

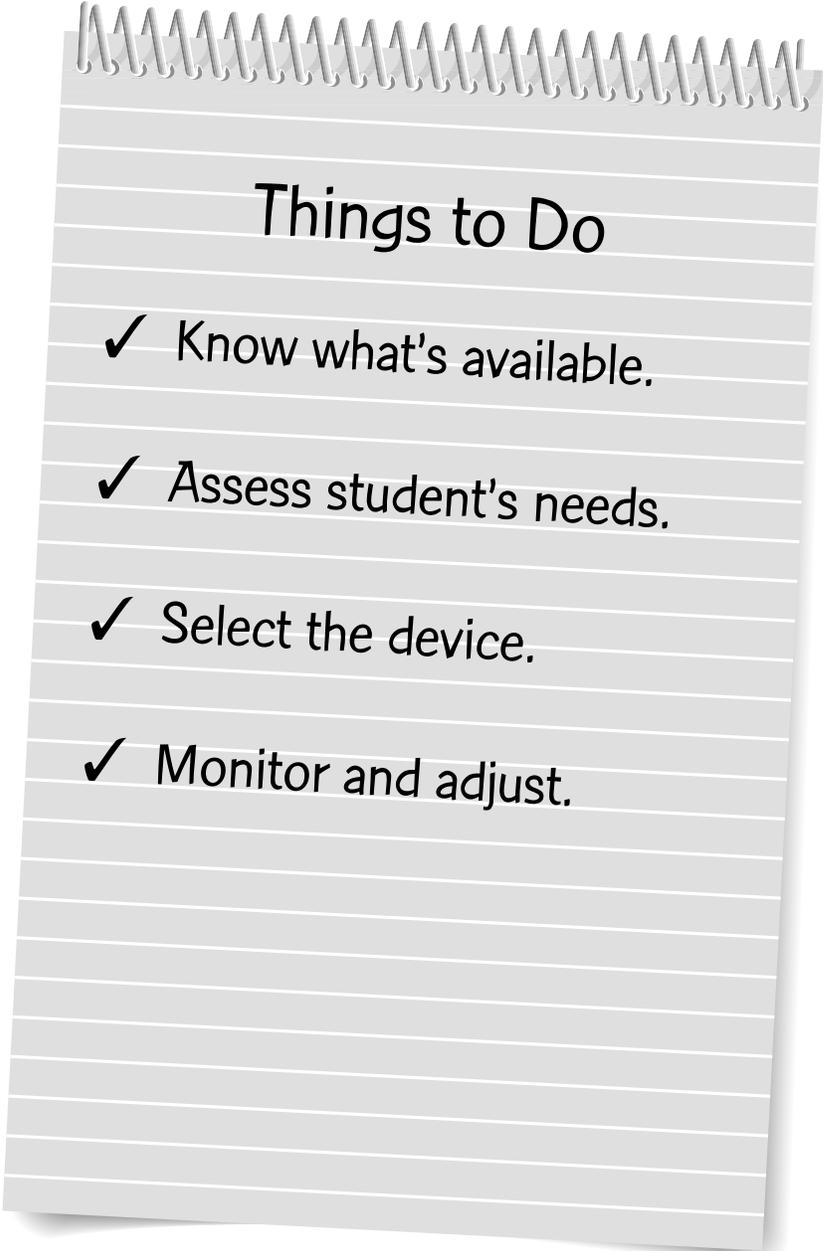


Specialized Equipment



Definition

Specialized equipment, or assistive technology, refers to any item, piece of equipment, or product system that is used to increase, maintain, or improve functional capabilities of students with disabilities. This may involve such items as large print material, a typewriter, a computer with specialized software, or augmentative communication devices. For students with disabilities, specialized equipment means increased independence, productivity, self-worth, and integration at home, at school, or in the workplace.



Things to Do

- ✓ Know what's available.
- ✓ Assess student's needs.
- ✓ Select the device.
- ✓ Monitor and adjust.

✓ Know what's available.

Develop a basic understanding and awareness of the variety of specialized equipment that can be utilized to improve the educational experience for students with disabilities. The development of specialized equipment is a rapidly expanding area in special education.

Specialized Equipment Typically Addresses Three Primary Functions

1. Communication—both receiving and sending
2. Mobility
3. Sensory ability—both seeing and hearing

Specialized Equipment is Often Referred to as High-, Medium-, or Low-Tech Devices

High-tech examples include:

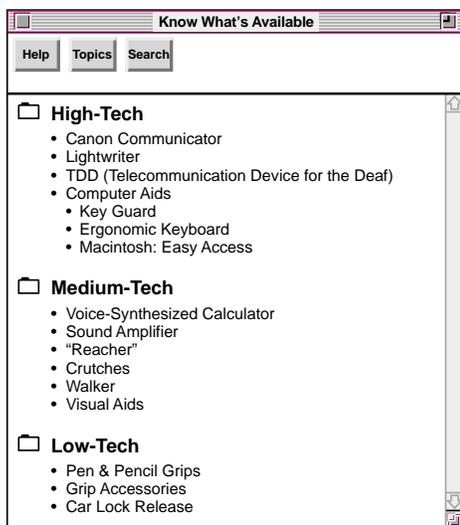
- 🖱️ Optical character recognition systems
- 🖱️ Word processors with spelling and grammar checkers
- 🖱️ Alternative keyboards
- 🖱️ Instructional software

Medium-tech examples include:

- 🖱️ Talking clocks
- 🖱️ Voice recognition capabilities
- 🖱️ Speech synthesizers
- 🖱️ Augmentative communication devices

Low-tech devices include:

- 🖱️ Cassette tape recorders for note taking
- 🖱️ Copy machines
- 🖱️ NCR paper
- 🖱️ Heat pointers
- 🖱️ Picture boards
- 🖱️ Taped instructions



✓ Assess student's needs.

Determining whether a student with a disability requires specialized equipment is a decision that must be made by the IEP team with the focus on the student's educational needs. The use of specialized equipment is determined on a case-by-case basis.

✓ Select the device.

Include Assistive Technology Services in IEP

If the IEP team determines that assistive technology is necessary to provide an appropriate program to a student, either as special education or related services, the student's IEP must include a specific statement of such services. Specialized equipment may also be a form of a supplementary aid or service utilized to facilitate a student's program in a regular educational environment. These modifications must also be included in the IEP.

✓ Monitor and adjust.

Once the device(s) has been selected, monitor its use by the student and make changes if necessary.

Ask the Following Questions

-  Does the device meet the student's needs?
-  Is the student comfortable with the device?
-  Does the device enhance the student's social acceptance and personal dignity?

Examples

Example 1

Word processing may be the most important application of specialized equipment for students with mild disabilities. These programs enable students to put ideas on paper without the barriers normally imposed by traditional paper and pencil. Word processing helps students with spelling, grammar, and punctuation. Some programs also help with organizing and outlining thoughts and ideas. Papers produced with word processing programs are more legible than handwritten papers, thus overcoming a common problem of many students with mild disabilities.

Example 2

There is an ever-increasing array of instructional software available for use with students with mild disabilities in a variety of subject matter areas. Combined with new generation multi-media authoring and application programs, software can be employed to develop and improve specific cognitive and problem-solving skills. This authoring software allows teachers and students to develop instructional software that incorporates video, pictures, animation, and text into multi-media-based instruction.

Example 3

For students with visual impairments, Braille, large print or regular print with low vision optical devices, or a combination of Braille and print should be considered. Also, several devices that utilize computer-generated speech could be helpful instructional tools. A personal computer with speech output may also be beneficial.

Example 4

A teacher's lesson outline and notes can be duplicated using either NCR paper or a copy machine. Notes can also be read by a voice synthesizer, or the actual lesson can be captured for further review by a tape recorder. For some students who may be unable to attend a class for an extended period of time, videotaping class sessions may be a reasonable accommodation.

Variations of the Technique

There are countless variations in the use of specialized equipment for students with disabilities. A careful assessment should be made of the student's unique learning needs, and then careful consideration should be made of

the vast array of high-, medium-, and low-tech accommodations provided by specialized equipment. Specialized equipment offers a positive opportunity to alter antecedent learning conditions to prevent problematic behavior.

Potential Problems and Solutions

Failure to Consider Assistive Technology

Given the need to develop IEPs based on individual strengths and weaknesses, the use of specialized equipment should be considered when the student is being evaluated. Just as other levels of performance are evaluated, levels of communication, sensory abilities, mobility abilities, etc. need appropriate application of technology. Care should be taken to ensure that consideration of technology is included in the evaluation process.

Failure to Consider Specialized Equipment as an Instructional Strategy

Given the relatively recent introduction of specialized equipment into special education settings, it may be easy to forget to consider this option as an instructional strategy in designing an intervention to deal with a student's problematic behavior. Remember, assistive technology may be appropriate in special education, as a related service, or as a form of supplementary aid or service used to facilitate placement in a less-restrictive environment.

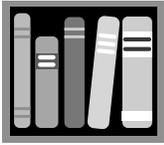
Lack of Knowledge and Appropriate Application of Technology

The revolutionary introduction of specialized equipment and devices in recent years makes it difficult to keep pace with advances, let alone acquire a basic understanding of new devices. Rather than training focused on specific equipment, training on appropriate application concepts that can be generalized to new devices may be more appropriate. Training and technical assistance in appropriate use of equipment is available at both the local and state level.

Getting Ready

Materials and Supplies

The materials and supplies applicable to specialized equipment is virtually limitless, depending on the specific nature of the accommodations to be delivered.



References

Berhmann, M. M. (1994). Assistive technology for students with mild disabilities. *Intervention in School and Clinic, 20*(2), 70-83.

Berhmann, M. M. (1995). *Assistive technology for students with mild disabilities*. (ERIC Digest No. EDO-ED-93-12). Reston, VA: Council for Exceptional Children.

Journal of Assistive Technology. (1996). Raleigh, NC: North Carolina Assistive Technology Project.

Journal of Special Education Technology. (1996). Reston, VA: Council for Exceptional Children, Technology and Media Division.

RESNA Technical Assistance Project. (1996). *Assistive technology and the IEP*. Arlington, VA: Author.

Assistive Technology Resources:

- Utah Center for Assistive Technology (UCAT)
2056 South 1100 East
Salt Lake City, UT 84106
801 485-9152
- Utah Augmentative Assistive Communication and Technology Teams (UAACT Teams)
2056 South 1100 East
Salt Lake City, UT 84106
801 485-9152
- The Computer Center for Citizens with Disabilities
2056 South 1100 East
Salt Lake City, UT 84106
801 485-9152