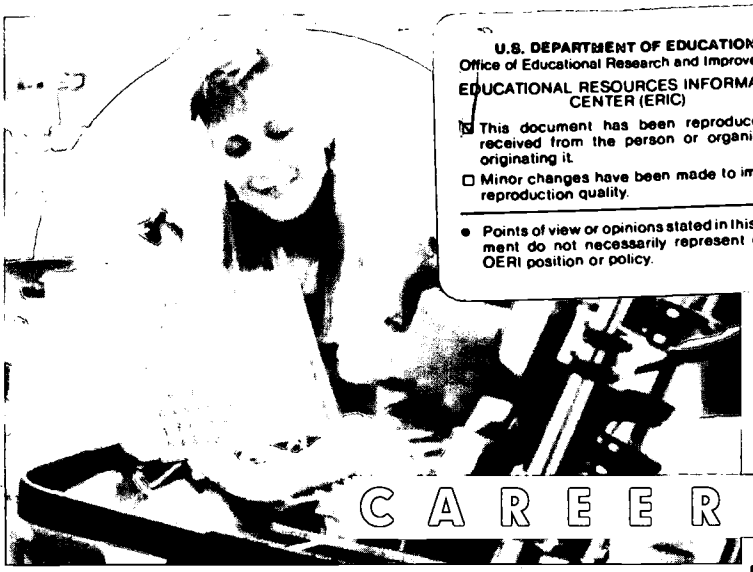
DOCUMENT RESUME

ED 420 975 EC 306 549

TITLE	Special Education Technology Specialist. Careers in Special Education and Related Services.
INSTITUTION	National Clearinghouse for Professions in Special Education, Reston, VA.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE	1996-00-00
NOTE	5p.
CONTRACT	H030E30002
AVAILABLE FROM	National Clearinghouse for Professions in Special Education, 1920 Association Drive, Reston, VA 20191-1598; toll-free telephone: 800-641-7824; e-mail: ncpse@cec.sped.org; World Wide Web: http://www.cec.sped.org/ncpse.htm
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Assistive Devices (for Disabled); *Disabilities; *Educational Technology; Elementary Secondary Education; *Employment Opportunities; Employment Qualifications; Higher Education; Minimum Competencies; *Occupational Information; Personality Traits; *Special Education; Specialists; Staff Role; Teamwork

ABSTRACT

Designed for high school students interested in careers in special education and related services, this guide outlines the role of the special education technology specialist. It addresses the nature of the work, the education required, personal qualities that technology specialists should have, job outlook and advancement, and how to prepare for a career as a technology specialist. Technology specialists are described as working as part of a team to evaluate students with disabilities and to help them become more productive and independent. A technology specialist can provide telephone and classroom technology support, assistive technology training, recommendations for software, suggestions for specific devices or equipment, and assistance in accommodating the limitations of students with disabilities. Because technology specialists are highly trained in computer skills, they are often the school's on-call expert for all special education classes. Some states require a teaching license to be employed as a technology specialist, but others do not. Technology specialists are described as resourceful, persistent, patient, and creative problem-solvers. A profile of a technology specialist is provided to illustrate the challenges and benefits of the job. (CR)



Special Education Technology Specialist

Kevin, a middle school student, is blind. He reads and writes Braille, but would like to use a Braille keyboard during class for certain assignments. Has one been invented? What would it cost? Could the school obtain one? Leslie, a kindergartner, has physical disabilities that affect her voice. Her hearing is excellent and she has a lot to say, but speech is extremely difficult for her. Is there technology that can help Leslie communicate with her teachers and classmates? Dillon, a fifth grader, attends a special education class because his writing skills need substantial improvement. Spelling is his hardest subject, and because he makes so many mistakes on paper, he gets discouraged easily. Is there any device that can help Dillon?

Kevin, Leslie, and Dillon's teachers have neither the time nor the training to research products that might benefit their students with disabilities—they're too busy teaching. But if these teachers work in a school system that employs technology specialists/coordinators, they can get some answers to the above questions.

Technology specialists (also called assistive technology specialists or integrated technology specialists) are pioneers in one of the newest professions in U.S. education. So new, in fact, that the Department of Labor has not yet included this profession in its classic biannual Occupational Outlook Handbook.

Their profession evolved from federal laws that began when the Education for All Handicapped Children Act of 1975 was passed, to the more recent Individuals with Disabilities Education Act (IDEA). Today, schools that receive public funding are required by law to provide assistive technology devices and services to eligible students with disabilities. Schools are also expected to instruct students in the use of such devices.

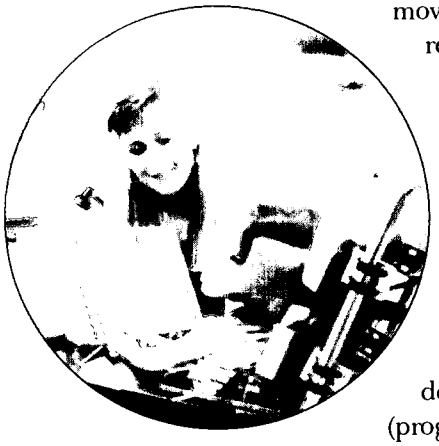
Nature of Work

Technology plays a valuable role in the lives of persons who have disabilities. Something as simple as a pair of prescription eyeglasses means that millions of Americans who have vision problems can safely drive—an activity that would otherwise be denied to them. In special education, technology is defined as any item, device, or piece of equipment that increases, maintains, or improves the functional abilities of persons with disabilities. Items, devices, or equipment may be purchased commercially or custom designed.

Technology specialists in schools work as part of a team (that may include classroom teachers, special educators, speech-language pathologists, occupational therapists, physical therapists, and parents) to evaluate students with disabilities and to help them become more productive and independent. A technology specialist can provide:

* telephone and classroom technology support,
* assistive technology training,
* recommendations for software,
* suggestions for specific devices or equipment, and
* assistance in accommodating the limitations of students with disabilities.

Because technology specialists are highly trained in computer skills, they are often the school's on-call expert for all special education classes. They might remove a computer for repair or correct the problem in the midst of a dozen curious children in the classroom. If a nonverbal student uses an augmentative communication device every day (programmed with a voice), and it malfunctions, the technology specialist might suggest an alternate piece of equipment for the student until the device can be fixed.



Not all technology specialists have teaching certificates, but their job involves teaching on a regular basis, even though it's seldom in the format of a classroom lecture. They teach teachers how to run computer programs, how to use talking alarm clocks and calculators for students with visual problems, how to maneuver a motorized wheelchair, how to hold an adaptive spoon that's been delivered for a preschooler, how to assist a child with poor spelling skills by demonstrating a device that compiles and corrects misspelled words, and hundreds of other "lessons."

Another important aspect of their job, although more limited, is working directly with students. One technology specialist said that he relies heavily on the teacher's description of the problem "because the teacher knows the class and the individual students better than anyone. Then I observe the student before making any recommendations." Suppose a student with physical disabilities is going to control a new computer that will have a switch positioned at her mouth level. The technology specialist would want to take the correct measurements before ordering and installing the switch, and would then provide some basic instruction to the student, and to those who work with her, including her parents.

Sometimes, technology specialists are invited into special education classrooms to share their expertise with the entire class. On a large screen that everyone can see, she could teach the students how to use e-mail on the Internet. Learning how to be connected to the world through computers gives students with disabilities a real sense of belonging, and technology specialists can help them achieve that independence.

As with all special educators, technology specialists are required to keep careful written records of their job performance. Schools must keep statistics of the numbers of students referred and served by technology services. Staff meetings, in-services, and training sessions are also recorded. When the technology specialist selects an appropriate technology for a student, his written logbook will show that the technology is in response to a clearly defined goal and that it should result in a desirable outcome.

For every piece of equipment that technology specialists recommend, they must research its availability, how much time is required to instruct the teacher and child who receive the equipment, the cost of daily/monthly/annual operation, the cost of replacement expenses such as batteries, maintenance contracts, and reliability and repair records.

Education Required

Some states require a teaching license to be employed as a technology specialist, but others do not. Currently, no licensing process exists for the profession. Generally speaking, job applicants who have strong computer skills combined with experience in special education or teaching, are most likely to be hired in entry level jobs. Several colleges and universities offer undergraduate classes in special education technology. Entrance to a master's degree program generally requires a strong background in teaching, curriculum and instruction, special education, or a related service field. A typical sampling of courses includes strategies for integrating technology into early childhood, elementary, and secondary education; technology for educating students with multiple disabilities or pervasive developmental disorders; computer applications; and transdiciplinary approach to rehabilitation.

PRACTITIONER PROFILE

Jim Phifer
Technology Specialist
Fairfax County Public Schools
Fairfax, Virginia

Jim Phifer is a technology specialist for northern Virginia's Fairfax County Public Schools, a few miles from Washington, D.C. As one of the nation's largest school systems, Fairfax County Schools employs more than 10,000 teachers. Jim and five colleagues work in a central office and serve the entire system, which includes 200 schools. He earned a bachelor's degree in elementary education from George Mason University in Fairfax, Virginia, and taught school for several years. "I persuaded the PTA to purchase our school's first computer," he recalled. "It ended up in my room, and before long the kids and other teachers considered me the computer expert." Jim eventually took a detour from classroom teaching to pursue a master's degree in instructional technology at Lehigh University in Pennsylvania. He enjoys working with children and has always liked tinkering with machines. Jim's been in his current job since 1990.

Daily Schedule: No two days are alike in Jim's office. "Teachers don't have time to research equipment or a piece of software that might help their special ed students," he says. "That's why I was hired." Jim's day consists of talking with special education teachers who need technology assistance, observing selected students, researching possible solutions, instructing students and teachers about particular devices, and providing general technical support to about 45 schools. (One day recently Jim was absent from work due to illness. When he returned the next day, he was greeted with 14 phone messages—all requesting information or immediate assistance.)

Jim keeps records on every student he serves. Generally, teachers contact Jim for two types of requests: help for an individual student, or help for an entire classroom. "If a product exists that would allow a student to communicate or learn better, I try to find out about it," he said. Recently, in one class, a student had disabilities that resulted in her not being able to speak. Jim and a colleague recommended, acquired, and installed an augmentative communication device that can be programmed with hundreds of common phrases. When a key is pressed, a synthesized voice speaks from a pre-programmed message. This student is now able to join her classmates every day as they recite the pledge of allegiance. Jim frequently works with students who have emotional disabilities. Many of these students have handwriting difficulties, and they get discouraged because no one can read their penmanship. Jim presents ideas to the teacher that help motivate the students. He often installs battery-operated keyboards (not computers) that are affordable enough to have several for a classroom. Jim and his colleagues regularly recommend a variety of technological devices, ranging in price from $10 to $10,000 per item.

Challenges: "The days aren't long enough to accomplish everything that needs my attention. In addition to researching special devices for students with disabilities, I'm the Macintosh expert on staff. Just keeping the computers running is a challenge. Budgets are always a challenge. Like all school systems, we don't have unlimited funds. It's a challenge to creatively solve problems on a tight budget."

Satisfaction: "My job is solving problems for people. I see myself as a firefighter— when students are working at a computer and the printer jams, they need me right away. They're glad to see me walk through the door. I also feel like a detective much of the time because I'm constantly talking to teachers, students, manufacturers, and associations about devices or approaches that might suit our students with disabilities. I feel the best when I can find solutions that motivate youngsters or make life easier or more stimulating for them."

Personal Qualities

Technology specialists are resourceful, persistent, patient, and creative. They are problem-solvers who work well with both children and adults, and can juggle a variety of tasks at the same time. These professionals also have excellent observation and communication skills. They analyze complex information easily and use sound judgment. They combine technical expertise with insight into how to help others become confident users of technology.

Job Outlook and Advancement

Although there is no national data collection for job outlook specifically for technology specialists, through the year 2005 employment for all special education teachers is expected to grow faster than the average for all occupations. In 1993-94, more than 5 million infants, toddlers, children, and youth with disabilities received special education services. As the school population rises, manufacturers of equipment and devices for students with disabilities are expected to offer a greater variety of products at more affordable prices. School systems that do not currently employ technology specialists will have even more incentive as the number of children needing special education services increases. Medical advances (that result in more survivors of accidents and illnesses) and the expected increase in the general population will require all schools to expand their special education services. Technology specialists with master's or doctorate degrees may advance to supervisory positions, sometimes overseeing a large number of schools.

How to Prepare for a Career

High school students considering this profession should take classes in science, math, and English, as well as courses in business or industrial arts. Excellent computer skills in both software and hardware will be required in all courses of study beyond secondary school. Teenagers can gain valuable experience toward becoming technology specialists when they work with children who are learning how to use computers. They can gain valuable experience working with children with disabilities by volunteering to assist youngsters in the Special Olympics program.

Resource Information

Technology and Media Division
The Council for Exceptional Children
1920 Association Drive
Reston, Virginia 20191-1589
703-620-3660

National Center to Improve Practice (NCIP)
Educational Development Center, Inc.
55 Chapel Street
Newton, Massachusetts 02158
617-969-7100 x2387
E-mail: ncip@ed.org
URL: http://www.edc.org/FDC/NCIP/

National Clearinghouse for Professions in Special Education
1920 Association Drive
Reston, Virginia 20191-1589
800-641-7824
E-mail: ncpse@cec.sped.org
URL: http://www.cec.sped.org/ncpse.htm

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Photographs by Aneeta Brown

This career flyer is made possible through Cooperative Agreement # H030E30002 between the U.S. Department of Education, Office of Special Education Programs and The Council for Exceptional Children. The contents of this publication do not necessarily reflect the views or policies of the Department of Education. This information is in the public domain unless otherwise indicated. Readers are encouraged to copy and share it, but please credit the National Clearinghouse for Professions in Special Education.

118.96 FALL 1996

U.S. DEPARTMENT OF EDUCATION
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