

Assistive Technology for Students with Disabilities:

Guidelines for Assessment and services

**Minnesota Department of Children, Families and Learning
Division of Special Education
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Introduction

As we move to the 21st Century, teachers and students need to develop skills in the new technologies, use them in innovative ways, and apply them in the teaching and learning process efficiently and effectively. We must move rapidly to build expertise and knowledge that will be used in the daily learning process. We should strive to make technology available to all students, teachers and families. Training for staff and students will be essential so tools will be used effectively in all educational activities as appropriate. The nation is challenged to bring information-age technology into classrooms so that all students will be able to learn basic communication, math, science and problem-solving skills essential to life-long learning.

For students with disabilities technology may be effectively used to equalize access to learning . How can these tools be accommodated, modified and incorporated into the learning process to improve communication, increase interaction with their classmates and communities, and assure that we recognize each student's ability to learn? Technology is a tool and must be selected to meet each student/s needs and be appropriately incorporated into their school curriculum.

AT may be the vehicle to maximize an individual's capabilities, interests and needs. It should be considered a component of programs and services for students with disabilities and determined on an individualized basis to assure that appropriate tools are selected. A team should be involved to select the essential tools that lead toward successful participation in home, school and community settings. Selecting the appropriate assistive technology requires two steps in decision making. The first is to determine whether a tool is needed. The second step is to consider whether accommodations are needed. An on-going evaluation process may be required.

Intent of this document is to provide an initial step in determining the need for assistive technology. Assistive technology should involve a broad array of accommodations including devices, training, instructional strategies, and environmental design. This document provides information on definition of terms. It suggests where and with whom the responsibility for assistive technology lies, as well as how and when assistive technology assessment occurs. Development of this document is the result of the clarification in Minnesota statute which includes assessment for assistive technology as a school district responsibility. It is also a response to a clear request from teachers, therapists, and other professionals for consistent guidelines in assistive technology assessment.

A more comprehensive resource about assistive technology and assessment in the schools is being developed. It will include information about an on-going decision making process to determine from a complex array of accommodations which will make a difference in the student's ability to participate effectively in his/her school environment.

Assistive Technology Manual Writing Committee

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Assistive Technology Mandates

For many children, technology can equalize the playing field to improve communication, learning and increase interaction with children in the general education classroom and in their communities. A child's entry into the educational service system will begin with "an assessment, including an assessment for assistive technology." (K-12 1996 Education Omnibus Bill). Several pieces of federal legislation touch on the provision of AT services and devices for children with disabilities.

1. **INDIVIDUALS WITH DISABILITIES EDUCATION ACT OF 1990, IDEA, P.L. 101-476.** This act guarantees a child the right to a free appropriate public education (FAPE) in the least restrictive environment (LRE), which includes the provision of special education and related services without charge to the family, in conformity within the IEP (assistive technology is a part of this mandate). Specifically a student's

- Assistive technology needs must be considered within the context of education related goals.
- Assistive technology needs must be identified on an individualized basis.
- Identification of assistive technology needs must involve family members and a multidisciplinary team.
- Family or other IEP team members can request additional evaluations or an independent assessment to determine assistive technology needs.
- Cost or unavailability of equipment cannot be used as rationale for denying assistive technology devices or services.
- If included in the IEP, assistive technology devices and services must be provided at no cost to the family.
- Families have the right to appeal the denial of assistive technology devices or services.

2. **Other Legislation**

- **REHABILITATION ACT OF 1973, Section 504.** Requires that public schools make reasonable accommodations for all students with disabilities when the disability has a significant impact on one or more major life activities.
- **AMERICANS WITH DISABILITIES ACT OF 1990, ADA, P.L. 101-336.** Civil rights legislation mandating non-discrimination of persons with disabilities.
- **Earkt Childhood Special Education Part H of P.L. 99-457.** Technology related services may be furnished by any provider that meets state and federal standards. The specification and coordination of technology related services are implemented through the Individualized Family Service Plan (IFSP).

3. **Office of Special Education Programs and Services Policy Letters**

- **OSEPS POLICY LETTERS**-written to interpret federal mandates. In 1990 a letter from Judy A. Schrag indicates the right to have assistive technology included in the IEP. It is the school district's obligation to provide assistive technology if a student has an identified need. Decisions are made on a case-by-case basis. Assistive technology can be provided as special education, related services or as supplementary aids and services.

Definitions

The Individuals with Disabilities Educational Amendments Act (IDEA) (P.L. 101-476) addresses the initial and continuing use of assistive technology for school-aged children with disabilities in providing **free appropriate public education (FAPE)** designed to meet their individual needs. Definitions include:

Assistive technology device is “any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized that is used to increase, maintain, or improve the functional capabilities of children with disabilities.

Such equipment and devices are specified in the individualized education plan which include, but are not limited to, the following:

- adaptations to personal computers, specialized software;
- adaptive switches;
- auditory trainers, TDD's;
- augmentative communication devices;
- books on tape or other formats;
- environmental controls;
- magnifying glasses, calculators, tape recorders; and
- scooters and standers.

Assistive Technology Service is “any service that directly assists a child with a disability in the selection, acquisition, or use of assistive technology devices.” IDEA also defines and authorizes assistive technology services to be included in the child's educational program.

- The evaluation of technology needs of the student, including a functional evaluation in the individual's customary environment;
- purchasing, leasing or otherwise providing for the acquisition of assistive technology devices for students with disabilities;
- selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing of assistive technology devices;
- coordinating with other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;
- training or technical assistance for a student with disabilities, or where appropriate, (his/her) family;
- training or technical assistance for professionals (including individuals providing education and rehabilitation services), employers, or others who provide services to, employ, or are otherwise, substantially involved in the major life functions of students with disabilities.

Assistive Technology Program is “a system of services and devices designed to meet the needs of individual pupils with disabilities. The system will support and maintain databases of existing technologies, provide procedures for assigning and reassigning equipment and software, assure that assessments are completed to determine the most appropriate technologies for an individual, provide training for staff and pupils on the use of technologies and provide assistance with trouble shooting the equipment and software to ensure that it is working properly.” MN Task Force on Education for Children with Disabilities II

Types of Technology that may be written on the IEP.

- **Sensory enhancers** help students with visual, hearing or orthopedic impairments better interact with their environments. Sensory enhancers can include augmentative communication devices, text magnifiers, scanners with speech synthesizers and voice analyzers.
- **Keyboard adaptations** and emulators that serve as alternatives to standard keyboards. They include joysticks, light pens, touch screens, sketch and graphics pads and fist/foot keyboards.
- **Environmental controls** and manipulators that modify ordinary objects to ease use by individuals with disabilities. Examples include adaptations of timers, light switches and devices for the deaf (TDD's) and control mechanisms with sonar sensing devices.
- **Instructional uses of technology** that use computer software to allow students full educational opportunity. Some examples are computer-assisted instruction, which uses software for drill and practice, and computer-managed instruction, in which software displays and analyzes grades, schedules, placement and other information management items.
- **Motivational devices** that encourage the student to interact with his or her environment through exploration, manipulation and play. These devices include modified toys and games.

Team Members and Roles

Members of the individual planning team should be selected with input from the student and family/caregivers. Five areas need to be represented on the team. They are the student parent/guardian, regular education teacher, special education teacher, and an administrator/designee.

Additional people may be included at the discretion of the team. Each team should be designed to reflect the specific needs of the individual. Roles and expertise of team members may overlap. Some people may be members of the team for only a brief period of time.

Following is a list of possible team members. The list is not exhaustive. All people will not be appropriate for every student.

Possible Team Members Contributions to Team Assessment Process

- | | |
|---|---|
| • Individual* | Express expectations of student needs, dreams, goals, frustrations and knowledge of barriers. |
| • Family/Care givers* | Share knowledge of individuals interests, skills, history serve as lifetime advocates. |
| • Special Ed. Teacher, consultant--specific disability such as PH, OHI, DAPE* | Assess specific academic, social, and behavioral areas. Knowledge of skills and problems typical development and performance modifications to curriculum, environment, teaching strategies, program development implementation. |
| • Regular Ed. Teacher* | Knowledge of typical development and performance, identification of barriers, responsibility for program implementation, and collaboration with family and specialists. |

- Administrator* Provide information about compliance with law, budget information and provision of in-service, training for staff.
- Speech/Language Path* Provide information about current and potential receptive/expressive communication skills - verbal/nonverbal, information about typical development, intervention techniques, alternative and augmentative communication skills, and how to integrate the communication system in the environment.
- OT/PT*
Accessibility specialist
Rehab engineers
Technicians, Orthotists
Prosthetists Provide daily living activities, leisure, recreation, sports, ROM, strength. Provision of access to environment (physical space and activities). Positioning, physical conditioning, adaptive equipment, mobility aids, strategies for participation in typical activities.
- Vision Specialist, O & M Interpret medical information, functional vision assessment, suggest materials, strategies, devices to help student make best use of vision and develop adaptations as needed.
- Audiologist, Teacher of Deaf and Hard of Hearing, Interpreter Evaluate hearing acuity. Prescribe amplification equipment and train in use. Modify environment. Suggest teaching strategies and ways to improve the child's skills. Evaluate communication needs and provide instruction that will assist in communication.
- Assistive Technology Specialist Participate in and help coordinate assessment including summarizing results. Provide information about tools, training, strategies, equipment, modifications, and resources.
- Social Worker Gather home, family, school history, provide counseling and information about community resources and funding.
- Psychologist Assess intellectual, academic, adaptive and behavior, determining learning styles, designing behavior interventions, and suggesting modifications to classroom environment.
- Medical Professional
Physician, nurse, home health care, public health, nurse, school nurse, nutritionist Provide medical care, prescribe equipment, provide background information, prognosis, and restrictions for activities.
- Paraprofessional, teacher assistant Provide relevant information based on daily observation about the individual's functioning in and out of the classroom. Gather data as requested by the team. Implement program under direction of the regular education or special education teacher or related service provider. Foster peer interaction.
- Advocate Provide support for individual or family in special education.
- Peer Provide social supports and serves as a reality check.
- Others/interagency representatives needed or requested by family Provide additional information needed.

*Core team members

Getting Starting

Assistive Technology Assessment...

- should be conducted on a case by case basis within the context of assessing other educational needs
- Involves a dynamic, ongoing process of information-gathering and decision-making
- is a part of life-long planning
- is conducted by the local transdisciplinary team in natural home, school and community settings
- yields information to complete the present level of performance areas, the adaptations/modifications section (Part G) and/or the special education and related services section (Part 1) on the individual plan.
- identifies ways to achieve goals and overcome barriers
- results in meaningful follow through by all team members
- matches device features to student capabilities, interests and needs
- leads to training for students, family members and service providers on identified tools and strategies

Assistive Technology Assessment should consider...

- Aids for Daily Living assessments identify adaptive aids that will make it possible to perform daily living tasks with a high degree of independence
- Classroom/School Modification assessments present options for design or modification and recommend equipment to overcome barriers to mobility and independence
- Communication assessments will help select the assistive technology that provides for communication at the highest possible level and with the greatest convenience
- Computer Access involve hands-on activities with a wide array of personal computers
- Mobility assessments look at skills and activities as they relate to ability to move around the environment as independently as possible
- Recreation and Leisure assessments help choose assistive technology designed to assist with participation in sports and other recreation activities
- Seating/Positioning assessments help fit wheelchairs to the shape of individuals, ensuring maximum function and correct seating, which can prevent skin breakdown from pressure sores
- Switch Access assessments are necessary to help determine which single switch devices will be most appropriate to operate
- Work Site Modification assessments will suggest changes for the work environment to ensure productivity in a pre-employment or employment setting.

Areas to Assess to include Assistive Technology on an IEP

An assistive technology assessment may be conducted at any time during the school year if a request is made. Frequently, assistive technology assessment is completed prior to or in preparation for annual educational planning. Addressing the following questions will initially meet the AT assessment mandate. Responses to these questions will generate an individual plan incorporating assistive technology, if necessary, to facilitate the accomplishment of annual, individual goals and objectives.

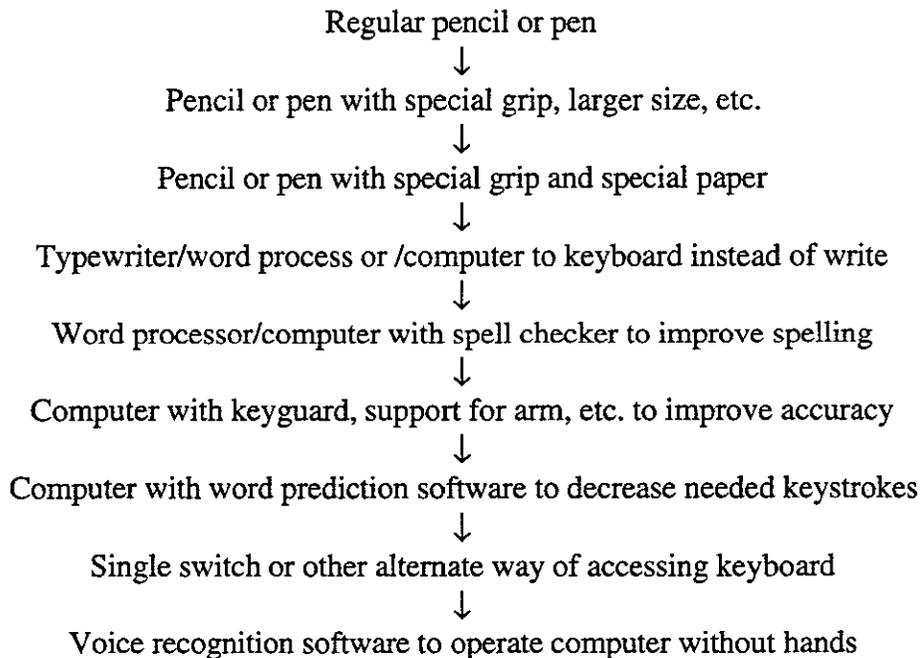
- I. **What are the student's dreams for the future?**
- II. **What are the student's gifts, capabilities and interests?**
- III. **Is the student experiencing any barriers in:**
 - Cognition/memory?
 - Academic achievement/performance?
 - Communication?
 - Motor skills?
 - Seating and positioning?
 - Mobility?
 - Strength and endurance?
 - Sensory?
 - Vision and/or hearing?
 - Emotional/social/behavioral?
 - Health/medical?
 - Functional skills?
 - Daily living/self-care?
 - Recreation/leisure?
 - Community participation?
 - Job skills?
 - Other?
- IV. **Are there activities in any setting in which the student needs to increase his/her participation or independence?**
- V. **What accommodations (physical environment, presentation of lessons, testing/evaluation procedures, altering design of materials, etc.) have been considered and/ or tried to overcome barriers so that the student can reach his full potential?**
- VI. **What assistive devices have been considered and/or tried?**
 - List assistive devices that have been considered and not implemented
 - List assistive devices the student currently uses and describe their effectiveness
- VII. **Are there other accommodations/assistive technology that would enhance learning, participation and/or independence?**
- VIII. **Is additional assistive technology assessment recommended (i.e., matching device features to the student's functional needs and capabilities; device trials/data collection to determine effectiveness)? If yes, describe.**

Continuum of Learners Level of Independence

There are three components of service provided. They are: (1) intervention strategies that are therapeutic and or instructional, (2) full range of services from simple to complex technology accommodations, and (3) adapted and modified strategies that provide for partial participation in an environment.

Therapeutic/Instructional Strategies	Full Range of Services	Adapted and Modified Strategies	
Component One Neutralize the impairment with special tools	Component Two Use or adapt simple/light Assistive Technology	Component Three Use high tech (or alternative) Assistive Technology	Component Three Adapt or modify the Task or Task Expectations
	Component One Build compensatory skills	Component Two Use high tech (or alternative) Assistive Technology	Component Three Partial Participation & use a Personal Assistant

Examples of a Continuum of Considerations for Assistive Technology Alternatives for Students who Experience Handwriting Difficulties as a Result of Motor Impairment



Impact of Assistive Technology Devices, Services and Programs

Assistive technology services and devices have impact that is far reaching for students with disabilities. When provided appropriately within the framework of assistive technology programs, AT devices and services:

- maximize a student's educational potential;
- increase student opportunities to be educated and to socialize with non-disabled peers;
- redefine what is possible for children with a wide range of abilities, and
- enable students with disabilities to be more independent, self-confident, productive, and integrated into the mainstream of society.

RESOURCES

If your child has special needs, you may want to contact the organizations listed below for information and further assistance.

<p>Association on Handicapped Student Service Programs in Post-Secondary Education P.O. Box 21192 Columbus, OH 43221 Voice/TTY: (614) 488-4972</p>	<p>Minnesota Dept. of Children, Families & Learning Statewide Assistive Technology Committee Capitol Sq. Building 550 Cedar St. St. Paul, MN 55101 (612) 296-5172 TTY: (612) 297-2094</p>
<p>Independent Living Services Division of Rehabilitation Services Dept. of Economic Security 390 No. Robert St., 1st floor St. Paul, MN 55101 (612) 296-5085 TTY: (612) 296-3900 1-800-328-9095</p>	<p>PACER Center, Inc. 4826 Chicago Ave. So. Minneapolis, MN 55417 (612) 827-2966 1-800-537-2237</p>
<p>Institute on Community Integration 102 Pattee Hall 150 Pillsbury Drive SE Minneapolis, MN 55455 (612) 625-3863</p>	<p>MN Department of Economic Security Vocational Rehabilitation Rehabilitation Services Division 390 North Robert St. St. Paul, MN 55101 (612) 296-3900</p>
<p>Trace Center S-151 Waisman Center 1500 Highland Avenue Madison, WI 53705 (608) 262-6966 (608) 263-5408 (TDD)</p>	<p>Courage Center 3915 Golden Valley Rd. Golden Valley, MN 55422 (612) 588-0811 TTY: (612) 520-0410</p>

<p>Minnesota Children with Special Health Needs Minnesota Dept. of Health 717 Delaware St. SE Minneapolis, MN 55440-9441 Voice/TTY: (612) 623-5150</p>	<p>Sister Kenny Institute 800 East 28th St. Minneapolis, MN 55407 (612) 863-4400 TTY: (612) 863-5165</p>
<p>Dept. of Labor and Industry Worker's Compensation Program Assistance and Compliance unit 443 Lafayette Rd. St. Paul, MN 55155 (612) 297-4486 TTY: (612) 297-4198</p>	<p>Minnesota Disability Law Center 430 First Avenue No., Suite 300 Minneapolis, MN 55401-1780 (612) 332-1441 1-800-292-4150</p>
<p>Tamarack Habilitation Technologies, Inc. 1471 Energy Park Drive St. Paul, MN 55108-5204 (612) 644-9950</p>	<p>Gillette Children's Special Health Care 200 E. University Avenue St. Paul, MN 55101 (612) 291-2848</p>
<p>Info Tech Iowa Program for Assistive Technology Iowa University Affiliated Program University Hospital School, Rm. S 384 The University of Iowa Iowa City, IA 52242-1011 1-800-331-3027</p>	<p>RESNA (Association for the Advancement of Rehabilitation and Assistive Technology) Suite 700 1101 Connecticut Avenue NW Washington, DC 20036 (202) 857-1199</p>
<p>MN Department of Children, Families and Learning Division of Special Education 812 Capitol Square Building 550 Cedar Street St. Paul, MN 55101 (612) 296-5172 TTY (612) 297-2094 Fax (612) 297-</p>	<p>MN Department of Administration STAR Program 300 Centennial Building St. Paul, MN 55155 (612) 296-2771 1-800-657-3862 TTY (612) 296-9478 or 1 800-657-3895 Fax (612)</p>

Bibliography

Teaming for Assistive Technology Sourcebook for Educational Teams (ATTAIN Project)
Meadows, 1994. P.O. Box 7083. 402 W Washington Street, Room W453. Indianapolis,
IN. 46207-7083. 800-545-7763.

Practical Technology (702) 565-2284

**Assessing Students' Needs for Assistive Technology, Penny Reed,
1-800 565-8135**

**Choosing Options and Accommodations for Children: A Guide to Planning
Inclusive Education, (1993) Giangreco, Cloninger, Iverson**

**Special Needs Project World Wide
(805)683-9633**

**Lifespace Access
P.O. Box # 2355
Sebastopol, CA 95473-2355
(707)829-9654
fax-(707)833-1515**

**Mayer Johnson
Preschool AAC checklist
Lifespace Access Profile and Upper Extension
Physical Characteristics Assessment
Lifespace Access (707) 829-9654
"Lifespace Access Profile"
(619)550-0084**

Do-It (includes Internet web sites) (206)685-do it

Potential Funding Sources For Assistive Technology

Public Programs	Alternative Financing	US Tax Code
Medicare	Private insurance	Medical care expense deduction
Medicaid — Early and Periodic Screening, Diagnosis, and Treatment (EPSDT)	Private foundations	Business deductions
State grants	State loan programs	ADA credit for small business
Individuals with Disabilities Education Act (IDEA)- Part B and Part H	Employee accommodation Programs	Charitable contributions deduction
Vocational rehabilitation state grants, including Title VII, Chapter 2	Corporate-sponsored loans	Targeted jobs tax credit
The Developmental Disabilities state grants	Community reinvestment programs	
CHAMPUS	Community groups	
Workers Compensation Programs	Family and friends	
The Technology-Related Assistance Programs	Religious organizations	
Social Security Supplemental Security Income PASS Program	Service clubs	
Department of Veterans Affairs	Advocacy organizations	