The Trend of Assistive Technology Support in Post-secondary Education

Introduction

The purpose of this brief is to provide a preliminary analysis of the current status and trend of the assistive technology support provision for students with disabilities in postsecondary education. The data used in this brief are collected through a national survey of postsecondary support services for students with disabilities, initially conducted in 1999 and, in search of changes, followed up in 2001. The 2001 survey indicate that there is an upward trend in Assistive Technology (AT) support services across the two-year period, which translates into more frequent offerings of AT supports for students with disabilities. Two-year postsecondary institutions of higher education were shown to offer AT supports more frequently than their 4-year counterparts in 1999 (Black, Smith, Chang, Harding, & Stodden, in press), however the similar finding was not found in the 2001 survey. This decrease in the discrepancy between AT supports in 2-year intuitions and 4-year suggests that the 4-year institutions of higher education are catching up in their provision of AT supports for students with disabilities. One important implication of this development is a potentially smoother transition from 2-year community type of colleges to 4-year academic colleges can be expected for students with disabilities.

Statement of the problem

Postsecondary institutions are required by law to provide educational supports and reasonable accommodations to students with disabilities to ensure equal access to educational opportunities (Stodden, Jones, & Chang, 2002). Assistive technology (AT) has been identified as a key area of such supports and accommodations because a wide range of AT supports can greatly facilitate the learning of students with disabilities in postsecondary educational settings (Kim-Rupnow, Dowrick, & Burke, 2001; Sharp, 2002). An ease access to a variety of AT devices and supports has become a primary concern for both the postsecondary programs and the students with disabilities who seek postsecondary education (Sharpe, 2002). In 1999, a national survey was conducted to help researchers ascertain the current status of educational supports in postsecondary programs with a specific focus on the availability of the types of AT supports. The preliminary findings of the 1999 survey indicated that AT supports were generally
offered with a low to medium degree of frequency at postsecondary level, ranging from 16% (out of 650 survey respondents) offering AT evaluations for students regularly to 41% offering AT supports across campus and assistive furniture (NCSPES, 2000). Supports related to distance learning for were also offered with low to medium frequency, ranging from 20% offering TV courses to 48% offering on-line library services. Since the 1999 survey provided a national baseline of data concerning the provision of assistive technologies, a second national survey was conducted in an effort to identify any potential trend regarding institutional offering of AT supports for students with disabilities. The main research questions of this brief are:

1. What is the trend of AT supports at postsecondary level from 1999 to 2001?
2. Are 4-year programs still lagging behind their two-year counterparts in 2001, considering that 2-year postsecondary programs were rated significantly higher than 4-year programs in offering AT supports in the 1999 survey?

**Method**

The same survey instrument that was developed for the original survey was distributed to the same randomized and regionally stratified national sample of 1600 disability support coordinators (DSC) created for the original survey. 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-, four-year and four-year institutions. A total of 800 paper copies of the survey were mailed to AHEAD members across the nation on the original sample list. A second institution list of 800 non-AHEAD participants of postsecondary institutions selected from the 1995 Integrated Postsecondary Education Data System (IPEDS) CD ROM database, maintained by the National Center for Educational Statistics (NCES), U.S. Department of Education. It too consists of public and private institutions, as well as 2-yr. and 4-yr. institutions.

Four hundred and eighteen respondents (26%) completed the survey providing a profile of characteristics. The previous survey had a response rate of 41%; it is believed that this survey had a lower response rate due to the Anthrax events after 9/11, which happened at approximately the same time that the survey was being mailed out across the nation. Although there were fewer respondents, the same percentages of AHEAD and non-AHEAD respondents remained. Moreover the same percentages of public and private institutions responded. And lastly, the numbers of 2-yr. vs. 4-yr. postsecondary institutions were within 4% of the original survey. Fortunately, these nearly identical percentages in types of respondents have provided researchers with stability and confidence in the samples taken from the national population.

The AT supports are tapped with two groups of questions. The first group consists of 6 types of AT service and the participants were asked to rate the capacity of their institutions to offer such services on a scale of 0 to 4:

“0” = not offered
“1” = offered less than 25% of the time
“2” = offered 25-50% of the time
“3” = offered 50-75% of the time
“4” = offered more than 75% of the time.
The second group focuses specifically on students with disabilities who are deaf or blind. The question asked was: “Does your institution offer access to distance learning opportunities for the deaf and blind population?” The question consists of 4 types of service including online library, online student services, accessible TV courses, and web-based courseware.

Research findings

Percentages presented in Table 1 give a descriptive view of the AT supports offered by postsecondary programs. The 1999 data is included here for quick comparisons if needed. Generally, the 2001 data indicated that AT supports were fairly common; 30-44% of postsecondary programs offered such supports regularly (more than 75% of the time). One exception was AT evaluations for students with disabilities; close to 60% of survey respondents indicated that they didn’t offer such evaluations. This percentage has not changed since 1999, despite increases in other AT support services.

To further identify whether there were significant increases in AT supports offering and Distance-learning Access over time, the two data sets collected in 1999 and 2001 were merged. ANOVA was run on each type of AT support (represented by the mean values) using “year” as a between-group variable (see the mean, F, and P values in Table 1). Distance learning access for students who are deaf or blind was also compared across time using Chi-square test. The main findings are:

- There were significant increases in the overall provision of AT supports; specifically five out of six types of AT supports being surveyed had significant increases from 1999 to 2001 in terms of provision frequencies. The one exception was the AT evaluation for students, which showed no increase over time.
- There were significant increases in the percentage of postsecondary programs that offered distance-learning access for students who are deaf or blind (See Chart 1). Chi-square tests indicated that the increase was significant for each type of distance-learning services.
- In 1999, 2-year programs were rated significantly higher than 4-year programs in offering AT supports (significance was obtained in 5 out of 6 types of AT supports being surveyed). But in 2001 such a lead by 2-year over 4-year programs was no longer significant. This finding suggests that 4-year postsecondary programs are catching up to 2-year institutions in their provision of AT supports.
- In provision of distance-learning access for students who are deaf or blind, the 2-year institutions held their lead over 4-year programs in offering TV courses and web-based courseware. 2-year programs also improved dramatically in offering online student services (such as registration), increasing from 30% of the 2-year programs offering such services in 1999, to 41% in 2001.

Innovative Practices

The upward trend in AT supports services presented in this brief will directly benefit the students with disabilities and their families. As a result:

- Students with disabilities may have better access to technical support and AT devices than they did two years ago.
• Students with disabilities may have more options as to where they might want to pursue their postsecondary education.
• There may be a smoother transition from two-year to four-year postsecondary institutions due to the increases of support services in the latter.

Table 1. Frequency of AT supports offering in 1999 and 2001

<table>
<thead>
<tr>
<th>Type of supports</th>
<th>1999 not offered</th>
<th>offered less than 25% of the time</th>
<th>offered 25% to 50% of the time</th>
<th>Offered 51% to 75% of the time</th>
<th>Offered more than 75% of the time</th>
<th>Mean</th>
<th>F</th>
<th>P</th>
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</thead>
<tbody>
<tr>
<td>AT Evaluation for Students</td>
<td>2001 58.5%</td>
<td>10.8%</td>
<td>7.6%</td>
<td>7.1%</td>
<td>17.2%</td>
<td>26.0%</td>
<td>1.98</td>
<td>.324</td>
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<td>1999 57.2%</td>
<td>14.1%</td>
<td>19.2%</td>
<td>15.3%</td>
<td>30.7%</td>
<td>2.21</td>
<td>5.406</td>
<td>.020*</td>
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<td>Skills Training on Equipment/Software</td>
<td>2001 28.5%</td>
<td>16.2%</td>
<td>14.6%</td>
<td>10.5%</td>
<td>30.3%</td>
<td>1.80</td>
<td>7.265</td>
<td>.007*</td>
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<tr>
<td></td>
<td>1999 20.7%</td>
<td>12.6%</td>
<td>12.1%</td>
<td>15.6%</td>
<td>30.9%</td>
<td>1.98</td>
<td>4.061</td>
<td>.020*</td>
</tr>
<tr>
<td>Equipment or Software Provision</td>
<td>2001 34.6%</td>
<td>15.5%</td>
<td>11.5%</td>
<td>12.3%</td>
<td>26.0%</td>
<td>2.07</td>
<td>7.265</td>
<td>.007*</td>
</tr>
<tr>
<td></td>
<td>1999 28.7%</td>
<td>12.6%</td>
<td>12.1%</td>
<td>15.6%</td>
<td>30.9%</td>
<td>1.80</td>
<td>2.23</td>
<td>.180</td>
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<td>AT supports Across Campus</td>
<td>2001 24.5%</td>
<td>15.0%</td>
<td>12.2%</td>
<td>14.8%</td>
<td>34.6%</td>
<td>2.70</td>
<td>22.901</td>
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<td>1999 15.9%</td>
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<td>14.0%</td>
<td>17.4%</td>
<td>44.1%</td>
<td>1.90</td>
<td>2.23</td>
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<td>Adaptive Furniture</td>
<td>2001 34.6%</td>
<td>14.9%</td>
<td>12.5%</td>
<td>17.4%</td>
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<td>2.54</td>
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<td>1999 22.9%</td>
<td>13.2%</td>
<td>10.9%</td>
<td>15.7%</td>
<td>35.5%</td>
<td>2.26</td>
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<td>1.90</td>
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<td>1999 21.2%</td>
<td>14.7%</td>
<td>10.9%</td>
<td>9.7%</td>
<td>31.2%</td>
<td>1.90</td>
<td>1.90</td>
<td>.005*</td>
</tr>
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Chart 1. Provision of distance-learning access comparing year 1999 and 2001
References


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