Current status of educational support provision to students with disabilities in postsecondary education

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As a result of current legislation and labor market trends, the number of students with disabilities has risen to 17% of all students attending postsecondary education programs [42]. It is well documented that students with disabilities often experience limited access to and success within postsecondary education programs, which subsequently limits their employment. Understanding the educational supports and accommodations needed by students with disabilities to progress and succeed in postsecondary programs appears to be 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 completed a national survey of educational support provision. The focus of this study was on the provision of targeted (types of supports & frequency of provision) educational supports for students with disabilities. Survey methods and statistical analyses were used to describe the range and nature of educational supports provided for students with disabilities. Specific areas of support provision were explored, including the role of assistive technology, special learning centers, and the transfer of supports from educational settings to employment. The findings provide a national foundation of information regarding the provision of educational supports for students with disabilities in a diverse range of postsecondary education settings.

Keywords: Postsecondary education, educational support services, higher education, student with disability, assistive technology, survey, frequency of provision

1. Introduction

Federal legislation such as the Americans with Disabilities Act (ADA) of 1990 (PL 101-336), along with the reauthorized Individuals with Disabilities Education Act (IDEA) Amendments of 1997 (PL 105-17), has increased the accessibility of post-secondary education for youth with disabilities. As a result of the increased access, the number of postsecondary students reporting a disability has increased dramatically [17]. 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% [27,31,42,46,58]. 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 [22]. And in their recently released report, the National Council on Disability [42] revealed that as many as 17% of all students attending higher education programs in the United States are now identified as having disabilities. Given this new interest and participation by youth with disabilities in postsecondary education, it is important to understand the types and frequency of educational supports provided to students with disabilities in postsecondary educational programs.

1.1. Nature of postsecondary educational support provision

The differences between educational support provision in high school and postsecondary educational environments are more than cosmetic [8,16,22]. “Students with disabilities graduating from high school move from a protective environment in which school personnel are legally responsible for identifying and providing appropriate services under the IDEA to an environment in which the students are expected to self-identify as a person with a disability and request specific accom-
modations under Section 504 and the Americans with Disabilities Act (ADA)” [23, p. 33].

Under Section II and Section III of the ADA, postsecondary institutions “are required by law to provide any reasonable accommodation that may be necessary for those persons with an identified disability to have equal access to the educational opportunities and services available to non-disabled peers, if requested” [48, p. 156]. Unquestionably, postsecondary students with disabilities are charged with the bulk of the responsibility for initiating, designing, and ensuring their own educational accommodations [3,14,22,38,57]. It is their responsibility to inform school officials of their disability, provide documentation of the disability, and propose viable options for meeting the unique accommodation needs specific to their disability [23,25,38,49]. For students with disabilities, this means that in order to be able to access, participate and perform successfully in postsecondary education and other lifelong learning programs, they must be personally responsible for acquiring and linking any accommodations they may require to their course of study [6]. Thus, self-advocacy/self-determination, or the ability to understand and express one’s needs and to make informed decisions based upon those needs, is considered to be one of the most important skills for students with disabilities to have before beginning their postsecondary experience [3,4,13,16,39,51,53,59].

Decreases in contact among teachers and students, increases in academic competition, changes in student support networks, and a greater expectation that students will achieve on their own, are among the differences found between postsecondary institutions and secondary institutions. Postsecondary educational services, supports, and programs available to students with disabilities: (a) vary extensively across states as well as campus-to-campus; (b) are generally not well developed programatically, and (c) tend to lean toward advocacy, informational services, or remediation of content rather than training in the compensatory areas necessary for independent learning and self-reliance [16, 21,22,43,49].

Attributes of the individual are important variables in the provision of educational supports. The nature of an individual’s disability and the level of severity of that disability will likely influence not only the specific educational supports that are needed, but also the entire support strategy. For example, students with severe cognitive functioning disabilities will need significantly different services than students who are visually impaired [5,36,52]. Students with learning disabilities, who need varying levels of support, are most successful when their level of support is tailored to meet their abilities [24]. Students with physical disabilities may profit from a barrier-free environment and a campus climate that has an attitude of disability friendliness [60]. Students with sensory disabilities or other health-related disabilities might use correspondence courses offered through online instruction and distance education to facilitate their learning and conserve their physical energy for studying and other activities [29]. In addition, factors such as one’s self-belief, level of independent thinking and action, and level of socialization are crucial to accessing supports and attaining personal goals. Individual factors such as ethnicity and cultural background may also significantly influence one’s successful participation, self-advocacy, and progress in postsecondary education environments.

1.3. Status of assistive technology support provision

Access to assistive technology and other learning supports is critical to the success of students with disabilities in postsecondary education. Advances in information technology and assistive devices have had a significant impact upon persons with disabilities accessing higher education [34]. Assistive technology includes any device, “low tech” or “high tech”, that enhances the capability of a person to function in his or her environment. This may be as basic as a page-turner or as involved as a computer-assisted commu-
nication device. We know that these devices and services, when implemented appropriately, can improve the physical and intellectual capabilities of individuals with disabilities [2,7,11,40,56]. Also, students themselves find assistive technology so important that they see the lack of access to it as a “political” problem, which postsecondary educational institutions refuse to address [43]. Nonetheless, significant increases over the past two decades in the number of persons with disabilities enrolled in institutions of higher education and pursuing careers of their choice [33,37] has been partially due to the use of advanced technological devices and services [50].

Distance education opportunities can now be found in more than one-third of all postsecondary institutions [29,41], which increases access to education for all students. The development of distance education can be seen within print correspondence, TV courses, and the most current Web based course delivery formats. Courses can be interactive and use multimedia, as well as be linked to endless web-based data and information sites. In 1997 the National Center of Education Statistics (NCES) reported that 16% of postsecondary institutions targeted students with disabilities as potential candidates for distance education, especially students with impaired mobility [9,18], impaired sight [15,18,19,34,61], impaired hearing or deafness [18,34], and/or impaired speech [18,28].

Accommodations provided for students with disabilities using distance education have followed three major technological trends in recent years [29]. First, interactive devices have evolved to be highly user-friendly, maximizing the use of home computers and the Internet and providing immediate access to materials and lectures for all users [9,18,19,28,34]. Second is the availability of transcribed or interpreted text available through the use of advanced technology; it can now be delivered almost simultaneously to regular instruction [19,26,28]. The third trend is the use of multiple media by distance education to promote communication among all students (e.g., video mediated delivery systems can create virtual classrooms and the Internet can enhance classroom participation [26,28]). Technological advances such as compressed video links and the Internet will make distance education the dominant form of higher education world wide in the years to come [1,12,35,47].

2. Nature of the problem

The dramatic increase in the number of persons with disabilities seeking to access postsecondary education is accompanied by an increase in the type and frequency of educational supports and services offered in postsecondary education [20,23,37,44,55]. However, the provision and use of postsecondary educational supports and services are rarely grounded in theory or documented by empirical data [37]. As a result, little is known about the effectiveness of postsecondary educational supports, particularly as we consider the diversity of types of disabilities and of postsecondary programs [32]. The situation is further complicated by a lack of consensus about how to define and measure “successful” outcomes of educational support provision.

The most obvious outcome of postsecondary education is the attainment of high-level employment and the accompanying improvement in quality of life. Additionally, according to students with disabilities who participated in national focus groups [43], students have an overall fear of their transition to employment, including such concerns as workplace discrimination, being poorly prepared, and being denied the necessary accommodations that they need to perform [43].

We do know that when the level of education increases for persons with disabilities, the level and quality of employment raise even more dramatically than for people without disabilities. For example, for people aged 25–64 years of age who have disabilities and have not completed 12 years of school, only 16% are working or looking for work. The rate rises to 40.9% for those who have completed 12 years of school and rises again to 50.6% for those with 13 to 15 years of education [55]. Employment rates for persons with disabilities demonstrate a stronger positive correlation between level of education and rate of employment than has been seen in trends for the general population. In 1996, the US Bureau of Census statistics indicated labor force participation rates at 75.4% for persons with less than a high school education, 84.6% for those with a diploma, 87.8% for persons with some postsecondary education and 89.7% among persons with at least four years of college.

2.1. Research questions

The NCSPES at the University of Hawaii at Manoa conducted a survey of educational support provision across a nationally representative sample of two and four-year postsecondary educational programs, focusing upon the types and frequency of educational support offerings for students with disabilities. Specifically, the study investigated the following research questions:
What educational supports are available to students with disabilities in a range of postsecondary educational settings? What is the nature and range of these supports?

What technical supports and assistive devices are available to students with disabilities in postsecondary educational settings?

3. Method

A survey instrument was developed, piloted, and distributed to a national sample of more than 1500 disability support coordinators working in a range of postsecondary educational institutions. The survey was provided on a voluntary basis 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 1500 surveys distributed, 650 (43%) respondents completed and returned the survey.

3.1. Survey content and development

Content for the survey questions was generated through a national workgroup of researchers who are members of a consortium of four universities comprising the NCSAPES. The workgroup consisted of a representative mix of research personnel, including persons with disabilities, persons working in rehabilitation services, postsecondary educational support personnel, and individuals with expertise in the development of national surveys.

The questions generated during this preliminary step of survey development were constructed into a pilot study conducted with a sample of 20 disability support coordinators at both 2-year and 4-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 respondents approximately 45 minutes to complete. Survey content was structured around clusters of the following topics:

- Institution’s capacity to offer supports or accommodations
- Number of students who receive support by disability type
- Availability of technological assistance
- Outreach programs available to students with disabilities
- Funding and specialized staff issues that affect students with disabilities
- Written policies regarding disability support provision
- Information about the respondent (disability support providers)

3.2. Survey sample and distribution

The survey was distributed nationally via two methods. The first method involved the participation of a partnering organization, the Association on 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-year and four-year institutions. A total of 750 copies (alternate formats were made available) of the survey were sent to randomly select AHEAD members across the United States. To address any bias issues surrounding AHEAD membership, a second 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), US Department of Education. The IPEDS sampling framework included data on 3,000 postsecondary education programs.

Following the first two rounds of sample selection, a sub-sample of ethnic minority institutions was added to the list 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. The survey, in alternative formats, was sent to these institutions.

Respondents from the sampling process consisted of 465 AHEAD members, 62% of those surveyed, and 184 non-AHEAD members, or 24% of those surveyed. The respondents were further profiled as follows: 422 were from public institutions vs. 193 from private institutions; 246 were from two-year or less than two-year institutions vs. 369 from four-year institutions.

3.3. Data analysis

Analysis of the survey was conducted using the SPSS Data Analysis System. Descriptive statistics were performed on each question and summarized using frequency counts and percentages.
4. Results

4.1. Types and frequency of educational support offerings in postsecondary programs

Because little documentation was previously available regarding the practice of offering or providing educational supports and services for students with disabilities at the postsecondary level, the research team sought to provide such information. Addressing the first research question, “What are the types of educational supports and accommodations provided to students with disabilities in postsecondary programs?” respondents were asked in Question #1, “What is the capacity of your institution to offer the following supports or accommodations as needed by students with disabilities?” For question one, thirty-four sub-items, each referencing a specific type of support, were structured within an ordinal-scale format. Respondents were asked to indicate how often during a calendar school year, indicated by % of time, their institution offered each of thirty-four different supports or accommodations. Respondents were provided with the following scale to report how each support/accommodation is offered within their overall programs of study:

<table>
<thead>
<tr>
<th>Types of Supports Frequency Count</th>
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<tbody>
<tr>
<td>0 = not offered</td>
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<tr>
<td>1 = offered less than 25% of time</td>
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<tr>
<td>2 = offered 25–50% of time</td>
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<tr>
<td>3 = offered 51–75% of time</td>
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<tr>
<td>4 = offered more than 75% of time</td>
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</table>

Table 1 provides a frequency count of how all respondents answered the question.

4.2. Frequency of specific educational support provision

Following is a summary of specific data found in Table 1:

- Supports offered to students with disabilities most often in postsecondary educational settings were test accommodation. 84% responded that their institution offered that support or service more than 75% of the time.
- More commonly offered educational supports were (1) note takers; (67% indicated that note taking was a support offered more than 75% of the time), (2) personal counseling; 69% indicated that counseling was offered more than 75% of the time; (3) advocacy assistance; 69% indicated that advocacy assistance was offered more than 75% of the time.
- Offerings of related types of supports was fairly common across all types of postsecondary institutions; (1) organization skill assistance; 61% indicated that organizational skill development activities were offered more than 75% of the time; (2) study skills programs; 59% indicated that study skill assistance or training was offered more than 75% of the time.
- Offerings of career related supports was fairly common (it is not known whether such supports were part of university-wide career placement offices or were provided by disability support staff) in postsecondary programs: (1) 61% offered career assessment services more than 75% of the time; 46% offered job placement services more than 75% of the time.
- Very few disability support personnel indicated that their institutions were aware of or offered assistance in transferring supports to subsequent work or employment; 54% indicated that they offered these supports less than 25% of the time, whereas only 13% indicated that they offered this support more than 75% of the time.
- Disability specific scholarships are rarely offered to students with disabilities in postsecondary programs, with 54% of institutions reporting they do not offer such scholarships, and only 21% reporting that they offer disability specific scholarships 75% of the time.
- More than 50% of the responding institutions did not offer disability specific assessments or evaluations.
- Supports for study abroad are rarely offered to students with disabilities; with 63% of institutions reporting that they do not offer supports for study abroad, and only 14% offering such support more than 75% of the time.
- Over 50% of the responding institutions did not offer accessible transport on campus for students with disabilities.
- Real-time captioning is rarely offered in postsecondary educational programs; 71% indicated that they offered real-time captioning less than 25% of the time.
- Assistive Technology (AT) evaluations for students with disabilities are rarely offered in postsecondary programs; close to 60% of the respondents offered such a service less than 25% of the time.
Table 1

<table>
<thead>
<tr>
<th>Frequency of provision of different types of educational supports (Percentages: based on 650 respondents)</th>
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<tbody>
<tr>
<td>Not offered</td>
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<tr>
<td>Summer orientation programs for students with disabilities</td>
</tr>
<tr>
<td>Class relocation</td>
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<tr>
<td>Testing accommodations</td>
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<tr>
<td>Disability-specific scholarships</td>
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<tr>
<td>Disability-specific assessment/evaluation</td>
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<tr>
<td>Advocacy</td>
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<tr>
<td>Supports for study abroad</td>
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<td>Learning center laboratory</td>
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<tr>
<td>Special learning strategies</td>
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<tr>
<td>Developmental/remedial instruction</td>
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<tr>
<td>Personal counseling</td>
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<tr>
<td>Accessible transport on campus</td>
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<tr>
<td>Interpreter/transliterator</td>
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<tr>
<td>Notetakers/scribes/readers</td>
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<tr>
<td>Tutors</td>
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<tr>
<td>Real-time captioning</td>
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<tr>
<td>Assistive technology evaluations for students</td>
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<tr>
<td>Skills training on equipment/software</td>
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<tr>
<td>Equipment or software provision (loan/lease/purchase)</td>
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<tr>
<td>AT supports across campus</td>
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<tr>
<td>Adaptive furniture</td>
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<tr>
<td>Document conversion</td>
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<tr>
<td>Communication skills</td>
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<tr>
<td>Study skills</td>
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<tr>
<td>Memory skills</td>
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<td>Meta-cognitive strategies</td>
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<tr>
<td>Organizational and time management skills</td>
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<tr>
<td>Self-advocacy skills</td>
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<tr>
<td>Career/vocational assessment and counseling</td>
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<tr>
<td>Work experience or work-study opportunities</td>
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<tr>
<td>Internships/externships</td>
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<tr>
<td>Job placement services</td>
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<tr>
<td>Facilitate transfer of supports to the work setting</td>
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</table>

5. Discussion

The findings as illustrated in Table 1 provide a comprehensive picture of the various types of educational supports offered to students with disabilities across a diverse range of postsecondary programs. Testing accommodations was the educational support offered most frequently to students with disabilities in postsecondary educational settings (84% of the respondents reported that they offered this service more than 75% of the time). This is not surprising given the longstanding attention this issue has received in the research and popular press literature. For decades, testing accommodations for students with disabilities (as well as for students from culturally diverse backgrounds and/or with limited English proficiency) have been a contentious topic in debates concerning special education eligibility criteria, ability grouping, biases in standardized tests, standardized minimum competency tests for high school graduation, school accountability outcome measures, educational reform, and college entrance exams [54]. Disability specific scholarships and supports for study abroad were the most infrequently offered supports. This may not mean that students with disabilities are being discriminated against; rather it may be that these financial supports are rarely offered to any attendee of these postsecondary institutions.

As noted in the Results section, educational supports commonly offered in postsecondary institutions included: (a) note takers, (b) personal counseling, and (c) advocacy assistance. However, in a national focus group project [43], students with disabilities stated that the type and timing of advocacy assistance provided in postsecondary education was problematic. These
respondents requested that more focus be placed upon the development of self-advocacy skills rather than employing others to provide advocacy information to students with disabilities. Therefore, although postsecondary institutions reported that advocacy assistance was offered, the quality of and satisfaction with that assistance was not assessed. Students with disabilities may have very different perceptions among themselves about the “advocacy” accommodations needed. Also, institutions of higher education may believe that they are providing exemplary support services that aid in recruitment and retention of students with disabilities, whereas, students with disabilities, may view the quality of services, and methods by which they are provided, as less than adequate. In the present study, most institutions offered advocacy assistance most of the time while about “half” to “a quarter” offered self-advocacy skill training most of the time. Approximately a quarter of the institutions offered self-advocacy skill training less than a 25% of the time, while only 15% offered advocacy assistance as little as 25% of the time. This reveals the overwhelming tendency for disability support coordinators to advocate for students with disabilities as opposed to teaching students to advocate for themselves. Unfortunately, less than half of the institutions offered disability related assessments. Students with disabilities need such information to understand the nature of their disability, their strengths and their limitations, so that they can advocate for their own accommodations.

Adjustment or self-improvement areas such as study, memory, communication, organization and time management skills, and meta-cognitive strategies were commonly offered within many postsecondary institutions. Sixty 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). Half (52.6%) of the respondents reported that organization and time management assistance was offered more than 75% of the time. However, only one-third of the institutions offered meta-cognitive strategies more than 75% of the time. Students with disabilities participating in a national focus group project [43] indicated that organization, time management skills and the coordination of supports within and across their personal, educational, and social life was a major concern often not addressed by related agencies or disability support offices in postsecondary institutions. These concerns were often a reason for dropping out of school or for not progressing at an academic pace with students without disabilities. Therefore, our finding that only half of the respondents provided consistent and frequent support (more than 75% of the time) in teaching skill areas such as study, organizational and time management has direct implications for postsecondary institutions. As postsecondary education programs seeks to improve the recruitment, retention, and ultimate job placement success for students with disabilities, it should provide supports or courses of instruction in basic organization and time management, communication, and study skills [43]. Providing such courses would benefit students with and without disabilities, as well as improve the knowledge faculty/staff working with such students. Career-related supports were fairly common (it is not known whether such supports were part of the generic student services or provided by disability support staff) in postsecondary programs. Given that only 56% of graduates with disabilities are working as compared to 90% of non-disabled graduates, it is particularly important that students with disabilities receive career-related supports. Sixty percent offered career/vocational assessment and counseling, 46% offered job placement services and 44% offered work-study opportunities more than 75% of the time. However, of specific concern to students with disabilities, as reported in a national focus group project [43], was the extent to which supports provided during their postsecondary educational years would transfer to subsequent work or employment settings. Very few postsecondary education disability support personnel indicated that their institution offered such assistance; 54% reported that they did not offer such support, 18% offered such support less than 25% of the time, and only 13% indicated they offered this support more than 75% of the time.

5.1. Assistive technology

In answering the second research question, “To what extent is assistive technology available for students with disabilities in postsecondary programs?” findings indicated that adaptive furniture was the most frequently offered support, and real-time captioning was offered the least frequently. More than one-third of the postsecondary institutions offered adaptive furniture (35%), assistive technology supports across campus (34%), the provision of equipment of software (26%) and skills training on equipment/software (30%), and document conversion (31%) 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% offered document conversion. Although these numbers range from 30% to 60%, it is important to remember how important assistive technology is for students who use it. Students with disabilities in a national focus group considered assistive technology to be a “right”, not a “support” [43]. Despite the importance that students with disabilities appear to place upon assistive technology, fifteen to twenty-eight percent of the responding postsecondary programs did not offer such services at all.

Interpreter/transliterator services were offered by 57% of the schools more than 75% of the time. On the other hand, real-time captioning was rarely offered. Seventy-one percent of the responding postsecondary programs indicated that they did not offer this support, and only 15% offered this support more than 75% of the time. Approximately half of the respondents (58%) indicated that their institutions did not offer assistive technology evaluations for students with disabilities, and 16% 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 institutions either offered the support to a wide range of students (more than 75% of the time), or did not offer it at all (see Table 1).

6. Conclusion

Our research team sought to establish a foundation of knowledge concerning the frequency and types of supports postsecondary programs offered to students with disabilities. The results of this study show distinctive differences in the level and types of educational supports offered to students with disabilities in postsecondary education. By grouping these types and levels of supports into categories, it was easier to identify more precisely which supports are offered on a more or less consistent basis.

In conclusion, while enrollment of students with disabilities in post-secondary education is increasing significantly, few such students are progressing and completing their program of studies at a level and within the time period of their non-disabled peers. We have identified the extent to which different types of educational supports were offered to students with disabilities across a diverse range of postsecondary educational institutions. However, these results are merely a starting point, as we can only speak to the types of supports offered, not their effectiveness or real benefit to students with disabilities in postsecondary education programs. We currently have little information on the methods used to deliver educational supports or information on student satisfaction with such supports. Future research is needed to examine these areas to further determine the effectiveness and value of educational supports in postsecondary education.

Acknowledgment

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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