human services as a mechanism for participants to become active partners in change. The approach of total quality (TQM) is one that applies well in education because it is “a value-based, information-driven process for continuous improvement” (McNiel, 1996, p. 14). For example, human service researchers have used focus groups to determine families’ perceptions of the special education service delivery (Katz, 1992); to develop integrated services for preschool children (Vicinanza & Voorhess, 1993); and to determine college students’ perception of accommodations they receive from support services (Finn, 1998). Focus groups may be used for participatory action research and evaluation that enables all participants to express opinions, views, and needs (Bruyere, 1993).

The focus group is typically a qualitative research technique used to gather information from a small group of six to eight participants who are “stakeholders” in a particular setting or situation (Kruger, 1988). These stakeholders may not know each other, but they have certain demographic characteristics in common. Each group is guided by a moderator who is trained in group process skills and in interview strategies. Group sessions last for approximately one to two hours and focus on one topic of interest. Doxey (1996) notes that the focus group is a structured and planned discussion that may acquire differing views in a safe environment.

Participants

In this particular study, faculty members were stakeholders. These participants were solicited from a growing list of the Faculty and Friends Network maintained by the Office of Learning Disabilities Support Services (LDSS) at the university. Approximately 100 faculty members are recognized by the Peer Mentoring Network, a group comprised of students with disabilities, as those faculty who provide extraordinary accommodations for students with disabilities. These members represent a wide range of majors, such as biology, computer science, sociology, English, education, music, comparative literature, engineering, and chemistry. The Faculty and Friends Network are recognized annually at a luncheon held in their honor.

Letters were sent to all 110 faculty and staff members listed as Faculty and Friends. A total of 25 faculty members responded with interest in the project. Because of scheduling difficulties, only 13 participated in the study. These faculty members represented the disciplines of education, chemistry, music, dance, exercise science, math, Spanish, engineering, psychology, and instructional technology. Three dates were selected for the focus
groups, and participants signed up for one of the dates. Three faculty members held administrative positions.

**Format**

The LDSS office conducted the study with two research assistants (RAs) from counseling psychology serving as moderators of the focus groups. Both RAs were trained in group process skills in their doctoral programs. The LDSS project director also attended the meetings and took notes during the sessions.

Three focus groups were held. Each group session was held in a conference room at the university's campus center. Each session was scheduled for 1.5 hours. Before the session, participants were sent a reminder notice, which included the time and date of the session as well as the researchers' initial conceptualization of UID. At the beginning of each session, the participants were prompted with two main questions: (1) What are your ideas about UID? and (2) What factors might facilitate or hinder UID on this campus? Each session was either video or audio recorded, then transcribed.

**Analysis**

The transcriptions of the sessions were used as a basis for conducting a content analysis. This approach is commonly used in qualitative studies (Fraenkel & Wallen, 1990; Spradley, 1980). We considered the content of these transcripts as having potential domains that could include sub-domains or categories. We followed the process for identifying terms and domains as outlined by Spradley (1980). Each of us reviewed the transcripts and highlighted terms that identified what faculty noted as characteristics of universal instructional design (e.g., flexible, multimodal, inclusive). These terms were clustered in domains for the analysis (i.e., concepts about universal instructional design, types of implementation, and barriers for success). If a term was used at least twice by faculty members, it was included for consideration within a domain. All three reviewers met to go over the worksheet of terms and domains and to review the terms and domains to establish a final worksheet for presentation.

**RESULTS**

These faculty's views or concepts of UID represent certain attitudes toward higher education instruction and specific practices that are useful for implementation: (1) they hold high expectations for all students; (2) they want all their students to do well in their courses; (3) they want to be responsive to all diverse learning needs presented by students; (4) they feel that their diverse teaching methods may benefit all students; (5) they expect to maintain high standards; (6) they believe all learners need options in instruction and assessment, and gifted teachers naturally teach in a universal manner; (7) they are always looking for new ways to teach and to be creative in their instruction; and (8) they have been informed of the diverse learning styles by the presentation of diverse learners in their classes (e.g., students with learning disabilities). These faculty also had expectations that students would have high standards for themselves, and that students must accept responsibility for their own learning.

The strategies that they believed contributed to UID and benefitted students with disabilities were: cooperative learning, team approach, contextual learning, computer-assisted instruction, constructive learning, scaffolding, on-line instruction and assessment, prepared materials and advance organizers before class, multi-modal instruction, peer editing/peer groups, criterion-based learning, extended time for exams and projects, putting all materials on reserve, testing in the same manner as teaching, modeling, prompting, and cueing. Some faculty suggested the concept of flexibility in instruction that required them to change strategies immediately when needed; as one faculty member termed it, "in the heat of the battle."

The use of technology that is multi-modal and interactive (e.g., internet-based courses) was also noted. These faculty in the sciences, for example, appear to be implementing the concept of universal design for instructional materials.

Faculty also discussed barriers to UID. Several faculty members noted that universities adhere to tradition and the status quo and that any change within this setting is difficult. Also, they noted time as a crucial factor. While they recognized that implementing such approaches would eventually save time once they become routine, the beginning phases would be time-consuming. They also noted attitudes as barriers. They felt that some faculty members engage in "gate-keeping" and feel that "some people do not belong in higher education." They noted a sense of elitism among faculty members.

Another barrier to such an approach is the fact that most professors are not trained to teach. Instead, they are experts in their own disciplines rather than in pedagogy. Another barrier participants noted is a lack of awareness of types of diverse learning needs within higher education. A lack of training on new pedagogical methods and diverse learning styles was also noted. Another important barrier to UID implementation was the perception that faculty have freedom to teach in any manner they choose, and they develop resentment toward any attempt made to impose upon them new instructional techniques.

These faculty also presented what they felt needed to be changed within the university system. For example,
they felt that a complete change in the university culture was necessary; they indicated a need for a transformation in approaches resulting in all new ways of teaching and learning within the university environment; specific strategies need to be presented to faculty, and the system needs to find new ways to benefit all students.

Faculty members did offer suggestions for support for the UID approach. That is, they recommended faculty training concerning the specific strategies for UID. They also recommended the development of workbooks with sample strategies and syllabi. The participating faculty members also felt that introductions and support for on-line education would support UID training. Also, these faculty welcomed suggestions for support services and from the faculty development office for innovative strategies as well as suggestions for effective academic adjustments.

DISCUSSION

Any interpretations of these findings must be considered in light of the nature and setting for the study. These findings represent one university's experiences in providing services to students with disabilities. Also, a small number of faculty participated in the study. All these faculty had worked closely with the LDSS office over several years and had been nominated by students with disabilities as exemplary teachers. Also, the LDSS director attended the sessions—a factor that may have influenced the findings.

One of the most interesting findings derived from this small group of faculty is the realization that, for an approach such as UID to be effective and bring long-lasting change, the university community and culture must undergo an entire change or transformation in its manner of instruction. While faculty noted that this transformation must occur, they did not offer suggestions for how to achieve a transformation of the entire university culture, nor did they appear hopeful that such a change may be feasible. Faculty noted that the university culture is traditionally conservative and that it maintains the status quo. These faculty conjectured that a change in the current "way of operating" would be slow and difficult. A recent study, in fact, confirms these perceptions. Trice and Day (1997) found that higher education faculty's educational goals have not changed in over 20 years, although "today's students, overall, have different goals from those of students who attended college only 2 or 3 decades ago" (p. 527).

Faculty members did, however, have specific suggestions for implementing UID within the current university structure. They felt that faculty development, as implemented through the University's Center for Teaching, could assist faculty in becoming aware of diverse learning needs and specific accommodations. They also desired workbooks and specific materials to which they could refer for specific accommodations within their courses. These findings are in concert with another study conducted by this research team: faculty feel that the more resources, guidance, and support they receive from support services, the more they are willing to accommodate students with disabilities (Bourke, Strehorn, & Silver, 1997).

Although the faculty members felt that a total implementation of UID would be difficult within a university setting, the authors were impressed with the significant number of accommodations these faculty use and their awareness of students' specific learning needs. These faculty were willing to accommodate students with disabilities and viewed such accommodations as within their realm of responsibility. These participants, the majority of whom were tenured and who had considerable teaching experience in higher education, were interested in innovative teaching approaches and in self-renewal.

While this study had a small number of participants, it raises interesting aspects of UID that must be considered. First, the entire university culture must be viewed as part of this process. Acceptance of students with diverse learning needs must be part of the transformation in order for UID to be successful. Higher education administrators and faculty need to develop mission statements that include diverse learners as members of the educational community. Second, some faculty members are engaged in this UID approach, which may very well represent a current trend in higher education (i.e., curricular reform seems to encompass many of these concepts). If administrators and faculty perceive curricular reform in higher education as one that is inclusive, then students with disabilities will no longer be secondary or invisible to the system at large. Third, faculty development efforts appear to be emerging as a new approach in higher education, and UID may be a touchstone for these development efforts. More research of this nature is needed to determine necessary components of this approach.

As to next steps within our own university, the Center for Teaching is planning a pilot study with one program to develop training materials for UID in higher education. If post-secondary instructors are to consider the implementation of the UID concept, such types of training are critical for successful implementation.

REFERENCES


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