

## Provision of Educational Supports to Students with Disabilities in Two-year Postsecondary Programs

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### Abstract

*Changes in the United States labor market have increased the importance of possessing a postsecondary education. However, students with disabilities often experience limited access to, and success within, postsecondary education programs. Therefore, understanding the educational supports and accommodations needed by students with disabilities to progress and succeed in postsecondary programs is of critical importance. To address this need, the National Center for the Study of Postsecondary Educational Supports (NCSPEs) at the University of Hawaii at Manoa recently completed a national survey of educational support provision in postsecondary programs, with a focus on two-year community colleges and vocational-technical programs. Results were based on responses provided by disability support coordinators of 650 two- and four-year postsecondary institutions. This article will describe the survey results and implications for post secondary schools serving students with disabilities.*

### Introduction

For individuals with disabilities, attending an institution of higher education is no longer a fantasy. It is a reality occurring with greater frequency. Federal legislation such as the *Americans with Disabilities Act* (ADA) in 1990 (PL 101-336), along with the reauthorized *Individuals with Disabilities Education Amendments of 1997* (PL 105-17), has increased accessibility to postsecondary education. As a result, the number of postsecondary students reporting a disability has increased dramatically (Digest of Educational Statistics, 1996). The proportion of first-time, full-time students with disabilities attending colleges and universities tripled between 1978 and 1994 from 2.6% to 9.2% (Henderson, 1999; Lehmann, Davies, & Laurin, 2000; National Council on Disability, 2000; Petty & Kolvitz, 1996; Vogel, Leyser, Wyland & Brulle, 1999). By 1998, the full range of students with disabilities (i.e., part-time students and students enrolled in graduate programs) had risen to 10.5% of the postsecondary student population (Gajar, 1998). In a recently released report, the National Council on Disability (2000) revealed that 17% of all students attending higher education programs in the United States had a disability.

Clearly there are a number of postsecondary options from which students with disabilities may choose, including two- and four-year colleges and universities, technical colleges, trade schools, and even some vocationally-specific certification programs (Cocchi, 1997). Of these options, reports have in-

dicated that students with disabilities are more likely to attend two-year and community colleges (HEATH, 1993; National Center for Education Statistics, 2000; National Council on Disability, 2000). While attending these programs, they are more likely than their nondisabled peers to earn an associate's degree or certificate; whereas, their nondisabled peers more frequently take general education courses that can be transferred to a four-year institution (National Center for Education Statistics, 2000).

What is it about two-year and community colleges that attracts students with disabilities? Why do so many of these students consider these institutions to be their best choice as they begin the postsecondary education experience? Cocchi (1999) cites ten factors that positively influence the decision

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to attend a community college: (a) location, (b) cost, (c) peer group, (d) open enrollment, (e) entrance exams, (f) programs of study, (g) class size, (h) course offerings, (i) length of program, and (j) support services. Seven of these factors — location, cost, peer group, class size, programs of study, course offerings, and length of program — are relevant to anyone (with or without a disability) in the decision-making process of choosing postsecondary educational options. However, the remaining

three factors—open enrollment, entrance exams, and support services, may be essential to the decision-making process and academic well-being of large numbers of students with disabilities choosing to attend institutions of higher education.

The admissions policies of many four-year colleges and universities often prohibit the acceptance of any and all persons possessing a “certificate of completion” (as opposed to a regular high school diploma) or a GED (High School Equivalency Exam). In contrast, “most two [year] and community colleges have a true open admission policy—that is, they strive to admit all” (HEATH, 1993, p. 2). Many two-year and community colleges have placement tests designed specifically for their particular college. Such tests, when given with accommodations, may provide a clearer picture of a student’s skill level relative to students enrolled at that college (Cocchi, 1997).

But, by far, it is the types of disability services and supports offered by a two-year or community college that are critical decision-making factors for a student with disabilities (Cocchi, 1999). While several documents (Cocchi; HEATH Resource Center, 1993; National Clearinghouse on Postsecondary Education for Individuals with Disabilities, 1999) have suggested that two-year schools demonstrate greater institutional commitment to supporting students with disabilities, there is limited research verifying that two-year and community colleges provide more support for students with disabilities than four-year colleges and universities.

## Purpose and Research Objectives

Therefore, The National Center for the Study of Postsecondary Educational Supports (NCSPEs)

at the University of Hawaii at Manoa conducted a national survey of educational support provision, across a large range of two- and four-year postsecondary programs. The national survey focused upon the provision of supports for a targeted population—students with disabilities. The purpose of this study, then, was to identify the types of supports postsecondary institutions are providing for students with disabilities. More specifically, we investigated:

1. The types of educational supports and accommodations provided to students with disabilities in two-year (or less) postsecondary programs,
2. The extent to which assistive technology (AT) is available for students with disabilities in two-year postsecondary programs,
3. How two-year postsecondary programs compare in the provision of educational supports with other postsecondary programs, and
4. The extent to which two-year postsecondary programs connect students with disabilities to community-based services and employment situations.

## Method

A survey was developed, piloted, and distributed to a national sample of more than 1,500 disability support coordinators in two- and four-year postsecondary institutions. The survey was administered in a voluntary manner and individual responses were treated with strict confidentiality. Respondents were informed that their participation could have an impact on future national policy and practice decisions. Of the 1,500 surveys distributed, 650 (43%) respondents completed and returned the survey.

## Survey Content

Content for the survey ques-

tions was generated from a national working group of researchers who are members of a consortium of five universities comprising the National Center for the Study of Postsecondary Educational Supports. The work groups consisted of research personnel, including persons with disabilities, persons in rehabilitation services, postsecondary educational support personnel, and individuals with expertise in the development of national surveys.

The questions generated in this preliminary step of survey development were constructed into a pilot study with a sample of 20 disability support coordinators at both two- and four-year institutions of higher education in the State of Hawaii. The pilot study provided feedback regarding question content and wording clarification, as well as suggestions for item addition and removal.

Based on the pilot study feedback, an eight-page survey was developed that took ap-

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proximately forty-five minutes to complete. Survey content was structured around clusters of the following topics, with the present study reporting results from the first three topics:

- Institution’s capacity to offer supports or accommodations
- Number of students who receive support and disability type
- Availability of technological assistance
- Outreach programs

- Funding and specialized staff issues that affect students with disabilities
- Written policies
- Information about the respondent

### Survey Sample

The survey was distributed nationally via two methods. The first method involved the participation of a partnering organization, the Association for Higher Education and Disabilities (AHEAD). The AHEAD membership list was composed of Disability Service Coordinators of both public and private postsecondary institutions, as well as two- and four-year institutions. A total of 750 paper copies of the survey were mailed to randomly selected AHEAD members across the nation. To ad-

### Data reported in this paper will focus primarily on responses from the two-year or less than two-year institutions.

dress any bias issues surrounding AHEAD membership, a second institution list of non-AHEAD participants was generated from a randomized, regionally stratified list of postsecondary institutions selected from the 1995 Integrated Postsecondary Education Data System (IPEDS) CD ROM database, which is maintained by the National Center for Educational Statistics (NCES), U.S. Department of Education. The IPEDS sampling framework included data on some 3,000 primary providers (institutions) of postsecondary education.

Following the first two rounds of sample selection, a subsample of minority institutions was added to ensure their inclusion within the survey sample (i.e., 15 historically black institutions and 15 Native American institutions), for a total of 780 institutions within the

IPEDS sampling framework. Paper copies of the survey were mailed to these institutions.

Respondents from the sampling process consisted of 465 AHEAD members and 184 non-AHEAD members. The respondents within the sample were further profiled as follows: 422 were from public schools versus 193 from private schools; 246 were from two-year or less than two-year schools versus 369 from four-year schools. Data reported in this paper will focus primarily on responses from the two-year or less than two-year institutions. Although it is not an entirely accurate description, these 246 schools will be referred to as two-year institutions (as opposed to two-year or less institutions) throughout the remainder of the text.

### Data Analysis

Results presented in this paper were calculated using SPSS Data Analysis System. First, each survey question was summarized using frequency counts. Further quantitative analysis was then conducted to determine statistical significance between groups of items. These analyses were conducted using Chi-Square and Analysis of Variance (ANOVA). For example, the Chi-Square test was performed for questions with categorical data (Yes/No). An one-way ANOVA was used for questions with scale data (i.e. Likert-type scale ranging from 0-4).

### Results

As a preface to the results section, it is important that we acknowledge the discovery of one important, yet unintended, limitation of the present study. In our survey, respondents were asked about the capacity of their institution to offer various supports or accommodations as needed by students with disabilities. In retrospect, asking

the *capacity* of one's school to offer various supports, rather than asking how often supports and accommodations *were provided*, may have introduced a confounding factor into our results. It is quite possible that respondents focusing on the words, *capacity of your institution to offer supports and accommodations*, may have responded differently from those who chose to focus on the actual frequency with which supports and accommodations were provided. As a consequence of our choice of words, we are only able to report the ability or capacity of the institutions in our sample to offer various supports. We are unable to determine the degree to which supports and accommodations were (or will be) actually provided.

The extent to which two- and four-year postsecondary institutions provide various types of educational supports and accommodations is important information as increasing numbers of youth with disabilities seek to improve their quality of life through participation in postsecondary education/training. Based upon the literature reviewed in preparation for this study (Barnett, 1993; Henderson, 1999; Lewis & Farris, 1999; National Council on Disability, 2000), it was hypothesized that two-year postsecondary educational institutions would provide more supportive environments for students with disabilities and other special needs. Findings from the current study provide a more in-depth picture of the types of educational supports provided within two-year postsecondary education programs, as well as a comparative analysis of differences in support provision across two- and four-year postsecondary institutions.

### *Frequency and Types of Educational Supports in Two-year Postsecondary Programs*

Since empirical evidence is relatively sparse regarding the current practice of providing educational supports and accommodations for students with disabilities at the postsecondary level, our research team sought to establish a national baseline of the frequency and types of supports offered in postsecondary programs, especially in two-year institutions. Therefore, while investigating the first research objective, the types of educational supports and accommodations provided to students with disabilities in two-year (or less) postsecondary programs, participants were asked what the capacity of their institution was to offer the following supports or accommodations as needed by students with disabilities. A list of 34 supports/accommodations were provided and respondents were asked to use the following scale to report how often each support/accommodation is offered within their overall programs of study:

- 0 = not offered;
- 1 = offered less than 25% of time;
- 2 = offered 25-50% of time;
- 3 = offered 51-75% of time;
- 4 = offered more than 75% of time

The findings listed in Table 1 provide a comprehensive picture of the various types of educational supports offered to students with disabilities in two-year postsecondary programs.

Testing accommodations was the support most frequently offered to students with disabilities in two-year postsecondary settings (84% of the respondents reported that they offered this service more than 75% of the time). Disability-specific scholarships and supports for study abroad were the most infre-

quently offered supports with 59% of the schools not offering disability-specific scholarships, and 83% not offering supports for study abroad. Other most frequently provided supports included developmental/remedial instruction, learning center laboratories, tutors, and study skills classes with over half to almost three-fourths of the schools providing these services more than 75% of the time. Career/vocational and personal counseling, providing advocacy services, and providing interpreters/translitterators and/or notetakers/scribes/readers were also frequently provided with over two-thirds of the schools these providing supports more than 75% of the time. Interestingly, accessible transport on campus, disability-specific and assistive technology evaluations were infrequently provided with approximately one-half to one-third of the schools not providing these supports at all.

To better understand the overall picture of the first research objective — types of educational supports and accommodations provided to students with disabilities in two-year (or less) postsecondary program — supports were grouped by the categories illustrated in Table 2.

Grouped analysis revealed that common generic supports were provided the most frequently, followed by educational/personal strategies instruction. Accommodations under the career assessment/work experience category were the next most frequently offered supports. The most infrequently offered supports were in the categories of financial assistance, physical accessibility, and administrative supports. Supports fitting into the assistive technology category were varied and will be discussed more thoroughly in the following section, which out-

lines the results of the second research objective.

Common generic supports such as testing accommodations, personal counseling, advocacy and tutoring services were the most frequently provided with 60 to 85% of the responding two-year institutions offering these supports more than 75% of the time. Two-year institutions also frequently provided classes and supports in educational strategies such as special learning skills, memory and study skills, and metacognitive skills. Fifty-seven percent of the institutions responded that study skills assistance was offered more than 75% of the time (approximately one-third offered memory and communication skills more than 75% of the time). However, only one-fourth of the institutions offered meta-cognitive strategies more than 75% of the time. Two-year schools also provided developmental/remedial instruction, learning center laboratories, and classes in organization and time management, self-advocacy, and communication with relative frequency. For example, remedial instruction and learning center laboratories were offered by 71% and 62% of the schools more than 75% of the time. And half (49.6%) of the respondents reported that organization and time management assistance was offered more than 75% of the time. While advocacy assistance was offered by 65% of the schools more than 75% of the time (see common generic supports); only 44% of the schools reported offering supports to develop self-advocacy skills more than 75% of the time. Along those same lines, 23% of the institutions offered self-advocacy skills training less than one-quarter of the time, whereas only 17% offered advocacy assistance less than one-quarter of the time.

**Table 1**  
**Frequency of provision of educational supports by two-year schools (N=246)**

Type of supports	Not offered	Offered less than 25% of the time	Offered 25% to 50% of the time	Offered 51% to 75% of the time	Offered more than 75% of the time
Supports for study abroad	82.9%	7.3%	2.0%	2.4%	5.3%
Disability-specific scholarships	58.9%	18.7%	6.5%	4.9%	11.0%
Real-time captioning	71.5%	8.9%	3.3%	3.3%	13.0%
Facilitate transfer of supports to the work setting	48.4%	22.4%	10.2%	4.5%	14.6%
Accessible transport on campus	65.9%	4.5%	5.7%	3.7%	20.3%
Assistive technology evaluations for students	47.2%	14.6%	9.8%	7.7%	20.7%
Meta-cognitive strategies	30.1%	16.7%	17.5%	11.4%	24.4%
Summer orientation programs for students	57.3%	11.0%	2.8%	3.7%	25.2%
Disability-specific assessment/evaluation	48.0%	11.8%	6.5%	8.5%	25.2%
Internships/externships	30.1%	14.6%	13.8%	12.2%	29.3%
Equipment or software provision (loan/lease/purchase)	26.8%	15.0%	13.0%	14.6%	30.5%
Document conversion	28.0%	15.0%	13.4%	10.6%	32.9%
Memory skills	22.4%	16.7%	17.1%	11.0%	32.9%
Skills training on equipment/software	19.1%	15.9%	14.6%	14.2%	36.2%
Communication skills	20.3%	16.7%	13.8%	11.8%	37.4%
Class relocation	20.3%	19.1%	8.1%	13.0%	39.4%
AT supports across campus	15.4%	13.0%	13.0%	17.5%	41.1%
Adaptive furniture	16.3%	11.0%	11.0%	20.7%	41.1%
Work experience or work-study opportunities	15.4%	15.0%	12.2%	15.0%	42.3%
Special learning strategies	11.8%	10.2%	18.3%	17.1%	42.7%
Self-advocacy skills	15.4%	7.7%	15.4%	17.1%	44.3%

*Table 1 continued on next page . . .*

**Table 1, cont.**  
**Frequency of provision of educational supports by two-year schools (N=26)**

Type of supports	Not offered	Offered less than 25% of the time	Offered 25% to 50% of the time	Offered 51% to 75% of the time	Offered more than 75% of the time
Organizational and time management	9.3%	11.0%	14.6%	15.4%	49.6%
Priority registration/course	24.8%	11.0%	4.9%	6.1%	53.3%
Study skills	6.9%	10.6%	11.4%	13.8%	57.3%
Tutors	9.8%	4.5%	11.4%	14.6%	59.8%
Learning center laboratory	16.7%	5.3%	5.7%	10.6%	61.8%
Interpreter/transliterators	14.2%	10.2%	5.7%	6.1%	63.8%
Advocacy	10.2%	7.3%	6.1%	11.8%	64.6%
Notetakers/scribes/readers	11.4%	6.5%	6.9%	9.3%	65.9%
Personal counseling	4.9%	5.7%	9.8%	11.8%	67.9%
Career/vocational assessment and counseling	5.7%	4.9%	8.9%	11.4%	69.1%
Developmental/remedial instruction	5.7%	5.7%	7.7%	10.2%	70.7%
Testing accommodations	2.4%	4.5%	2.0%	6.9%	84.1%

While career/vocational assessment and counseling was provided at more than two-thirds of the schools more than 75% of the time; actual work-study and internships were provided much less frequently (only 30-42% of the schools offered these supports 75% or more of the time). Forty-six percent offered job placement services more than 75% of the time. And transferring supports to the workplace was provided the least frequently with almost half of the schools reporting they did not provide this service at all.

Of all the supports respondents were asked about (34 items), financial supports such as study abroad and disability-specific scholarships were the most infrequently provided. Ad-

ministrative supports were also provided infrequently with 25% percent of the schools not offering priority registration at all, and 57% not offering summer orientation programs.

Interestingly, physical accommodations such as accessible transport on campus and class relocation were offered infrequently, with 66% of the schools not offering accessible transport and 20% of the schools not offering class relocation. Conversely, only 20% offered accessible transport and 39% offered class relocation more than 75% of the time. Adaptive furniture was provided more frequently with 41% of the responding institutions offering it more than 75% of the time and only 14% not offering adaptive

furniture at all. Another surprising finding is that assistive technology and disability-specific evaluations were infrequently offered, with almost half (approximately 48%) of the respondents indicating their schools do not offer such accommodations.

#### ASSISTIVE TECHNOLOGY

In answering the second research objective describing the extent to which assistive technology (AT) is available for students with disabilities in two-year postsecondary programs, we found that adaptive furniture (as mentioned above) and assistive technology supports across campus were the most frequently offered AT supports and real-time captioning was offered the most infrequently.

**Table 2**  
**Frequency of educational supports by category (N=246)**

Type of supports	Not offered	Offered less than 25% of the time	Offered 25% to 50% of the time	Offered 51% to 75% of the time	Offered more than 75% of the time
<b>Common Generic Supports:</b>					
Testing accommodations	2.4%	4.5%	2.0%	6.9%	84.1%
Personal counseling	4.9%	5.7%	9.8%	11.8%	67.9%
Advocacy	10.2%	7.3%	6.1%	11.8%	64.6%
Tutors	9.8%	4.5%	11.4%	14.6%	59.8%
<b>Educational/Personal Strategies</b>					
<b>Instruction:</b>					
Developmental/remedial instruction	5.7%	5.7%	7.7%	10.2%	70.7%
Learning center laboratory	16.7%	5.3%	5.7%	10.6%	61.8%
Study skills	6.9%	10.6%	11.4%	13.8%	57.3%
Organizational and time management skills	9.3%	11.0%	14.6%	15.4%	49.6%
Self-advocacy skills	15.4%	7.7%	15.4%	17.1%	44.3%
Special learning strategies	11.8%	10.2%	18.3%	17.1%	42.7%
Communication skills	20.3%	16.7%	13.8%	11.8%	37.4%
Memory skills	22.4%	16.7%	17.1%	11.0%	32.9%
Meta-cognitive strategies	30.1%	16.7%	17.5%	11.4%	24.4%
<b>Career Assessment and Work Experience:</b>					
Career/vocational assessment and counseling	5.7%	4.9%	8.9%	11.4%	69.1%
Job placement services	17.1%	14.2%	8.9%	14.2%	45.5%
Work experience or work-study opportunities	15.4%	15.0%	12.2%	15.0%	24.4%
Internships/externships	30.1%	14.6%	3.8%	12.2%	29.3%
Transfer of supports to the work setting	30.1%	16.7%	17.5%	11.4%	24.4%
<b>Assistive Technology:</b>					
Notetakers/scribes/readers	11.4%	6.5%	6.9%	9.3%	65.9%
Interpreter/transliterators	14.2%	10.2%	5.7%	6.1%	63.8%
[Adaptive furniture* listed below as well]	16.3%	11.0%	11.0%	20.7%	41.1%
AT supports across campus	15.4%	13.0%	13.0%	17.5%	41.1%
Skills training on equipment/software	19.1%	15.9%	14.6%	14.2%	36.2%

*Table 2 continued on next page . . .*

**Table 2 (con't.)**  
**Frequency of educational supports by category (N=246)**

Type of supports	Not offered	Offered less than 25% of the time	Offered 25% to 50% of the time	Offered 51% to 75% of the time	Offered more than 75% of the time
<b>Assistive Technology (con't):</b>					
Document conversion	28.0%	15.0%	13.4%	10.6%	32.9%
Equipment or software provision (loan/lease/purchase)	26.8%	15.0%	13.0%	14.6%	30.5%
Assistive technology evaluations for students	47.2%	14.6%	9.8%	7.7%	20.7%
Real-time captioning	71.5%	8.9%	3.3%	3.3%	13.0%
<b>Administrative:</b>					
Priority registration/course scheduling	24.8%	11.0%	4.9%	6.1%	53.3%
Summer orientation programs for students with disabilities	57.3%	11.0%	2.8%	3.7%	25.2%
<b>Physical Accessibility:</b>					
Adaptive furniture	16.3%	11.0%	11.0%	20.7%	41.1%
Class relocation	20.3%	19.1%	8.1%	13.0%	39.4%
Accessible transport on campus	65.9%	4.5%	5.7%	3.7%	20.3%
<b>Financial Assistance:</b>					
Disability-specific scholarships	58.9%	18.7%	6.5%	4.9%	11.0%
Supports for study abroad	82.9%	7.3%	2.0%	2.4%	5.3%

Forty-one percent of the two-year institutions offered assistive technology supports across campus, 36% offered skills training on equipment/software, and 33% offered document conversion more than 75% of the time. In examining the number of schools offering AT more than half of the time, we found that 62% offered adaptive furniture, 59% offered assistive technology supports across campus, 50% offered skills training on equipment/software, 45% offered equipment or software provision, and 44% of-

fered document conversion. Conversely, 15 - 28% of the two-year schools did not offer these AT services at all.

Interpreter/transliterator services were offered by 64% of the schools more than 75% of the time. On the other hand, real-time captioning was rarely offered. Seventy-two percent of the responding two-year programs indicated that they did not offer this support; only 13% offered this support more than 75% of the time.

Approximately half of the respondents (47%) indicated that

assistive technology evaluations for students with disabilities were not offered by their institutions; and 21% of the respondents stated that their institutions offered these evaluations more than 75% of the time. This support, like many others, has a small middle ground. It appears that in many cases the schools either offered the support to a wide range of students (more than 75% of the time), or did not offer it at all (See Tables 1 & 2). Interestingly, while the provision of AT evaluations by two-year programs was quite

low (47% of the schools did not offer this service); the number of two-year schools providing this service was significantly higher than four-year schools (64% of the four-year institutions did not offer AT evaluations; and only 14% offered this service more than 75% of the time. (See Table 3 for a comparison of two- and four-year institutions). In general, the two-year institutions provided significantly more AT supports. In fact, of the 10 supports offered by two-year institutions more frequently than their four-year counterparts, five of these involved assistive technology.

Two-year schools offered significantly more support in providing equipment or software, skills training on equipment/software, assistive technology supports across campus, and adaptive furniture. Only in the area of document conversion were there no statistically significant differences. In each of the other AT areas (evaluation, equipment, training, and support), two-year institutions offered AT supports at a significantly higher level than the four-year institutions. Conversely, for each of the above AT supports, significantly more four-year institutions did not offer the service at all. It appears as though community colleges and technical institutions are more committed to providing AT equipment, training, and support than the four-year college and university respondents.

### *Comparison of Educational Support Offerings in Two-year and Four-year Postsecondary Settings*

After identifying the types of educational supports and AT offered to students with disabilities at two-year postsecondary institutions; our research team wanted to determine how two-year postsecondary programs

compare in the provision of educational supports with other postsecondary programs. Given that the overall sample of participants consisted of two- and four-year institutions, it was possible to compare findings across the two types of schools.

One-way ANOVA was conducted for each of the 34 supports to determine whether there were statistically significant differences between two- and four-year postsecondary schools. Table 3 displays the 10 supports (out of 34) that were offered significantly more often by two-year postsecondary programs than by four-year programs. Furthermore, two-year programs yielded noticeably higher mean scores for services offered more than half of the time (51% of the time or more).

As mentioned previously, two-year institutions offered significantly more support in the all areas of AT except document conversion. Another distinctive difference was in offering support services to help students acquire the academic skills necessary to succeed in postsecondary education. Two-year institutions offered significantly more support than four-year institutions in developmental/remedial instruction activities, especially in the core academic areas of math and English; significantly more support services involving learning center or laboratory facilities, and interpreter services, note-taking, and career and disability-specific assessment and evaluation.

The two highest F values (from ANOVA tests) came from comparisons between two- and four-year institutions with respect to providing developmental/remedial instruction and learning center laboratory activities. Of the two-year institution respondents, 70.7% offered developmental/remedial instruction more than 75% of the

time, and 61.8% offered learning center laboratory activities more than 75% of the time.

Interestingly, there were no statistically significant differences between two-year and four-year institutions in the support areas of tutors, special learning strategies, study skills, memory skills, meta-cognitive skills, organization and time management, and communication skills. These appear to be more generic student services. In other words, they are used by all students, not just students with disabilities.

Two-year postsecondary institutions did significantly better than the four-year institutions when offering disability assessment/evaluation services, even though only half of the schools in both groups reported

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**In other words, two-year and four-year institutions provided personal counseling with approximately the same frequency.**

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they actually conducted the assessment/evaluation on-site. In fact, two-year institutions provided more assessment/counseling services in general. In addition to disability-specific evaluations, they provided more support in AT evaluations, and career/vocational assessment and counseling. In the area of personal counseling, there were no significant differences. In other words, two-year and four-year institutions provided personal counseling with approximately the same frequency. Overall, two-year institutions provided more academic and career-guidance assistance, and were willing to provide assistive technology when needed to help students succeed.

### *Community Connections*

Our final research objective was to determine the extent to which

**Table 3**  
**Comparison of Educational Support Offerings Across Two and Four-year Schools**

Type of Supports		Not offered N (%)	Offered	Offered	Offered	Offered	Mean	F (1,613)	P-Level
			less than 25% of the time N (%)	25% to 50% of the time N(%)	51% to 75% of the time N(%)	more than 75% of the time N(%)			
Developmental/remedial instruction	2 yr	14 (5.7%)	14 (5.7%)	19 (7.7%)	25 (10.2%)	174 (70.7%)	3.35	148.30	.000
	4 yr	146 (39.6%)	48 (13.0%)	28 (7.6%)	29 (7.9%)	118 (32.0%)	1.80		
Learning center laboratory	2 yr	41 (16.7%)	13 (5.3%)	41 (5.7%)	26 (10.6%)	152 (61.8%)	2.96	19.935	.000
	4 yr	114 (30.9%)	18 (4.9%)	34 (9.2%)	35 (9.5%)	168 (45.5%)	2.34		
Assistive technology evaluations for students	2 yr	116 (47.2%)	36 (14.6%)	24 (9.8%)	19 (7.7%)	51 (20.7%)	1.40	15.882	.000
	4 yr	235 (63.7%)	52 (14.1%)	17 (4.6%)	12 (3.3%)	53 (14.4%)	0.91		
Skills training on equipment/software	2 yr	47 (19.1%)	39 (15.9%)	36 (14.6%)	35 (14.2%)	89 (36.2%)	2.33	13.947	.000
	4 yr	118 (32.0%)	63 (17.1%)	53 (14.4%)	32 (8.7%)	103 (27.9%)	1.83		
Adaptive furniture	2 yr	40 (16.3%)	27 (11.0%)	27 (11.0%)	51 (20.7%)	101 (41.1%)	2.59	12.569	.000
	4 yr	92 (24.9%)	64 (17.3%)	41 (11.1%)	47 (12.7%)	125 (33.9%)	2.13		
AT supports across campus	2 yr	38 (15.4%)	32 (13.0%)	32 (13.0%)	43 (17.5%)	101 (41.1%)	2.56	11.332	.0001
	4 yr	102 (27.6%)	42 (11.4%)	55 (14.9%)	50 (13.6%)	120 (32.5%)	2.12		
Equipment or software provision (loan/lease/purchase)	2 yr	66 (26.8%)	37 (15.0%)	32 (13.0%)	36 (14.6%)	75 (30.5%)	2.07	8.712	.003
	4 yr	141 (38.2%)	58 (15.7%)	38 (10.3%)	44 (11.9%)	88 (23.8%)	1.67		

*Table 3 continued on next page . . .*

**Table 3 (con't.)**  
**Comparison of Educational Support Offerings Across Two and Four-year Schools**

Type of Supports		Not offered N (%)	Offered less than 25% of the time N (%)	Offered 25% to 50% of the time N(%)	Offered 51% to 75% of the time N(%)	Offered more than 75% of the time N(%)	Mean	F (1,613)	P-Level
Career/vocational assessment and counseling	2 yr	14 (5.7%)	12 (4.9%)	22 (8.9%)	28 (11.4%)	170 (69.1%)	3.33	8.276	.004
	4 yr	40 (10.8%)	23 (6.2%)	39 (10.6%)	53 (14.4%)	214 (58.0%)	3.02		
Interpreter/transliterator	2 yr	35 (14.2%)	25 (10.2%)	14 (5.7%)	15 (6.1%)	157 (63.8%)	2.95	5.907	.015
	4 yr	76 (20.6%)	45 (12.2%)	21 (5.7%)	26 (7.0%)	201 (54.5%)	2.63		
Disability-specific assessment/evaluation	2 yr	118 (48.0%)	29 (11.8%)	16 (6.5%)	21 (8.5%)	62 (25.2%)	1.51	5.186	.023
	4 yr	209 (56.6%)	42 (11.4%)	24 (6.5%)	22 (6.0%)	72 (19.5%)	1.20		

Note: One-way ANOVA tests were used to determine if statistically significant differences existed between supports offered by two- and four-year institutions. The significance level used for each test (34 items) was  $p > .05$ . Therefore, it must be noted that the probability of a Type I Error is greatly increased.

two-year postsecondary programs connect students with disabilities to community-based services and employment situations. Table 4 provides a description of the different types of outreach services provided by two- and four-year institutions.

Table 4 clearly demonstrates the statistically significant differences between two- and four-year institutions with respect to community outreach activities that benefit students with disabilities. Two-year institutions offered significantly more outreach and linkage supports for working with high school counselors or transition coordinators, special education teachers, state vocational rehabilitation personnel, other rehabilitation professionals, federal programs,

and business/employers. Moreover, two-year institutions offered more supports (but not reaching levels of statistical significance) when working with parent/family organizations, and disability consumer/advocacy groups. Clearly, two-year institutions are better connected with external programs and community organizations, which may in turn provide more assistance to students in their academic careers and possibly a smoother transition into subsequent employment settings.

### Discussion

Equal access to, and reasonable accommodation in the areas of recruitment and admission, general student treatment, academic requirements and in-

struction, and other nonacademic services (e.g., transportation, counseling, placement services) continues to be an ongoing issue for persons with disabilities choosing to go on to higher education. As noted throughout this paper, and supported by other researchers (Eichhorn, 1997; Gilson, 1996; Scott, 1996), even though special accommodations, services and/or supports for persons with disabilities in postsecondary education are mandated under both Section 504 and the ADA, neither of these laws, nor the implementing regulations that empower them, specify how or in what forms postsecondary institutions should provide such special accommodations, services and/or supports. The re-

**Table 4**  
**Comparison of Outreach Offerings Concerning Students with Disabilities Across Two- and Four-year Postsecondary Institutions**

Type of outreach	2 yr	4 yr	$X^2$	P
Special education teachers	76.8%	49.3%	46.66	.000
High school counselors or transition coordinator	87.4%	63.1%	43.897	.000
Other rehabilitation professionals	76.0%	50.7%	39.767	.000
Federal programs	50.0%	30.1%	24.844	.000
Business/employers	45.1%	26.0%	24.129	.000
Parent/family organizations	51.2%	43.6%	3.415	.000
Consumer/advocacy groups	45.9%	38.5%	3.378	.000
Other	6.9%	5.7%	.379	.000

sults of our study concur with Scott's (1996) earlier findings that postsecondary institutions "vary widely according to mission, faculty, and staff, student body, course offerings, financial resources, size, location, and so forth. Access to these diverse campuses also varies widely to meet local needs, purposes, and priorities" (p. 219).

#### *Testing Accommodations*

Our research team sought to establish a national baseline of the frequency and types of supports postsecondary programs had the capacity to offer students with disabilities. Testing accommodations was the educational support most frequently offered to students with disabilities in two-year postsecondary settings. This is not surprising given long-standing attention to this issue in the research and popular press literature. Testing accommodations, defined as a change in how tests are administered or how the person tested responds (Elliott et al., 1998), has been a common and sometimes conten-

tious topic, concerning everything from special education eligibility criteria, ability grouping, biases in standardized tests, standardized minimum competency tests for high school graduation, and school accountability outcome measures (Chiu & Pearson, 1999; Lombardi & Burke, 1999; National Association of State Directors of Special Education, 1999).

#### *Scholarships and Financial Supports*

Disability specific scholarships and supports for study abroad were the most infrequently offered supports. While we have no data to support this claim, we believe that students with disabilities are not being discriminated against; but rather, that these financial supports are rarely offered to any attendee of two-year institutions. Most two-year institutions do not have generously funded endowments, large numbers of scholarship awards, or study abroad programs. These types of financial assistance are not typically associated with two-year insti-

tutions whose aims are to prepare their nontraditional clientele for entering the workforce. In fact, one of the most salient selling points of two-year institutions is lower costs (Cocchi, 1999). Many two-year (or shorter) programs purposely strive to keep costs down to reduce the need for scholarships and other financial assistance.

While it was not surprising that disability-specific scholarships and supports for study abroad were rarely offered, it was surprising to find that there were no statistically significant differences between two- and four-year institutions in these areas (research objective 3). It appears that financial support was sparse across all types of educational institutions. Therefore, while four-year institutions offer more scholarships in general, they do not offer many disability-specific scholarships. To increase supports in this area, public awareness may have to be raised to promote more gifts and endowments (similar to scholarships available to students of various ethnic groups) to increase funds earmarked for scholarships targeting promising students with disabilities.

#### *Advocacy Assistance*

Findings of the present study revealed that a majority (65%) of two-year institutions offered advocacy assistance more than 75% of the time, but only 44% of the schools reported offering supports to develop self-advocacy skills with this same frequency. These results support findings of a national focus group project (NCSPEs, 2000) in which students with disabilities stated that while it is important for a college to provide advocacy assistance, the type and timing of this advocacy assistance was often problematic. Respondents in the focus group study requested that more focus be placed upon the development of

self-advocacy skills rather than employing others to provide advocacy information for students with disabilities. Therefore, while two-year institutions reported that advocacy assistance was offered, the quality of, and satisfaction with that assistance was not assessed. Students may have very different perceptions about the advocacy accommodations needed.

### *Remedial Assistance*

The largest difference between two-year and four-year institutions was in providing developmental/remedial instruction and learning center laboratory activities; with over 70% of the two-year institutions offering

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**Therefore, while two-year institutions reported that advocacy assistance was offered, the quality of, and satisfaction with that assistance was not assessed.**

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developmental/remedial instruction and 62% offering learning center laboratory activities more than 75% of the time. This supports Cocchi's (1999) contention that two-year schools offer more disability-related support services than their four-year counterparts. Clearly, the missions of two-year and four-year institutions are different. Entrance requirements are different, the client population is different, types of programs and majors, and expected outcomes for students are different. Therefore, it would be expected that the types of supports offered all students, not just those with disabilities, would also be different across two- and four-year institutions. One of those identified differences is the level and type of support offered to students to build and gain academic skills.

### *College Adjustment Skills*

Generic college-adjustment

skills such as study, memory, communication skills, organization and time management skills were commonly offered by two-year postsecondary institutions. Students with disabilities participating in a national focus group project (NCSPEs, 2000) indicated that organization, time management skills and the coordination of supports within and across their personal, educational, and social lives was a major concern often not addressed by postsecondary institutions or related agencies. These concerns were often a reason for dropping out of school or for not progressing at an academic pace equal to students without disabilities. Therefore, our finding that only half of the two-year institutions provided consistent and frequent support (more than 75% of the time) in teaching generic study, organizational and time management skills has direct implications for postsecondary institutions. If a postsecondary institution or program seeks to improve recruitment, retention, and ultimately job placement success for their students, they will provide classes in basic organization and time management, communication, and study skills. Of all the supports listed, providing these classes may be the most easily implemented; while at the same time the most far-reaching. Providing these classes would benefit students with and without disabilities, as well as faculty/ staff.

It appears, then, that both two-year and four-year institutions provide basic study skills classes, and providing guidance in how to study is common. However, providing remediation in basic skills may not be seen as the responsibility of four-year institutions. Perhaps, teaching students how to use basic academic skills is viewed by four-year institutions as more ac-

ceptable than helping students acquire those basic academic skills. Thus, the expectation is different. Students entering four-year institutions are expected to already possess basic academic skills and should use study skills classes, if necessary, to help them better apply these skills.

### *Career Related Supports*

Career-related supports were relatively common (it is not known whether such supports were provided under the umbrella of generic student services or provided by disability support staff) in two-year postsecondary programs. Sixty-nine percent offered career/vocational assessment and counseling, 46% offered job placement services and 42% offered work-study opportunities more than 75% of the time. However, of specific concern to students with disabilities (NCSPEs, 2000), is the extent to which supports provided during their postsecondary educational years will transfer to subsequent work or employment set-

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**Perhaps, teaching students how to use basic academic skills is viewed by four-year institutions as more acceptable than helping students acquire those basic academic skills.**

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tings. Few disability support personnel indicated that their institution offered such assistance; 48% reported that they did not offer such support, 22% offered such support less than 25% of the time, and only 15% indicated they offered this support more than 75% of the time.

### *Community Based Services*

Our final research question asked, To what extent do two-year postsecondary programs connect students with disabilities to community-based services and employment situa-

tions? Two-year institutions appear to be better connected with their community than four-year postsecondary programs. Linkages with secondary schools, community business/employers, federal programs, parent/family organizations, and disability advocacy groups appear to be more numerous and active within two-year postsecondary programs when compared with four-year programs.

## Summary and Conclusions

The results of this study show distinctive differences in both the level and types of supports two-year and four-year postsecondary institutions offer to enrolling and enrolled students with disabilities. By grouping these types and levels of supports into categories, it is easier to identify more precisely where our sample of two-year institutions differed from their four-year counterparts. Our survey results indicated that two-year and community colleges typically provided greater assistance to students with disabilities in the areas of academic accommodations, AT, formative and summative assessment, and counseling. These two-year institutions also provided greater access and availability to developmental/remedial instruction, learning laboratories, and interpreters/translitterators.

In our survey, both two-year and four-year institutions were similar in the levels and types of assistance they provided to students with disabilities in the areas of administrative (e.g., priority registration/course scheduling, class relocation, and summer orientation programs), ADA-mandated accommodations (e.g., real-time captioning and accessible transport on campus), external advocacy, work experience/job

placement opportunities and the provision of specific incentives such as special scholarships and opportunities to study abroad. It should be noted that although the two- and four-year institutions were similar in their levels and types of supports provided students with disabilities in the areas listed above, this should not be interpreted to mean that these levels and types of support are adequate. Sadly, two-thirds of the responding institutions failed to offer accessible transportation on campus, even though on-campus transportation was identified by a national focus group of students with disabilities as a critical area of need (NCSPES, 2000). It is possible that postsecondary institutions view the provision of accessible transport on campus as being unimportant or as the role of some other agency or service provider. Given the fact that there is "no educational entitlement beyond high school" (Edgar & Siegel, 1995, p. 260), it seems clear that greater attention needs to be given to self-advocacy training rather than providing students with disabilities greater access to external advocacy services.

In conclusion, while enrollment of students with disabilities in postsecondary education is increasing, they are still not competing at the level that they should. In this article, we identified the types of supports offered by two-year technical and community colleges. We also compared these supports to those offered by four-year institutions of higher education. However, these results are merely a starting point. Currently, we can only say what supports were offered; we cannot say how many students were provided with which support services, or how satisfied they were with the quality of those services. We also do not

know how the supports were offered. Future research will need to examine these areas to determine effectiveness of services provided.

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This work is supported in part with funding under grant #H133B980043 from the National Institute on Disability and Rehabilitation Research (NIDRR) within the United States Department of Education. The opinions and positions stated within this paper are those of the authors and do not represent an official position of the funding agency.

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