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ABSTRACT

The use of assistive technology with students having disabilities in the 134 school systems of Virginia was researched. Questionnaires were sent to all Directors of Special Education, with a 70 percent response rate. The survey focused on responsibilities and issues pertaining to the use of assistive technology and demographic information relating to individual school systems. Survey data revealed a significant need for training, funding, and for the development of a referral and service coordination plan. The following recommendations were formulated: (1) develop and disseminate state guidelines for assistive technology devices and services; (2) develop and implement statewide preservice and inservice training in assistive technology; (3) disseminate information on local, state, and national sources of information on assistive technology services and devices; and (4) develop assistive technology funding resources. An appendix details survey responses. (Contains 10 references.) (DB)

ASSISTIVE TECHNOLOGY ISSUES for Virginia Schools

Final Report
January, 1993

A Study Initiated by the Virginia State Special Education Advisory Committee

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ABSTRACT

The Virginia State Special Education Advisory Committee in collaboration with the Center for Human disAbilities at George Mason University researched the use of assistive technology in the 134 school systems in the Commonwealth of Virginia. The research was conducted through the use of a questionnaire and was sent to the Director of Special Education for each school system. A return of 70% was deemed codeable and was used in the final research analysis.

The survey focused on responsibilities and issues pertaining to the use of assistive technology and asked demographic information relevant to individual school systems. The survey data revealed a significant need for training, funding, and for the development of a referral and service coordination plan.

Based upon results of the survey and trends in the field of special education related to assistive technology, the following general recommendations were made for policy development and implementation:

- Develop and disseminate state guidelines for assistive technology devices and services.
- Develop and implement statewide preservice and inservice training in assistive technology.
- Disseminate information on local, state, and national sources of information on assistive technology services and devices.
- Develop assistive technology funding resources.

INTRODUCTION

In the last decade assistive technology has enabled persons with disabilities to have greater control over their lives. The Technology-Related Assistance for Individuals with Disabilities Act of 1988 (P.L. 100-407) (Tech Act) was designed to meet the various technology-related needs of individuals of all ages with disabilities by increasing public awareness, providing more complete and accurate information about funding, and facilitating the capacity of public and private entities to provide technology-related devices and services to persons with disabilities. The Tech Act provided the necessary common ground definitions for federal legislation.

The passing of The Individuals with Disabilities Education Act of 1990 (IDEA) (P.L. 101-476) confirmed the federal commitment to assistive technology. IDEA "provides that if a child with a disability requires assistive technology devices or services, or both, in order to receive a free appropriate public education, the public agency shall ensure that the assistive technology devices or services under this program must be made on an individual basis through applicable individualized education program and placement procedures" (Federal Register, 1991). Henceforth, the capabilities of and need for assistive technology devices and services have become more apparent to policy makers at local and state level.

The evaluation of the use of assistive technology within the Virginia school systems was deemed necessary due to the increasing numbers of students who may benefit from the use of assisitive technology. In the 1989-90 school year, Virginia served 106,221 students through special education services showing an increase of 36.85% since 1976-77 (U.S. Department of Education, 1991). This rise in the numbers of students being served in Virginia parallels the national statistics showing that special education in the nation grew by 130,000 students in 1990-91. At 2.8%, this was the biggest increase in the child count since 1980-81, the federal government told Congress this summer. These and other data mandated by Congress are reported in the 14th annual report by the U.S. Office of Education that describes how the federal special education laws are working ("Special Ed," 1992). The changes in federal policy along with the increase in identified children substantiate the need to review the issues surrounding provision of assistive technology devices and services to facilitate the education of students with disabilities in the Commonwealth of Virginia.

This report describes the method of data collection, presents a discussion of its findings and resulting recommendations. The final section and appedices present the data that support the recommendations.

METHOD

The Center for Human disAbilities at George Mason University, in conjunction with the Virginia Department of Education's State Special Education Advisory Committee (SSEAC), conducted a statewide assistive technology survey in the summer of 1992. A draft questionnaire was reviewed by special education technology professionals from local public schools, the executive board of CEC's Technology and Media Division, professionals from VADOE, and the SSEAC.

A memo from the State Superintendent of Education asked school divisions to cooperate in the study. A four page questionnaire consisting of 119 questions, a glossary of terms and executive summary of "Assistive Technology Issues for Virginia Schools," was then sent to 134 directors of special education in the Commonwealth of Virginia. Ninety-four systems responded giving a 70.15% return rate. (For a summary of the survey results see Appendix A).

The questionnaire requested demographic information in the first section. The second section focused on current assistive/special education technology issues related to: 1) assistive technology services, 2) training, and 3) funding. For each question the respondents were asked to rate the importance of professional development for the issue or service. The survey also identified the

percentage of special education teachers and related service providers addressing the issues. Respondents were also asked to identify all personnel responsible for providing assistive technology services (regular educators, general technology specialists, special education assistive technologists, special educators, administrators, occupational therapist, physical therapist, speech/language, and parent resource center). Importance data was reported on a Likert scale with 1 being important and 5 being not important. Data from the returned surveys was entered, tabulated and analyzed using SPSS and MicroSoft Works. For analysis the first and last two categories on the Likert scale (1 & 2 - important; 4 & 5 - not important) were combined to report percentage ratings.

DISCUSSION

Analysis of the survey data revealed several important issues and trends. Each of the issues are identified and discussed as follows:

- **State-wide a small portion of eligible special education students are receiving assistive technology services and devices.**

  Over three fourths of the school systems have less than 10% of their students receiving assistive technology services (see Figure 1). This level of service delivery may be the result of several issues. First, the per student level of funding across the state is not adequate with regard to the costs of training, service delivery specialists, services, and devices associated with assistive technology budgets. Second, the lack of trained personnel to identify, assess, and implement needed assistive technology for students may result in fewer students being served. Third, lack of state or local policies on assistive technology (funding, ownership, IEP inclusion, etc.) may not facilitate the ability of trained professionals to initiate services.

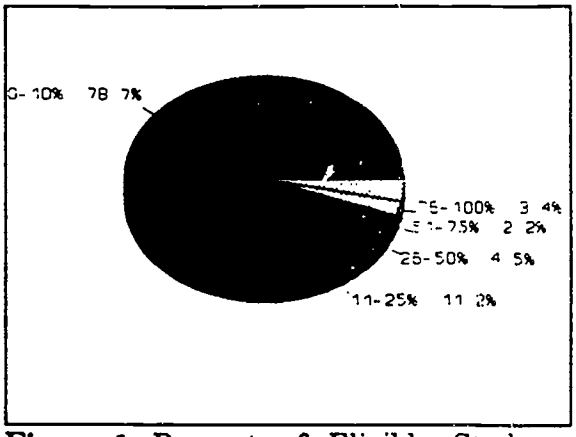

Figure 1 Percent of Eligible Students Receiving AT Services

- **Policy relating to assistive technology on IEPs and other issues is lacking.**

  With regard to assistive technology, IDEA (PL 101-476) "provides that if a child with a disability requires assistive technology devices or services, or both, in order to receive a free appropriate public education, the public agency shall ensure that the assistive technology devices or services are made available to that child, either as special education, related services, or as supplementary aids and services that enable a child with a disability to be educated in regular classes. Determinations of whether a child with a disability requires assistive technology devices or services under this program must be made on an individual basis through applicable individualized education program (IEP) and placement procedures" (Federal Register, 1991). Over 90% of the respondents indicated that less than 10% of their students have assistive technology IEP goals and objectives (see Figure 2). Additionally, the data suggests that schools with less funding were more likely to rate importance of IEP goals and objectives as more important. One possibility for this correlation is that inclusion of goals and objectives

on IEPs might result in increased availability of funds. On the other hand, systems with budgets may be wary of the expense of services and devices when written into IEPs. It should be noted, however, that while the courts have set precedents that lack of funding cannot be used as a reason for not providing services (Mills, 1972), they have also stated that the law does not require an "ideal" education (Rowley, 1982). Research from the Job Accommodation Network (JAN) on costs of assistive technology in job sites ("Employer Incentives," undated) reported that the majority of assistive technology devices are not unreasonably expensive, with 69% of devices/ accommodations suggested as costing less than $500 and 50% costing less than $50. Parallels can be drawn in the field of education. Thus with improved training of personnel to identify appropriate assistive technology and policy guidelines for incorporation of assistive technology into IEPs, Virginia schools should be able to conform to federal mandates. Without this, the state and local schools may be at risk of lawsuits under a provision in the IDEA that specifically permits states and departments of education to be sued by private citizens for noncompliance.

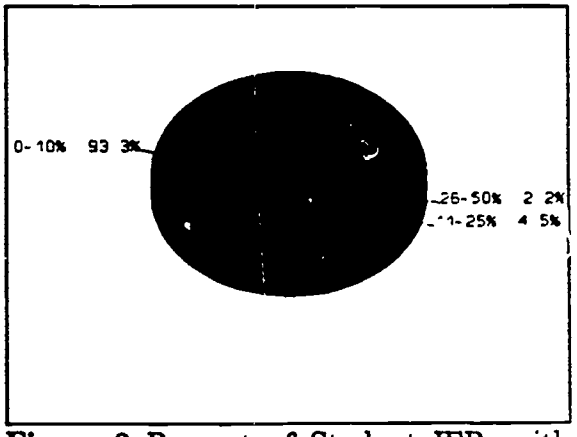

Figure 2 Percent of Student IEPs with Assistive Technology

In addition to IEP policy, there are currently no other guidelines or model programs for assistive technology that have been developed by the state to assist school systems in implementing assistive technology services. For example, the issue of where school owned devices can be used is unclear. Two thirds of the systems that have made a decision as to whether devices can be used at home indicated yes (see Figure 3). Additionally, 20% did not even respond to the issue and 75% said that less than 10% of their students used their devices at home. Reasons for this may include the lack of explicitly stated policies and/or the the lack of trained personnel. Liability for damage, both for school owned and privately owned devices, are issues both for families and for schools. Damaged to devices by untrained persons not owning the devices is another unaddressed issue. Policy guidelines for these and other issues need to be developed by state and local agencies.

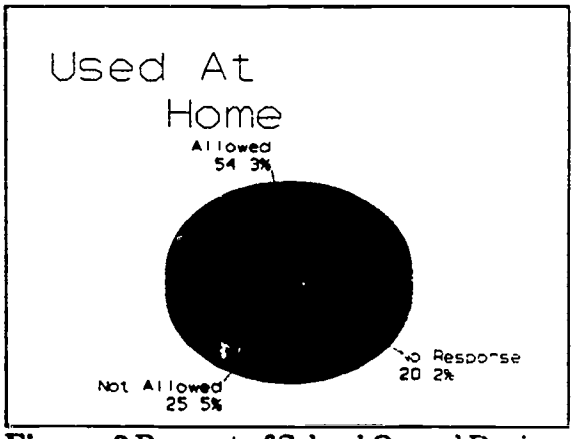

Figure 3 Percent of School Owned Devices used at Home

- **There is a substantial need for assistive technology trained professionals across the Commonwealth.**

  The need for training is so substantial that inservice training should be used as a vehicle for providing training to direct service providers of eligible special education students.

Assistive technology training also needs to be incorporated into preservice training, but mandatory required competencies are not desired by most respondents. Professionals providing direct services to students with disabilities must have expertise in a wide range of content areas, only one area being technology. The OTA report *Power on! New Tools for Teaching and Learning* (1988) indicated that technology can indeed make a powerful impact on student outcomes if personnel have: (a) training in skills to use the technology, (b) education that provides vision and understanding of developing technology, (c) support for experimentation and innovation, and (d) time for learning and practice. Investments in technology acquisition cannot be fully effective unless professionals receive training and support for appropriate use of the technology. Training issues identified as having great importance to respondents of the survey included competency or certification, training of multidisciplinary service delivery teams, and access to information and referral.

There is an increasing demand from third party funding agencies (eg. Medicaid) that qualification criteria of personnel recommending assistive technology be established before they provide funding (Resna, 1988). Also professional standards for entering special education professionals, such as those of the Council for Exceptional Children, are incorporating competencies in assistive and instructional technology (Swan & Sirvis, 1992). However, data from the survey indicated that nearly half of the respondents did not want competencies mandated by the state and an additional quarter of the respondents had no opinion (see Figure 4). Only one fourth of the respondents indicated that state mandated competencies are desirable. This may be due to the lack of trained personnel available (most universities do not provide this training) as well as lack of funding to train inservice personnel in assistive technology. The federal government has established a priority for training preservice and inservice personnel in the use of assistive technology as part of it's personnel preparation program and it may be possible to get training programs funded federally for training statewide.

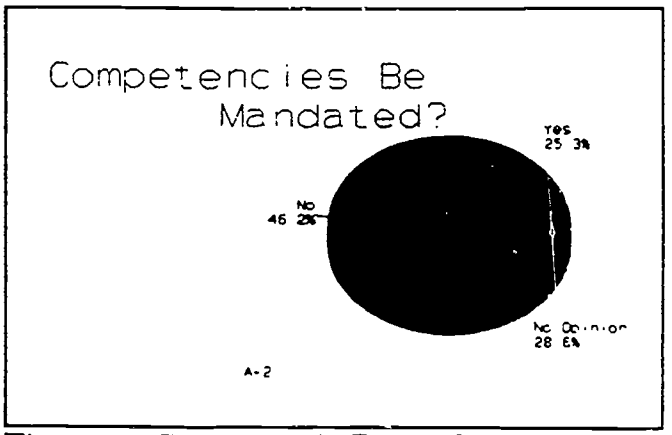

Figure 4 Percent of Respondents Wanting Mandated Competencies

The use of the multidisciplinary teams for service delivery is being utilized throughout the Commonwealth. These teams incorporate the expertise of educational professionals including: occupational therapists, physical therapists, speech language clinicians, special educators, and administrators (see Table I). Respondents to the survey reported these professionals as responsible for identifying needs of students requiring assistive technology services, determination of eligibility, assessing and evaluating students for assistive technology and services, and the evaluation of the effectiveness of the assistive technology devices and services. Over 80% of the respondents identified these issues to be of importance for professional development. Cross-training of professionals in the

area of assistive technology should facilitate more effective direct service delivery.

Professionals are in need of information concerning the use of assistive technology with their students. Rated of high importance in the survey was the need for resource files and newsletters on assistive technology. Due to the rapid growth of technology in the last decade the dissemination of information on assisitive technology services, devices, training and funding is important for professional growth and student development. In Virginia, the need is addressed by the Virginia Assistive Technology System's computerized information and retrieval system which can be accessed by computer and voice at no cost to the school systems or service providers.

Type of Personnel	Number of Responses	Percent of Responses
Special Educators	87	97
Administrators	65	73
Parents	63	70
Regular Educators	67	75
Parsprofessionals	69	77
Occupational Therapists	69	77
Physical Therapists	62	69
Speech/Language Pathologists	74	83

Table I Who Needs Training

- **Technical assistance and other support services are providing most of the training across the Commonwealth.**

Perhaps the most important consideration in addressing preservice based technology related training is the need to utilize the training systems that are already in place. Results indicate that eighteen of the systems in the Commonwealth have no formal training (consultation, inservice, etc) in place at all. Yet over 60% of the respondents identified over one half of their professionals as needing beginning training in assistive technology. This training issue was ranked important by over 80% of the respondents. Technical assistance and training is currently available in the Commonwealth of Virginia through state and local sources. Several local school systems are providing inservice training and support in assistive technology (some using state inservice training funding) while some university training programs are incorporating assistive technology into preservice and continuing education coursework. Statewide, two sources of technical assistance and training exist, the VADOE Technical Assistance Centers and the DRS Virginia Assistive Technology System's (VATS) Assistive Technology Resource Consortia. One indicator of the effectiveness of this type of support that TAC-type on-site consultation was responsible for over 80% of the training utilized statewide (see Figure 5). This may be due to the fact that these services are at no cost to the school systems, one third of which had no budget for training. Second, the data also showed that the greatest use of technology in the schools was in preschool programs where the ECSE TACs have been making concerted training efforts in technology during the last six years.

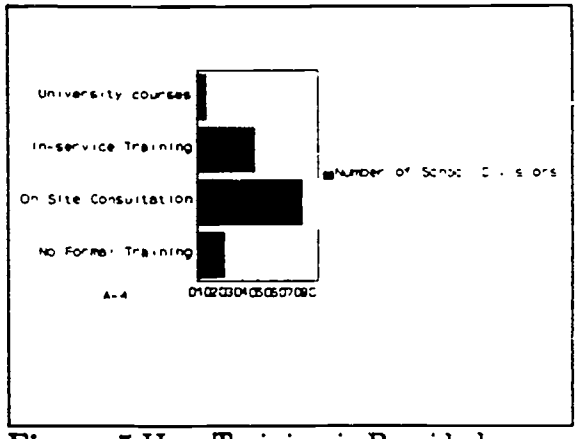

Figure 5 How Training is Provided

- **Funding for AT devices, services and training is a primary concern for the majority of school systems in the Commonwealth.**

Even with 40 systems not responding to the survey, data showed that at least one third of the 134 school systems in the Commonwealth have no funds budgeted for either assistive technology service delivery or training (see Figure 6). Over 60% of respondents indicated that assistive technology funding came from local sources while only 37% indicated it came from state funding. Additionally nearly 30% of the systems had received grant funds to supplement their assistive technology budgets (see Figure 7). Over 80% of the systems indicated that identification of funding sources was important. Funding for assistive technology devices and services will probably be of increasing importance. There are many sources of funding for assistive technology, including federal grants and entitlement, state education funds, other state agency funds, local education funds, private insurers, and private sector and foundation grantors (see Table II). However, if coordinated plans for funding are not established at the state level, then other funding sources (including other state agencies) may withdraw funds currently available for assistive technology as they recognize that schools may be required to purchase devices and services under the IDEA, much like they did with related services with the implementation of PL 94-142. VATS has recently convened representatives from ten state agencies including the Department of Education to develop a statewide policy on assistive technology. The draft recommendations suggest that bureaucratic and fiscal barriers be minimized; interagency collaboration and sharing of fiscal responsibility be promoted; and public/private partnerships be developed to improve access to and funding for assistive technology.

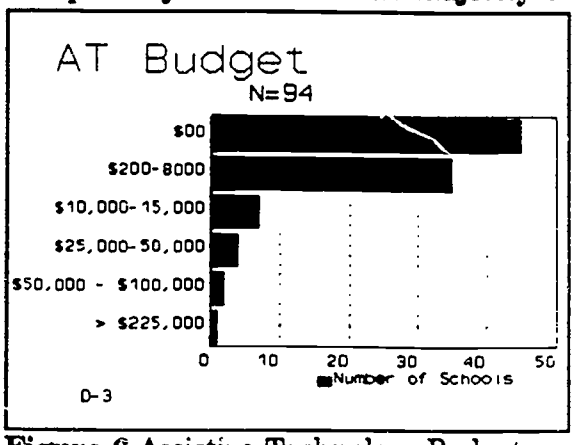

Figure 6 Assistive Technology Budgets

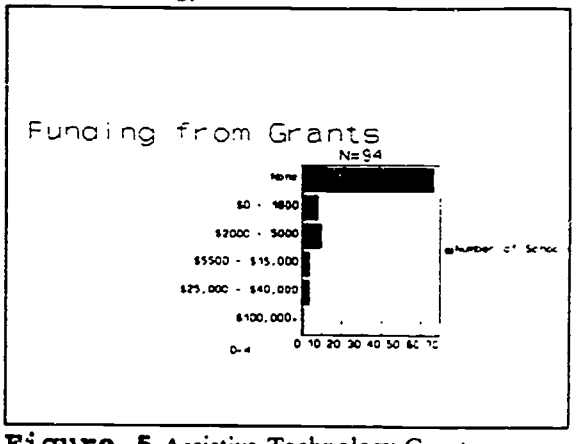

Figure 5 Assistive Technology Grants

For funding individual devices, VATS has also published a document "Funding Resources for Assistive Devices in Virginia" (RehabTech Associates, 1992). This document describes the funding

Source of Funds	Number of Responses	Percent of Responses
State	33	37
County	56	63
School	26	29
Insurance	17	19
Private	9	10
Parents	13	14
Medicaid	9	10
None	11	12

N=88

Table II Funding Sources

system and the obstacles that must be overcome to fund these devices. They note that in addition to money being tight, funding systems were not set up to fund assistive technology. Sources of funding are suspicious of expensive equipment requests and generally people don't know how to apply for funding. They also note that there are serious problems with incorrect prescriptions, professionals who do not know how to train the individual to use the device or devices abandoned because they were too cumbersome or too complex to use. Most of these issues can be addressed through training and assignment of competent personnel to provide assistive technology services.

RECOMMENDATIONS

Four broad recommendations are made based on the findings of the survey. Several more discrete recommendations are also presented.

1) Develop and disseminate state guidelines for assistive technology devices and services.
   - Develop IEP guidelines and models for assistive technology devices and services
   - Develop model assistive technology service provision programs
   - Establish guidelines for ownership, use, and liability
   - Develop models of interagency collaboration for assistive technology at the local level

2) Develop and implement statewide preservice and inservice training in assistive technology.
   - Determine the need for preservice professional qualifications for assistive technology service delivery
   - Develop and fund inservice training programs in assistive technology for direct service providers
   - Expand statewide technical assistance to service providers of populations not currently served
   - Develop training models that focus on multidisciplinary teams to provide assistive technology services

3) Disseminate information on local, state, and national sources of information on assistive technology services and devices.

4) Develop assistive technology funding resources.
   - Offer competitive grant funds for school systems to encourage innovative approaches
   - Develop funding mechanisms that assure equitable access for students to assistive technology
   - Develop strategies and models to seek external funding to support assistive technology training, devices and services

RESULTS

The tabulated results from selected survey questions are reported in this section as either frequency of response, percentages and/or Pearson Correlations between selected variables. Selection of data reported here was determined by significant correlations ($p<.05$) between response variables, items ranked as important for professional development by more than 80% of

the respondents, and/or issues identified as important in the literature or by the SSEAC. These results are presented in the following sections: Demographics, Service Provision, Training, and Funding.

Demographics

For the 1991-1992 school year, the Commonwealth of Virginia served a total population of 110,287 **students in special education that may require assistive technology services** under PL. 94-142. The data received from the 94 school systems responding to the survey indicate that 79,094 students were served under P.L. 94-142 during the 1991-1992 school year. The ninety-four systems also reported that 514 children eligible for assistive technology were served under Section 504 rather than in special education.

- Survey data revealed that during the 1991-1992 school year, 80 school systems had less than 25% of **eligible students receiving AT services.**

- The **estimates of assistive technology use at each school level** was identified by the respondents as being: preschool (37.5%), elementary (31.6%), intermediate (14.7%) and high school (16.2%).

- **Classification of the majority of assistive technology devices** used by students was evenly divided between low tech devices (48.7%) and high tech devices (51.3%).

Service Provision

- Of the 94 respondents, 83 school systems indicated that less than 10% of their **eligible students have assistive technology goals and objectives on their IEPs**, 6 respondents reported 11-50%, and no respondents indicated that more than 50% of their eligible students have assistive technology goals and objectives on their IEPs.

- 83.5% of the respondents deemed that **having IEP goals and objectives was an important issue** for special education service providers and 67 school systems reported that this professional responsibility belonged to the special education teacher. A significant correlation found between assistive technology budgets and the professional responsibility of writing assistive technology goals and objectives suggests that school systems with less budgeted money ranked this issue higher in importance.

- The **identification of assistive technology resources** was considered to be an important issue by 73 of the respondents (n=86). Fifty of the respondents identified this professional responsibly to be that of the administrator, whereas 41 respondents identified this responsibility to be that of the special educator. Currently all but two of the responding school systems are addressing this issue.

- The **maintenance of a resource file** for assistive technology information was identified as important by 80.2% of the respondents. A significant correlation between the maintenance of a resource file and an assistive technology budget suggests that school systems with a higher budget deemed this more important.

- **Identification of student needs** was considered important to over 90% of the respondents. The professionals responsible for the identification of needs of students was relegated to direct service providers: special educators, 56 responses; occupational therapists, 39 responses; speech language clinicians, 38 responses; physical therapists, 34 responses; and administrators, 34 responses.

- **Determination of eligibility for assistive technology services/devices** was ranked as important by 85.7% of the respondents. Currently this responsibility is being addressed by the following service providers: special educators, 50 responses; administrators, 44 responses; occupational therapists, 36 responses; physical therapists, 36 responses; and speech/language clinicians, 35 responses.

- A strong correlation was found between assisitive technology budgets and the issue of **assessing and evaluating students for assistive technology devices and services.** This correlation suggests that those school systems with a higher assistive technology budget rated this issue to be of greater importance, with 86.9% of the respondents ranking this responsibility as important. Respondents described this responsibility as being addressed by the following personnel: special educators, 46 responses; speech/language clinicians, 36 responses; occupational therapists, 35 responses; and physical therapists, 33 responses.

- **Delivery of assistive technology services** was deemed as important by 90.2% of the respondents. No respondents (n=83) ranked this issue as not important. Respondents identified this responsibility as being addressed by the following professionals: special educators, 60 responses; speech/language clinician, 44 responses; occupational therapists, 39 responses; and physical therapists, 37 responses.

- **Evaluation of the effectiveness of assistive technology services** had a significant correlation with assistive technology budgets of the school systems. This correlation suggests that school systems with a larger technology budget rated this issue of high importance (82.9%). Here again this issue was designated to be the responsibility of the following professionals: special educators, 51 responses; speech language clinicians, 33 responses; administrators, 30 responses; and occupational and physical therapist each had 28 responses.

- Over 60% of the respondents reported that over one half of their **professionals are using technology to support instructional practice.** This issue was ranked important by 86.4% of the respondents and no respondents identified it as not important. Issues involving curriculum and instruction had strong negative correlations when compared to assistive technology budgets.

- Correlations in the data suggest that **systems with more substantial budgets** considered the following issues of great importance: developing a technology use plan, generating teacher aids, and using computer and related software for reinforcement.

- **Teaching students to use assistive technology to increase independence, productivity, and written composition and communication skills** were issues rated as important by over 80% of the respondents.

- Over 30% of the systems reported that less than 10% of their **special education teachers are presently using technology to increase their productivity**. However, 40% of the respondents identified that over 50% of their special education teachers are using technology to increase productivity. Over 80% of the respondents felt this issue was important.

Training

- Respondents identified **direct service providers, administrators and parents as needing training in assistive technology**.

- Out of 90 respondents, 63% identified that more than one half of their **professionals need beginning training in assistive technology**. This training issue was ranked as important by 73 respondents (n=88).

- No **funding for training in assistive technology** was reported by one third of the systems responding to the survey. Of 91 respondents, 72 identified state and county as funding sources for assistive technology training, 14 identified funding from grants and 11 identified funding from individuals.

- Thirty-one systems report **no funding for training** in assistive technology (n=91). Out of 85 school systems responding to the survey, 82.1% felt this was an important issue and should be addressed.

- Results revealed that **training in assistive technology is currently being provided by: on-site consultation** (TAC, consultants), 73 responses; **in-service training**, 39 responses; and **university courses**, 6 responses. Eighteen (n=91) of the respondents reported no formal training for their professionals, and of these 18 systems, 12 have no assistive technology budgets.

- When asked **whether assistive technology competencies should be mandated** (n=91), 42 systems responded "no", 23 systems responded "yes", and 26 systems had "no opinion" at this time.

Funding

- Nearly one half (45) of the systems (n=94) reported **having no assistive technology budget**. Assistive technology budgets ranged from $200 to $225,000. Over one-fourth (29%) of the 94 responding systems reported **funding from grants** ranging from $900 to $40,000. Out of the 94 systems, 38 reported no assistive technology budget and no grant funding.

- Based on **reported assistive technology budgets** and identified students served under P.L. 94-142 (n=94), the median per capita expenditure per student per school year in the Commonwealth was less than $2.00. For systems having an assistive technology budget (n=49), the mean expenditure per student per school year was approximately $20.00.

- Fifty-six respondents (n=88) revealed that the **primary source of assistive technology funding** was their own county or locality. Identification of funding sources was important to 84.7% of the respondents (n=86). Over one half of the respondents reported that the responsibility of identifying funding sources and writing proposals for funding was that of the administrator.

- Eighty-three respondents reported that **ownership of assistive technology devices** belongs to the school systems, and 25 school systems reported that students own the devices themselves.

- Fifty-one school systems **allow students to take home assistive technology devices.** Twenty-four systems do not allow assistive technology devices to be taken home, and 19 school systems did not respond to this issue. Over three quarters of the respondents indicated that less than 10% of their students are currently using assistive technology devices at home.

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Appendix A

Assistive Technology Issues for
Virginia Schools:
Survey Results

FREQUENCY OF RESPONSE

NOTE: Frequency count and percentages only reflect those respondents that answered the question.

Please place an X by **ALL THAT APPLY** to your school system for the 1991/1992 school year.

1. Individual support services to special educators who may require assistance in the use of assistive technology are provided by:
   - 18 assistive technology specialists
   - 26 special education coordinators
   - 19 on-site technology coordinators
   - 23 administrators
   - 67 outside consultants
   - 7 no consultation services provided

2. Competencies for assistive technology service providers should be mandated at the state level:
   - 23 yes
   - 42 no
   - 26 no opinion

3. Training in the use of assistive technology should be provided for:
   - 87 special educators
   - 65 administrators
   - 63 parents
   - 67 regular education teachers
   - 69 para-professionals
   - 69 occupational therapists
   - 62 physical therapists
   - 74 speech/language pathologists
   - ____ other _____

4. Training in the use of assistive technology for special educators is provided through:
   - 6 contract courses with universities
   - 39 in-service training
   - 73 on-site consultation (i.e., TAC, consultants)
   - 18 no formalized training program

5. Currently, professional training in the use of assistive technology for special educators is funded by:
   - 43 county
   - 29 state
   - 11 individual
   - 14 grant
   - 31 no funding

6. The approximate number of students who are receiving assistive technology services:
   - 70 0-10 percent
   - 10 11-25 percent
   - 4 26-50 percent
   - 2 51-75 percent
   - 3 76-100 percent
   - ____ actual number (if known)

7. The approximate number of students with assistive technology goals/objectives included in their IEPs are:
   - 83 0-10 percent
   - 4 11-25 percent
   - 2 26-50 percent
   - 0 51-75 percent
   - 0 75-100 percent
   - ____ actual number (if known)

8. The majority of assistive technology devices used by students would be classified as:
   - 47 low tech (inexpensive, teacher made)
   - 49 high tech (microprocessor based)

9. Currently, assistive technology devices are funded by:
   - 33 state
   - 56 county
   - 26 school
   - 17 insurance companies
   - 9 privately
   - 13 parental support
   - 9 medicaid
   - 11 no funding available

10. Assistive technology devices used by students are currently the property of:
    - 83 school system
    - 4 state
    - 25 student
    - ____ other _____

11. Consistent with local policy, assistive technology devices used by students may be taken home:
    - 51 allowed
    - 26 not allowed
      comments: _____

12. Consistent with local policy, assistive technology devices may be transferred with the students within your school system:
    - 80 allowed
    - 2 not allowed
      comments: _____

13. The approximate number of students in special education who use assistive technology devices at home:
    - 73 0-10 percent
    - 8 11-25 percent
    - 4 26-50 percent
    - 0 51-75 percent
    - 0 76-100 percent
    - ____ actual number (if known)

14. Previously-used assistive technology devices are presently:
    - 78 recycled to other students
    - 4 discarded
    - 7 used for consultations
    - ____ other _____

A5. Where is the most assistive technology being used?
    - 51 preschool
    - 43 elementary
    - 20 intermediate
    - 23 high school

PERCENTAGES BY FREQUENCY

ASSISTIVE TECHNOLOGY ISSUES

Please place an X in the PERCENTAGE and IMPORTANCE columns for each of the following assistive technology issues that most closely represent your school system.

NOTE: Frequency count and percentages only reflect those respondents that answered the question.

IMPORTANCE BY PERCENT

Estimated % of Special Education Teachers and other service providers in my school system that:						For professional development, I believe this area is:		
<10	25	50	75	90+		Important	Uncertain	Not Important
36	7	17	10	19	1. Use microcomputers to generate assessment reports.	55.7	27.3	17.1
65	13	8	1	2	2. Use microcomputers to record observational data in special education environments.	27.3	35.2	37.5
61	12	7	1	8	3. Use a microcomputer program to generate an Individualized Education Program (IEP).	44.3	19.3	36.4
69	15	6	0	0	4. Write assistive technology goals and objectives in IEP's.	55.8	26.7	17.4
23	11	27	10	19	5. Use technology to support effective instructional practices.	86.4	10.2	3.4
27	19	18	11	14	6. Use the microcomputer to generate teaching aids for the special education classroom.	72.7	20.5	6.8
22	25	15	9	17	7. Arrange the physical environment to facilitate the use of technology.	68.6	24.4	7.0
44	24	12	5	4	8. Evaluate the effectiveness of technology applications in the special education classroom.	66.3	24.4	9.3
9	11	21	22	26	9. Use computers and related software for reinforcement.	78.2	16.1	5.7
49	16	13	4	5	10. Develop a plan for technology use in a special education program.	65.5	23.0	11.5
48	16	12	9	5	11. Teach students how to use high tech assistive technology devices to increase their independence.	82.8	8.0	9.2
45	17	12	10	4	12. Teach students how to use high tech assistive technology devices to increase their personal productivity.	82.6	9.3	8.2
27	20	16	15	11	13. Use high tech assistive technology devices to teach students written composition and communication skills.	85.2	8.0	6.8
55	20	8	5	1	14. Teach students to use microcomputers for telecommunications and to access electronic databases.	61.6	24.4	14.0
52	23	8	5	2	15. Determine the adaptive switches, software and related equipment needed for students with communication disorders, physical disabilities, or visual impairments.	73.9	14.8	11.4
64	17	4	2	2	16. Use alternative keyboards or other adaptive input and output devices.	73.3	17.4	8.2
60	18	3	5	3	17. Construct materials to use with assistive technology devices.	66.7	23.0	10.3
76	8	1	5	4	18. Use scanning devices and programs to facilitate single switch operation.	59.1	21.6	19.3
70	14	0	3	3	19. Use a speech synthesizer and the software that controls it.	72.1	17.4	10.5
52	26	6	3	3	20. Use low tech communication boards and augmentative communication aids.	69.3	21.6	9.0
73	10	3	3	1	21. Use high tech communication boards and augmentative communication aids.	66.7	23.0	10.3
50	18	15	2	5	22. Use low tech assistive technology devices to increase users skill levels.	65.9	25.0	9.1
56	19	9	3	3	23. Construct low tech assistive technology devices for student independence.	65.9	20.5	13.6
46	23	10	7	4	24. Adapt current environment with low tech assistive technology devices to increase students' skill level.	71.6	19.3	9.1
73	11	2	1	3	25. Use assistive technology to present magnified text/braille for students with visual impairments.	62.8	18.6	18.6
79	1	1	1	3	26. Use microcomputers to generate braille for students with visual impairments.	56.6	25.3	18.0
36	11	17	7	19	27. Ensure that students have equitable access to assistive technology in programs that are developed.	84.1	9.1	6.8
29	6	18	21	13	28. Use a microcomputer as an aid to teacher productivity.	81.6	13.8	4.6
22	11	14	17	26	29. Need beginning assistive technology training.	82.8	9.2	8.0
34	15	14	13	11	30. Need intermediate/advanced assistive technology training.	81.2	10.6	8.3

ASSISTIVE TECHNOLOGY RESPONSIBILITIES

NOTE: Frequency count and percentages only reflect those respondents that answered the question.

For the following professional responsibilities, please mark (with an X) **ALL PERSONNEL THAT APPLY** and place an X in the importance of the issue to your school system. If these currently are not personnel responsibilities, please leave the personnel columns blank and rate the importance of the issue. Your choices should reflect the 1991-92 school year.

PERSONNEL BY FREQUENCY											IMPORTANCE BY PERCENT		
Regular Education	General Technology Specialist	Special Education Assistive Technologist	Special Educator	Administrator	Occupational Therapist	Physical Therapist	Speech/Language	Parent Resource Center	Not Addressed		For professional devalopment, I believe this area is: Important	Uncertain	Not Important
7	21	8	39	53	33	29	36	20	5	1. Maintain a resource file of information about technology in special education.	80.2	12.8	7.0
9	16	7	49	25	26	23	34	19	6	2. Serve as a resource to parents of exceptional children who have microcomputers and related equipment available for use at home.	77.6	20.0	2.4
7	15	5	41	50	22	20	27	15	2	3. Identify resources available to support the use of technology in special education.	85.9	11.8	2.4
1	6	5	5	9	4	3	3	13	39	4. Prepare newsletters or flyers about technology use in special education.	35.7	31.0	33.3
3	8	5	13	18	4	3	6	2	35	5. Prepare guidelines and program of study for technology use in the special education classrooms.	57.3	20.7	21.9
9	19	7	40	34	19	17	24	3	12	6. Evaluate/approve hardware and assistive devices.	74.7	18.1	6.0
11	22	6	42	36	15	16	20	3	10	7. Evaluate/approve software.	77.1	18.1	3.6
6	19	8	39	13	18	15	20	3	10	8. Assemble, operate and maintain the components of technology systems in a special education environment.	78.3	16.9	4.8
4	14	13	18	22	14	14	20	2	19	9. Conduct in-service training on assistive technology applications in special education.	82.1	14.3	3.6
2	9	9	13	14	6	5	9	6	32	10. Make presentations about assistive technology use in special education to parent and professional groups.	61.9	22.6	15.5
7	18	13	25	20	19	15	20	6	13	11. Provide assistive technology consultation and technical assistance to colleagues.	78.3	16.9	4.8
15	6	9	56	33	39	34	38	4	2	12. Identify the needs of those who require assistive technology services.	90.5	8.3	1.2
16	6	5	60	12	39	37	44	2	1	13. Deliver assistive technology services to students.	90.2	8.5	1.2
13	8	9	51	30	28	28	33	1	7	14. Evaluate the effectiveness of assistive technology services.	82.9	15.9	1.2
10	10	14	46	18	35	33	36	0	4	15. Assess/evaluate students for assistive technology devices and services.	86.9	9.5	3.6
12	11	11	50	44	36	36	35	0	8	16. Determine student eligibility for assistive technology services/devices.	85.7	9.5	4.8
8	3	4	67	7	36	33	39	1	7	17. Write assistive technology goals on Individualized Education Plans.	83.5	11.8	4.7
7	5	6	31	21	22	19	22	0	20	18. Define the outcomes for the consultation assistance.	70.2	15.5	14.3
4	10	8	20	24	9	8	11	4	24	19. Collect data regarding assistive technology devices/services.	61.4	21.7	16.9
1	9	5	15	49	6	7	8	1	13	20. Develop a budget for technology applications in a special education classroom.	65.9	24.7	9.5
2	14	7	9	50	3	1	5	7	13	21. Identify funding sources for technology hardware, software, and accessories.	84.7	9.4	5.9
3	15	9	10	48	5	4	6	6	16	22. Write proposals to obtain funds for technology hardware and software.	68.2	22.4	9.5