

MINNESOTA
DEPARTMENT OF

*Children,
Families &
Learning*

DIVISION OF SPECIAL EDUCATION
Minnesota Department of Children, Families & Learning

Minnesota Assistive Technology Guidelines

*Minnesota Guidelines for the Consideration of Assistive
Technology for Students with Disabilities*

DIVISION OF SPECIAL EDUCATION

Minnesota Assistive Technology Guidelines

April 2000

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SECTION 4

Open section

Include local or regional resources, contacts, forms, etc.



March 6, 2000

Dear Colleagues:

Technology has truly changed our world. It allows us to be in contact with friends around the nation and world, have immediate access to information and gives us a forum to present our views to others.

For persons with disabilities, technology becomes even more important. Through the use of technology, people who are deaf can listen to music. People with motor impairments can explore cities or museums,- even without leaving their own home! Most particularly, I am happy that students with disabilities are increasingly benefiting from the use of assistive technology in achieving goals in their education.

I am pleased to introduce this valuable resource for consideration of assistive technology in special education. Many students with disabilities are better able to achieve and learn with the aid of appropriate assistive technology devices and services. This manual will assist DSP Teams participating in the education of those children in choosing and implementing appropriate technologies.

The resources in this manual were developed with input from many teachers and professionals from across the state. I am appreciative of the extra effort they gave in making this possible.

Sincerely,

A handwritten signature in black ink, appearing to read "Christine Jax".

Christine Jax, Ph.D.
Commissioner



April 3, 2000

Dear Associates,

I am very excited and pleased to present you with a resource manual on consideration of assistive technology in special education. This manual is written in response to requests from Minnesota educators and others interested in assistive technology and education. The intent is to provide a resource for assessment and information to meet students' assistive technology needs.

This manual is not intended to be the final answer in assistive technology, but is a guideline for recommended practice. Practice will change through time, and this manual will change with that practice. Additionally, many districts are already doing an exemplary job in providing assistive technology services. I commend them, and ask that they share their knowledge with others.

Thank you to the professionals who have assisted in the development and evaluation of this manual. Their input and comments have been invaluable. In particular, the members of the Statewide Assistive Technology Committee have provided advice and guidance that I appreciate. I would also like to acknowledge those persons who participated in the field test of the manual. They gave thoughtful feedback that has been incorporated in this final draft. National leaders in consideration of assistive technology have willingly shared their knowledge to benefit all of us. I would like to thank in particular Penny Reed, Joy Zabala and Gail Bowser.

Please feel free to comment on this work, and to provide ideas for additions or corrections. This document will be modified as practice and legislation mandate changes in service provision in assistive technology. There is an open section at the end of the manual. This is deliberate. I invite all users to include information about resources in their region or which they have found to be particularly useful.

Best wishes;

A handwritten signature in black ink that reads "Joan Breslin Larson". The signature is fluid and cursive.

Joan Breslin Larson
Assistive Technology Specialist

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Frequently Asked Questions About Assistive Technology

The following address the most frequently asked questions about assistive technology. Additional information about critical issues involving AT devices and services can also be seen in the policy letters disseminated by the U.S. Department of Education which are summarized in Appendix D. These policy letters provide important information about various issues and concerns brought before the department. A number of the questions included in this section were generated from information contained in these letters.

Who must be considered for A T?

IDEA 97 (§300.346) mandates that *all* students with an IEP must be considered for assistive technology (AT). To provide a free, appropriate, public education, the IPP team must consider if AT is needed for the student to meet goals and objectives.

Are there particular groups of students with disabilities who should be considered for AT?

The federal requirements are clear—AT consideration must occur for *all* students who have an IEP. It is not based on any preconceived ideas about (disabilities. It is also possible that a student with a disability may need several types of AT to meet their educational needs, based on their IEP goals and objectives.

What is meant by "consideration" when discussing AT?

"Consideration" is a process and it should not be confused with an "assessment." Simply put, consideration is a relatively short process in which IEP team members use information analysis and critical decision making to determine student needs for AT. Although IDEA 97 does not have specific language regarding "consideration," the Minnesota Department of Children, Families and Learning (CFL) has adopted this term to conform with the SETT framework (see Appendix E: SETT Framework). This provides a research-based framework from which planning teams collect information about the: 1) student's strengths, abilities, and skills, 2) environments in which the student functions, 3) general education curriculum needs (tasks) to meet IEP goals, and 4) information about possible assistive technology services and devices to achieve these goals (tools).

Who provides consideration for AT?

The IEP team provides consideration students with disabilities. In the event a team concludes they do not have enough information, they are still required to seek assistance to ensure that informed consideration had occurred.

What are the conclusions an IEP team could make in regard to AT?

Penny Reed of the Wisconsin Assistive Technology Initiative (www.WATI.org) has stated that there are four possible decisions an IEP team can make. These are restated here:

1. AT is not needed. The student is making adequate progress through task modification, skill remediation or other interventions. Nothing new is needed for this student.
2. AT is needed, and is successfully being used. In this case, it is appropriate to state in the IEP that particular AT services and devices have been found to be effective to assure that they are available to the student.
3. AT may be needed, but the IEP team is unsure what service or device would meet the student's needs. The team may decide that new AT should be tried and additional data be collected to determine what an appropriate service or product might be.
4. The team is unsure what AT is, and so must find resources in order to make an informed decision regarding consideration. These resources can be from within the school district or, if there are no resources available, from an outside agency or resource.

Must every student with a disability be assessed for assistive technology?

No- but it must be *considered* for every student with a disability, hence the need to provide AT consideration. If the IEP team determines that there is a need for an assistive technology *assessment*, that must occur as well.

What is the school's responsibility for providing assistive technology?

It is the policy of the U. S. Department of Education, Office of Special Education Programs (OSEP) that schools *must* provide assistive technology services and products necessary for a student to receive a free, appropriate public education. These services and products should be described in the student's IEP as special education, a related service, supplementary aid or service or accommodation to testing.

Are schools required to pay for assistive technology services and products?

Not necessarily. Schools have the responsibility to provide the services and products that are *included in the IEP*. However, the school may utilize a variety of funding mechanisms to pay for them. Special education personnel are encouraged to learn about Minnesota's STAR Program and its range of information regarding funding options.

What are schools' responsibilities for customization, repair, maintenance, or replacement of assistive technology devices included in the IEP?

Schools are responsible to provide these services in order for a student to receive FAPE (IDEA §300.308). This includes the repair, maintenance or replacement of a privately owned device that is included in the IEP. (IDEA §300.306)

Can students take school owned assistive technology devices home on school nights, over weekends, breaks or over the summer?

This is determined by the IEP team on a case by case basis if the device is required at home for a student to receive FAPE (e.g. do homework, study spelling, etc) (OSEP Policy Letter to Anonymous, 18 Individuals with Disabilities Educ. L Rep. (27 (11/21/91)). It would be prudent to have procedures or policies in place which outline responsibility regarding installation of software, charging the device, how it is transported, limits on use (e.g. can the device be used for recreational internet use), etc

What is the school's responsibility for maintenance or replacement of an AT device that is damaged or stolen while in the child's possession?

The assistive technology devices that are necessary to ensure FAPE must be provided at no cost to the parents, and the parents cannot be charged for normal use, and wear and tear. However, while ownership of the device in these circumstances would remain with the public agency, state law rather than Part B of IDEA 97, generally would govern whether parents are liable for loss, theft, or damage due to negligence or misuse or publicly owned equipment used at home or in other settings in accordance with a child's IEP. Minnesota currently does not have state law that relates to this issue.

How is an assistive technology tool documented on the IEP if it is available to other students who do not have a disability?

If the assistive technology is necessary for a student with a disability to complete educational goals, it should be included on his IEP. Even if it is available to other students as a useful tool, if it is an essential tool for that student, it must be documented as such on the IEP.

Why do some students refuse to use technology after it is obtained for them?

Frequently, assistive technology products are purchased for an individual and not used. This is product abandonment. There are some reasons frequently given for abandonment listed below. These are not the only reasons, nor are they relevant use for students. However, it would be wise to take them into consideration and try to find ways to help limit the incidences of abandonment among our students.

1. Student not involved in decision-making
2. It didn't do what it was supposed to do
3. It worked, but it was inconvenient or impractical to use
4. It inhibited some other important function
5. It couldn't be modified or upgraded to meet changing needs
6. It was too cumbersome or unattractive
7. Functional needs of user changed

8. Medical intervention (surgery, medications) made it unusable
9. Use of the technology increased medical or safety risk

Who is considered to be an assistive technology specialist?

There is no required licensure as an assistive technology specialist. There are certifications and degrees issued by several professional organizations and educational institutions, including RESNA (rehabilitation and assistive technology association of North America), RIATT @ NASDSE (Institute For Assistive And Training Technologies @ National Association of State Directors of Special Education), University of Kentucky, State University of New York and others. In many cases, Occupational Therapists, Speech-Language Pathologists, Physical Therapist and other professionals have become local experts on AT issues. Until there is a licensure or certification required, professionals are encouraged to examine their own skills and knowledge, perhaps through a self examination using the NASDSE and QIAT competencies. Professionals are also encouraged to engage in ongoing learning through conferences, workshops and other opportunities to maintain a current knowledge base.

What You Should Know About Assistive Technology

Recommended Competencies in the Area of Assistive Technology

Gary Adamson, PhD, presented the following competencies to the National Association of State Directors of Special Education (NASDSF) board in a report in April, 1998. Subsequently they were distributed to each state education agency by NASDSE. These are not official competencies adopted by NASDSE or by CFL. Teachers are encouraged to review these competencies and self-evaluate their own competencies.

I. Basic Knowledge of Assistive Technology (AT) Services and Devices

- Understand AT including legal requirements, its purpose and functional application for the student's educational program.
- Demonstrate awareness of a variety of assistive technology devices and services and the ability to integrate technology into educational programs
- Demonstrate knowledge in their specialty area of assistive technology (e.g., access, alternative/augmentative communication, computer-based instruction, mobility, positioning, assistive listening and signaling devices, recreation/leisure/play, vision technology, environmental control, and activities of daily living).
- Demonstrate the ability to apply discipline specific knowledge regarding AT
- Demonstrate the ability to use appropriate AT in a variety of educational settings.
- * Demonstrate the recognition of the need for ongoing individual professional development and maintaining knowledge of emerging technologies.

II. Collaboration and Communication

- Understand the transdisciplinary nature of AT application and contribution of variety of disciplines to the service delivery process.
- Understand skills required to serve as a member of a transdisciplinary team providing services for assistive technology.
- " Ability to include parents as team members
- Ability to listen and respond to input from other team members
- Demonstrate effective group process skills
- " Know when and where to refer to other resources for assistive technology

- Utilize resources to meet technology needs for students with disabilities.
- Demonstrate the ability to network with others in the community, including parents and general educators for technical information and problem solving.

III. Assessment, Planning and Implementation Process

Assessment

- Identify appropriate, qualified team members necessary to determine AT needs and strengths.
- Determine, in collaboration with other members of the assessment team, assistive technology needs as part of a comprehensive transdisciplinary evaluation which addresses all areas related to the disability and based on student's strengths, tasks, and expectations.
- Use appropriate data gathering procedures and strategies to conduct an assistive technology evaluation utilizing a team approach to assess the student in customary environments.
- Integrate and discuss, in collaboration with the transdisciplinary team, all evaluation information including formulating recommendations and preparing a report.

Planning

- Develop a plan utilizing appropriate, qualified team members.
- Identify and design appropriate AT devices, services, and strategies in the plan.

Implementation

- Implement the plan using a collaborative approach.
- Evaluate, measure, and report on the effectiveness of the plan to meet the student's needs.
- Modify the plan as required to meet the student's needs.
- Identify areas that require further assessment or reevaluation on an ongoing basis.

IV. Resources

- " Identify, in collaboration with team members, assistive technology resources at the classroom, building, district, region, community, state and national level:
 - Funding resources
 - Product resources; i.e., augmentative communication, computer access
 - Print and electronic resources, i.e., books, web sites, journals, list serves

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- Human resources; i.e., individuals who can provide assessment, training, customization
- Problem solving, maintenance and repair
- Recognize own scope of knowledge and skills and utilize identified resources to augment knowledge and skills represented within team.
- Serve as a resource for others
- Identify staff development needs and opportunities which meet needs
- Participate in staff development opportunities that address identified needs,

Guidelines for Consideration of Assistive Technology

Every IEP Team is now required to "consider" the need for Assistive Technology for every child in special education, as part of the new "Special Factors" requirement in IDEA '97.

This new requirement leaves us with several questions, such as: What does it mean to "consider"? How will IEP teams demonstrate that consideration occurred? What process can be used to ensure that AT consideration was provided by the team? What is the difference between "consideration" and "assessment"? All of these questions are addressed in this section.

In thinking about "consideration" it is important to remember that consideration is by nature a *brief* process, one that can take place within every IEP meeting. Secondly, in order to consider the need for assistive technology, at least one person on the IEP team must have some knowledge about assistive technology. Thoughtful consideration of anything can only occur if one knows something about it. To facilitate knowledge about AT consideration, a procedure involving a series of steps has been developed to lead teams through this process. Each step is built upon a conceptual framework that involves team collaboration in determining what services and devices best meet a student's needs.

The steps presented in this section are accompanied by a set of forms that can be used at critical points in the consideration process. This process, including all of the forms, was adapted from a variety of sources including Rees (1998), Bowser and Reed (1998) and SETT (1999). The forms contained in these guidelines are suggestions for how to effectively provide consideration and extended consideration of assistive technology. IEP team members should note that *these forms are not required*—they are only used to help teams with the AT consideration process. Some teams will find that they prefer some forms to others, or find that some parts are not necessary, depending on their skills and team dynamics. Teams with little experience in the consideration of AT are encouraged to try the forms as they are presented, then modify them based on team needs and increased experiences.

IEP Team Members for Considering Assistive Technology Needs

In most cases, IEP team members engaged in the AT consideration process will be comprised of those individuals required by IDEA 97 (parent, general education teacher, etc). The forms provided in Section 3 were designed to facilitate the consideration and solutions selection process, even for team members who have had little experience with AT devices and strategies. There may be times when additional personnel will be called on because of their expertise or specialized

knowledge in the field of AT. A number of school districts within Minnesota will have one or more "dedicated" AT specialists whose role is to provide consultation with complex AT issues or providing staff development activities. However, a wide range of individual perspectives may contribute to the consideration process, ranging from highly trained consultants to the student's peers. Additional members who can provide input into the AT consideration may include any of the following:

- | | |
|---------------------------------------|---------------------------------|
| Advocate | Peer |
| Assistive Technology Specialist | POH1 Teacher |
| Audiologist | Psychologist |
| Augmentative Communication Specialist | Social Worker |
| Interagency Personnel | Teacher of Deaf/Hard <> Hearing |
| Medical/Health Professionals | Vision Specialist |
| Occupational Therapist | Others as needed |
| Paraprofessionals | |

Steps for Considering Assistive Technology

Step 1: Team members gather information prior to the IEP meeting. The *Student, Environments, and Tasks Worksheet, Family and Student's Worksheets* in Section 3 can be used for this purpose. This worksheet can be completed by team members familiar with the student. Team members should make a point of reporting both successes and accomplishments in addition to areas of difficulty. The *Worksheets* are brought to the team meeting.

Team members gather information prior to meeting. Use Student, Environments and Tasks, family, and Student Worksheets

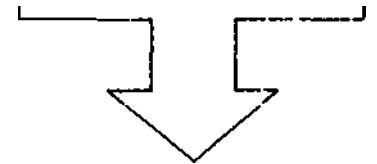
Step 2: At the team meeting, members conduct a group planning process to review information obtained from the *Worksheets*. It is recommended that a flip chart or overhead be used so everyone can see all the topics from the worksheet that need to be discussed. A template that can be used for this activity is the *Assistive Technology Group Planning Process* provided in Section 3. Note that the topics on this template directly relate to the information on the *Worksheets*. The primary objective of this group process is to identify tasks the students need to be able to do in relation to "student" factors (e.g., skills, abilities, functional competencies) and environmental circumstances that impact performance. It is recommended that teams quickly move through the information on the *Student, Family, and Environments*, portions of the worksheet, spending only a few minutes per topic if the team is in general

Team meets and conducts group planning process using information gathered through worksheets

agreement with the data that has been gathered. Generally, more attention is paid to the Tasks section (i.e., the naturally occurring activities that take place in the environment that are critical to the student), since the team cannot generate AT solutions until those tasks have been identified. The team should choose from 1 to 3 critical tasks for solution generation.

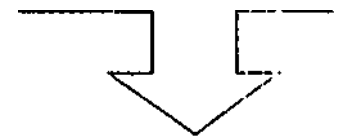
Step 3: Once all aspects of the *Student, Family, Environments, and Tasks Worksheet* have been addressed, the team needs to generate solutions through brainstorming. The details of the solutions will vary, based on the knowledge and experience of the team members. Some team members may be able to name a specific product that they think may assist the student. Others will only be able to list features, for example "says everything while it is typed" or "need to be portable" or "has only 2 messages." Teams can use the *Assistive Technology Checklist* in Section 3 to review a wide range of AT devices and strategies that can be used to address student needs in such areas as writing, reading, daily living skills and transition. Also, other resources in that can be used include the *Closing the Gap Directory* (as updated) *Trace Resource Book* (as updated), or seeking the advice of an AT consultant or any one of the number of state and regional resource persons listed in the *Resources for Assistive Technology* section of these guidelines

Team generates possible solutions through brainstorming. Possible-solutions can be specific or more generic. May use- AT Checklist to identify solutions



Step 4: This step involves "solution selection." The team discusses solutions listed, thinking about which might be the most effective for the student. Team members may want to identify solutions that can be implemented either immediately, in the next few months, or in the future. At this point, the *Planning and Implementation Summary* can be used to list specific devices, hardware, and software. Consisting of two sections, "Planning" and "Implementation," the *Planning and Implementation Summary* is used to help team members consider a wide range of factors (e.g., training, cost, storage) involved in selecting and using assistive technology. Once again, if team members are uncertain about the name or purpose of the devices, you can use the resources included in this manual. It is important to note that in some cases, a strategy rather than a device or product may be identified.

Specific tools or strategies are selected for implementation. Use Planning and Implementation Summary.



Step 5: Develop implementation plan, which includes trials with any identified devices or products. Use the *Planning and Implementation Summary* to assign names, dates, evaluation and

Initiate the Implementation Plan.

follow up plan and meeting. Implement the plan, collect relevant data., and conduct follow-up on the planned date.

Extended Consideration

Extended consideration refers to a trial period with one or more assistive technology devices in the child's customary environments. Extended consideration is an extremely effective tool for determining what, if any, assistive technology might help the child achieve goals as developed by an IEP team.

Completing an extended consideration can provide members of the team with time to make rational decisions based on actual data. It can help in dealing with team member¹. who have read or heard about new assistive technology, but may have incomplete or inaccurate information about it and want to document these concerns in the I HP Several technology solutions may be tried to determine which one is the most effective. The opportunity to collect additional data in the extended consideration process helps the team to consider the need for assistive technology, based on actual performance of specified tasks by the student in the chosen environments. An extended consideration period of any reasonable length can be written into the educational plan to allow for appropriate, well planned, and documented trials with a range of potential solutions

To assist in documenting the extended consideration process, the *Extended Consideration form* in Section 3 can be used to maintain a written record of what device was tried, the environmental circumstances, the criteria used to judge success and the general type of circumstances under which the trial would be stopped. Extended consideration is an excellent method in helping teams determine how a device works in the natural environments in which the student works, studies and completes other tasks essential in the learning process.

There are no definitive rules about how long an extended consideration should take. However, a reasonable "rule of thumb," is that it should be long enough for the student and support personnel to learn how to use a device, become comfortable with it. and be able to apply it in "real-world" academic situations and work settings.

Documenting Assistive Technology on the IEP

Assistive technology devices and services must be included if they are identified as being necessary for a student to receive a free appropriate public education. Minnesota's IEP form provides a framework for the development of an Individual Education Program. It is important to document the inclusion of assistive technology appropriately in the IEP, so that follow-through can occur.

The directions included in Minnesota's *State Recommended Due Process Forms* contains guidelines for inclusion of AT in the IEP. These guidelines can be found in the following sections:

1. Notice of Educational Assessment/Reassessment
2. Adaptations in General and Regular Education
3. Special considerations
4. Appendix B- Special considerations

In addition, the directions also contain information regarding "modifications." These can be found in the following sections:

1. Assessment Summary Report
2. Adaptations in General and Special Education
3. Program Modifications and Support for Staff
4. Basics Standards Testing
5. Review of Existing Data (Optional Form)

There are a number of areas on the forms where it is most appropriate to include AT. These include:

1. Special Education and Related Services
2. Present Level of Educational Performance
3. Transition (as appropriate)
4. Annual Instructional Goals and Objectives
5. Comprehensive Assessment and Standards Assessment
6. Adaptations in General and Special Education

The IEP forms recommended by the Minnesota Department of Children, Families, and Learning meet the minimum level of federal and state laws and rules. However, any district may add relevant information to the IEP. Although federal regulations (Discussion- *Federal Register*, March 12, 1999) indicate that "there is no additional

requirement that LEAs document that an IEP team considered a child's AT needs and determined that AT not be provided to the child," service providers are still obligated to demonstrate that assistive technology needs of the child were addressed in some way. To show that AT consideration has occurred, service providers are encouraged to make a notation or statement on the IEP. For example, in some states, language on the IEP form includes "Has assistive technology been considered for this student?" There are two potential responses to this question: (1) "Considered and found to be not needed," or (2) "Considered, and need is addressed in IEP in the following areas..." Statements of this nature may help to demonstrate that AT consideration was afforded to all students with disabilities.

Quality indicators for Assistive Technology Services

The following Quality Indicators in Assistive Technology are seen by many as a "work in progress." Presented at the Closing the Gap conference in October, 1999 in Minneapolis, MN., the quality indicators were distributed in a session titled "QIAT Conversation: Deepening the Discussion of Quality Indicators of Assistive Technology Services." This session was facilitated by several nationally recognized practitioners in the field of assistive technology. The quality indicators are intended to help special education personnel assess the current capacity in their school to address the AT of students with disabilities, as well as to help them identify professional development needs in the future. Because of its dynamic nature, it is anticipated that these quality indicators will be continuously modified as new standards are developed and increased knowledge is gained as a result of research efforts.

Administration

This area defines the critical elements for developing policies and procedures that support an effective assistive technology program.

Quality Indicators

1. Education agencies have procedures for assistive technology which comply with state and federal statutes and regulations.
2. Education agencies have written procedural guidelines which assure equitable access to assistive technology services for students with disabilities, if required for educational progress.
3. Education agencies employ staff that has knowledge of assistive technology commensurate with the job description/requirements.
4. Education agencies provide a budget for assistive technology devices and services.
5. Education agencies provide for continuous learning opportunities about assistive technology devices, strategies, and resources that include staff development, family training and student training.
6. Education agencies have an audit system that evaluates the components of assistive technology services to assure focus on student progress.

Common Problems

1. If policies and guidelines are developed, they are not known widely enough to assure equitable application by all IEP teams
2. It is not clearly understood that the primary purpose of assistive technology in school settings is to support the implementation of the IEP for the provision of a free appropriate public education (FAPE).

3. Personnel have been appointed to head assistive technology efforts, but resources to support those efforts have not been allocated. (Time, a budget tot devices, professional development, etc.)
4. Assistive technology leadership personnel try to or are expected to do all of the assistive technology work and fail to meet expectations.

Consideration

Consideration of the need for AT devices and services is an integral part of the educational process identified by IDEA '97 for referral, evaluation, and IEP development. Federal legislation does not specify a separate process for consideration of the need for assistive technology (AT). Although AT is considered at all stages of the process, the Quality Indicators are specific to the "consideration or special factors" in the development of the IEP as mandated by IDEA '97. The Quality Indicators are also appropriate for the consideration of AT for students who qualify tor services under Section 504.

Quality Indicators

1. AT is considered for all students with disabilities regardless of type or severity of disability.
2. IEP team has the knowledge and skills in AT to make informed decisions
3. IEP team uses critical decision-making processes to make determinations based on data about the student, environments, and tasks.
4. A continuum of AT devices and services is explored.
5. Decisions regarding the need for AT are made based on access to the curriculum and the student's IEP/IFSP goals and objectives.
6. Decisions regarding the need for AT and supporting data are documented

Common Problems

1. AT is considered for students with severe disabilities only.
2. No one on the IEP team is knowledgeable regarding AT.
3. Team does not use a consistent process based on data about the student, environment and tasks to make decisions.
4. Consideration of AT is limited to those items that are familiar to team members or are available in the district.
5. Team members fail to consider access to the curriculum and IEP's in determining if AT is required in order for the student to receive FAPE.
6. If AT is not needed, team fails to document the basis of determination of decisions.

Assessment

Assessment is a process conducted by a team, used to identify tools and strategies to address a student's specific problem(s). The issues that lead to an AT assessment may be very simple and quickly answered, or more complex and challenging. Assessment takes place when these issues are beyond the scope of the problem solving that occurs as a part of normal service delivery.

Quality Indicators

1. AT assessments are conducted by a team, at least one of whom is competent and knowledgeable about Assistive Technology devices and services.
2. The assistive technology assessment process is ongoing and actively involves the student and family or caregivers.
3. AT assessment procedures are clearly outlined and follow district, state and federal guidelines.
4. AT assessments, including needed trials, are completed within reasonable time lines.
5. AT assessments are conducted in the student's customary environments.
6. The AT assessment results in recommendations for assistive technology devices and services which are based on the student's needs/abilities, environments, and tasks.
7. Recommendations for AT devices and services are clearly documented, and available to those serving the child.

Common Problems

1. A team approach to assessment is not utilized.
2. Individuals participating in an assessment do not have the skills necessary to conduct the assessment, and do not seek additional help.
3. Procedures for conducting AT assessment are not defined, or are not customized to meet the student's needs.
4. Team members do not have adequate time to conduct assessment processes, including necessary trials with AT.
5. Communication between team members is not clear.
6. The student is not involved in the assessment process.
7. When the assessment is conducted by any team other than the student's IEP team, the needs of the student or expectations for the assessment are not communicated.

Inclusion of Assistive Technology in the IEP

The Individuals With Disabilities Education Act of 1997 (LDEA'97) requires that the IEP team consider assistive technology needs in the development of every Individualized Education Program (IEP). Once the need for AT for the child has been determined, it is important that the IEP document reflects the team's determination in as clear a fashion as possible. The quality indicators for AT in the IEP help the team to identify the places in the IEP that assistive technology might be included.

Quality Indicators

1. Assistive Technology is included in the IEP in all appropriate areas as defined by federal, state and local guidelines.
2. Assistive technology is used as a tool to support achievement of IEP goals and objectives as well as participation and progress in the general curriculum
3. IEP content regarding assistive technology use is written in language that describes measurable and observable outcomes.
4. All needed assistive technology related services are documented in the IEP.
5. The education agency has guidelines for inclusion of assistive technology in the IEP and everyone on the IEP team is aware of them.

Common Problems

1. IEP teams do not know how to include assistive technology in IEP's.
2. Assistive technology devices are included in the IEP, but no assistive technology services support the use.
3. Assistive technology is included in the IEP, but the relationship to goals and objectives is unclear.
4. Assistive technology expected results are not measurable or observable (See Evaluation)
5. IEP's including assistive technology use a "formula" approach to documentation. All IEP's are developed in similar fashion and the unique needs of the child are not addressed

Implementation

Assistive Technology implementation is how assistive technology services, as included in the IEP, are carried out (including goals/objectives, related services, supplementary aids and services and accommodations or modifications). It involves people working together to support the student using assistive technology to accomplish expected tasks as defined in the IEP and necessary for active participation in natural environments

Quality Indicators

1. AT implementation proceeds according to a collaboratively developed plan
2. AT is integrated into the curriculum and daily activities of the student.
3. Team members share responsibility for implementing the plan in multiple environments.
4. The student uses multiple strategies to accomplish tasks and AT supplements other ways that the student accomplishes task.
5. Training for the student, family, and staff is an integral part of implementation.
6. AT implementation is initially based on assessment data and is adjusted based on student performance data. (See Evaluation)
7. AT implementation includes management and maintenance of equipment and materials.

Common Problems

1. Implementation is expected to be smooth and effective without addressing specific components in plan. Team members assume that everyone understands what needs to happen.
2. Plans for implementation are created and carried out by one IEP team member.
3. Once the device is acquired, the assumption is made that "things should work" without aligned implementation by all IEP team members.
4. An implementation plan is developed that is incompatible with the instructional environments.
5. Contingency plans for dealing with broken or lost devices are not made in advance.

Evaluation of Effectiveness

This area addresses collection and documentation of evidence of changes in student performance resulting from an intervention in order to establish its effectiveness. The documentation will be reviewed in order to identify if, when, or where modifications and revisions to the intervention are needed.

Quality Indicators

1. It is a shared responsibility of all team members to ensure that data are collected, evaluated, and interpreted by capable and credible providers.
2. The data are collected on specific student behaviors that are identified by the team and related to a goal.
3. Data may measure objective changes in one or more of the following: productivity, participation, independence, quantity, quality, speed, accuracy, frequency, or spontaneity; and provide a mean; by which to do error analysis.
4. Data are collected across environments including naturally occurring opportunities as well as structured activities.
5. Data collection is a dynamic, responsive, ongoing process that is reviewed periodically.
6. Decisions regarding a student's program are data-driven and student-focused. Results of data review guide decision-making processes.

Common Problems

1. An observable, measurable student behavior is not specified as a target for change.
2. A measurable result of the intervention is not specified or clearly understood.
3. An environmentally appropriate means of data collection and strategies has not been identified.
4. A schedule of data review for possible program modification has not been determined before implementation begins.
5. Everyone thinks that everyone else is going to do it!

Resources for Assistive Technology

Although still a relatively new area to many, there have been a number of "behind the scenes" activities that have served to strengthen Minnesota capacity to meet the AT requirements of IDEA 97. For example, the Statewide Assistive Technology Committee has been a resource that has monitored national trends over the past several years in application of AT devices and service. Minnesota educators also benefit from Closing the Gap, a national AT conference that is held annually in Minnesota as well as local, regional and statewide trainings.

In addition to these efforts, the recent appointment of a Division of Education specialist in the area of assistive devices/technology will help focus training and technical assistance activities. Minnesota has a number of other resources available that can be used by teams in the AT consideration process. The major resources are outlined in the following section. In most cases, an AT resource is available in every region in the state. The list of resources presented here is not intended to be exhaustive. Teachers and others in Minnesota are encouraged to send additional resources to the Assistive Technology Specialist at CFL for inclusion in future Resource Manuals.

Minnesota Resources

Assistive Technology Specialist—Department of Children, Families, and Learning

Joan Breslin Larson, 1500 Highway 36 W., Roseville, MN. 55113
 651.582.1599
 fax 651.582.8729
 TTY 651.582.8201
 e-mail joan.breslin-larson@state.rrui.us

Blue Sky Designs, Inc.

Services offered:

Onsite assistive technology consultations (can include a wide variety of areas of need, including seating, mobility, switch access, environmental control, alternate computer access, augmentative communication, daily living activities, recreation and job-related accommodations, and integrating and balancing the student's needs to control various devices)

Consultations will typically occur with the student and their team, which may include the school OT, PT, SLP, teacher, paraprofessionals, psychologists, transition specialists and family members.

The student's needs will be identified and potential solutions will be identified, discussed and prioritized for trial.

Related services provided by Blue Sky Design include:

Assistive technology trials/assessments
Design and fabrication of custom equipment
Assistive Technology Program Development

Dianne Goodwin, ME, ATP
Phone: Twin Cities: 651-603-0828
Toll-free Non-Metro: 1-877-603-0828
Fax: 651-917-0137
email: bluskydzin@aol.com

540 Fairview Ave. N.
Suite 207
St. Paul, MN 55104

Freedom of Speech

Freedom of Speech, Inc. conducts consultations and provides services including sales to provide alternative access solutions to home and work environments for people with sensory, mobility, and reading disabilities. They are factory authorized, trained and supported by many manufacturers of assistive technologies.

Sales and Support: Toll Free 1-877-367-4228 or
fos@freedomofspeech.com
Fax: 612-872-7374
Web sites: www.freedomofspeech.com

Gillette Children's Specialty Healthcare

Gillette Children's Specialty Healthcare can provide a variety of assistive technology services and assessments for people with disabilities or physical limitations. Rehabilitation engineers, therapists, seating specialists, certified orthotists and assistive technology practitioners are available to work closely with the patient, family and community professionals to meet the individual needs of each client.

Assistive technology assessments and services include:

- seating system evaluation, fitting and fabrication
- powered-mobility assessments

- adaptive equipment
- augmentative communication
- environmental controls
- computer access
- custom upper and lower limb orthoses
- recreational equipment
- daily living aids
- protective headgear

These services can be provided at our Assistive Technology Department located at our main campus in St. Paul, the Gillette Technology Center in New Brighton, our West Clinic in Minnetonka (available on a limited basis), or through our Mobile-Outreach Clinics conducted throughout the state.

Please contact us at the following numbers to learn more about assistive technology assessments and services.

Gillette Technology Center
(651) 636-9443 or (800) 578-4266

Gillette Children's Assistive Technology Department
(651) 229-3800 or (800) 719-4040

Gillette Children's West Clinic
(952) 936-0977

National Cristina Foundation

The Division of Special Education at CFL, in partnership with the National Cristina Foundation and the Minnesota business community redistributes outmoded but still useful technology (primarily computer and related peripherals) at no cost to non profit organizations or agencies serving students with disabilities, who are at risk of disadvantaged.

Contact: Julann Meech
Special Education
1500 Highway 36 W
Roseville, MN. 55113
651.582.8611
TTY 651.582.8201
E-mail julann.meech@state.mn.us

PACER Computer Resource Center

PACER Computer Resource Center offers a lending library of over 1,600 items of commercially available and disability specific educational software and assistive technology devices for preview. Approximately 200 items are devices such as augmentative communication devices, touch windows and alternative keyboards. The library is available to parents and professionals throughout the state, we will mail items through the postal service. An annual membership is \$100 for professionals and \$25 for a family. PACER distributes complete catalog listings for the PC and Macintosh free of charge. Phone 1-800 53-PACER or 612 827 2966 or through Internet at: www.pacer.org.

PACTT

PACTT provides assessment, information, training, access and referral services on assistive technology to persons with disabilities in Southern Minnesota.

PACTT services include:

- Individual assessment and consultation
- Equipment loan library
- Referral services to other assistive technology resources

PACTT can be reached at
604 11 Ave NW
Rochester, MN 55901
507.287.2043

STAR Program

A System of Technology to Achieve Results (STAR) was created by the Technology Related Assistance for Individuals with Disabilities Act. It is a program of the Governor's Advisory Council on Technology for people with Disabilities. Activities are currently funded by the Assistive Technology Act of 1998 and the State of Minnesota. Programs funded by STAR include the CANs (information included below), Minnesota Assistive Technology Network (MATLN- provided by United Cerebral Palsy) and ATMN. Phone: 651.296.2771 or 800.657.3862 (TTY: 651.296.9478 or 800.657.3895).

Community Action Network (CAN)

The Minnesota STAR Program makes CAN grants to groups of volunteers who create a plan to deliver assistive technology services and devices to people with disabilities in their region of the state.

1999 CAN Recipients

Name	Region	Agency	City	Phone
Cassandra Robinson	1	ARC of Bemidji	Bemidji	218-759-0897
To be announced	2			
Terry Beck	3	Lake County Community Resources, Inc	Ecclus Falls	218-759-3411
Kathy Pauly	4	SPCD Rehabilitation	St Cloud	20-259-1151
Bob Braun	5	SW/WC MN Service Cooperative	Marshall	407-537-6800
Beth Stewart	6	Owatonna Hospital Auxiliary	Owatonna	07-455-0111

ATMN

ATMN is a nonprofit organization with a mission to help people with disabilities reach their full potential by developing a statewide, comprehensive, consumer responsive system to provide assistive technology for all Minnesotans with disabilities.

ATMN was incorporated July, 1998 as an addition to effort by the Minnesota STAR: Program, a public entity within the State of Minnesota government, Department of Administration. ATMN is staffed by employees of STAR on an executive loan basis. In is governed by a six member board of directors, including consumers of services for persons with disabilities. The board also includes family members of consumers and the professionals that serve them.

Because one of the most frequently occurring barriers to assistive technology involves funding, ATMN has developed a financial loan program with FIRSTAR Banks. This loan program was designed to provide individuals with another funding option to purchase and maintain assistive technology devices. Contact Tom Shaffet, Development Officer, 651.296.9718.

Assistive Technology Information and Referral Service

The Minnesota STAR Program's Assistive Technology Information and Referral Service center is made possible through a grant to PACER Center. The service provides information on all types of assistive technology to help people with disabilities, their family members and the professionals who serve them. This service is available free of charge to any Minnesotan regardless of age or income. Contact PACER when you want to know what devices are available, how to get them, and how to pay for them. Call PACER when you need an assistive technology service, like a professional assessment but don't know where to find one.

PACER Center, 4826 Chicago Avenue South, Minneapolis, MN 55417-1098

(voice)612.827.2966

(TTY) 612.827.7770

800.537.2337

www.pacer.org

contact Janet Peters or Perrine Daily

Ask for the Assistive Technology Information and Referral Service

Available beginning July 1, 2000.

Minnesota Assistive Technology Loan Network (MATLN)

The Minnesota Assistive Technology Loan Network (MATLN) is a program of United Cerebral Palsy (UCPM). MATLN provides a lending library of augmentative and alternative communication (AAC) systems. The collection of AAC devices will be listed on the Internet and available for loan through an e-mail process. Devices may be borrowed for long or short term use, depending on availability and demand. The AAC devices included in the database are being made available from a variety of agencies and organizations that have agreed to loan out their equipment. The agency owning the equipment determines the lending policies. Additional equipment has been purchased to enlarge the collection of resources. Funding for this program is provided by the Minnesota STAR Program of the Governor's Advisory Council on Technology for People with Disabilities.

MATLN also provides training and workshops for persons using AAC devices and family members. To increase the number of AAC devices available for loan in MN, MATLN will purchase new equipment for the loan network and accept donations of used AAC systems which will be refurbished and added to the loan network inventory.

MATLN

1821 University Ave Suite 286
 So. St. Paul, Minnesota 55104
 651.646.7588 1.800.328.4827 ext. 1437 Fax 651.656.3045

Minnesota Statewide Assistive Technology Committee

The following individuals are members of the statewide assistive technology committee, sponsored by the Department of Children, Families, and Learning.. This committee meets regularly to provide updates on assistive technology activities in their region, provide interagency collaboration and plan for statewide assistive technology projects.

Minnesota Statewide Assistive Technology Committee Membership
Agency

Brenda Ackerson	1&2	BR1C	218 745 4441	backers@was.k12.mn.us
Lorae Bailey	11	ISD 196	651 683 6969X5289	baileyafa@isd196.k12.mn.us
Jackie Baumann	6&8	SWWC Service Coop	517 537 2254	bauman@s\vscon*
Joan Breslin Larson	State	D of CFL	651 582 1599	joan-brshn-larson@statc.mn.us
Dixie Brunet	7	St Michael / Albertville	320 253 4635	dbrunet@stma.k12.mn.us
Cindy Dunn Lundquist		Ostego Elementary	612 241 3400 X5646	cdunn@elknver.k12.mn.us
Beth Erickson	10	Hawthorne Elementary	507 379 4989	eericks@a)bertlea.k12.mn.us

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Gary Gibson	11	Metro ECSU	612 706 0801 X124	gibson@mes.k12.mn.us
Melinda Goetsch	5&7	Monticello	612 271 0349	kaymel53@yahoo.com
Amy Hicks	11	AT Ctr-Mpls Schools	612 627 2895	ahicks123@aol.com
Frank Kurkowski	11	St Paul Schools	651 290 8342	
JulAnn Meech	State	D of CFI	651 582 8611	Julann.meech@state.mn.us
Neal Meskimen	State	Concert AT	651 674 0100	concertat@aol.com
Diane Mutchler	State	Rehab Services	651 296 4245	Diane.mutchler@state.mn.us
Risse Nybakke	11	Mpls Schools	612 729 2723	
Mary O'Hara Anderson	State	STAR	651 297 7517	Mary.oharaanderson@state.mn.us
Janet Peters	State	PACER	612 827 2966	jpeters@pacers.org
Mary Peterson		Mankato ISD 77	507 243 4213	mpeter1@mail.isd77.k12.mn.us
Linda Rees	11W	ISD 287	612 550 7185	lrees@mt287.k12.mn.us
Jann Schmidt	7DIII	Rum River SPED	612 689 3600	jann.schmidt@princeton.k12.mn.us
Rose Spehar	3	NE Service Coop	218 741 0750	
Camille Stierner-Sampers	11E	ISD 622	651 748 7151	csampers@isd622.k12.mn.us
Mare Swanson	4	Region IV AT Team	218 236 2288	swanson@mhollmooch.aal.mn.us

Rehabilitation Services

The Minnesota Department of Economic Security/ Rehabilitation Services assists Minnesotans with disabilities to reach their goals for working and living in the community. The agency provides three programs which can assist persons with disabilities in obtaining assistive technology services and products. These programs operate with different funding streams. All can be accessed through local rehabilitation services branch offices throughout Minnesota.

The Minnesota Rehabilitation Services Branch, Vocational Rehabilitation (VR) Program, is funded by the United States Department of Education, Office of Special Education and Rehabilitative Services, and the State of Minnesota. Basic vocational rehabilitation services to consumers include vocational counseling, planning, guidance and placement, as well as certain customized services based on individual circumstance-. These may include academic or skill counseling, artificial appliances or prostheses, assistive technology and adaptations, and tools and equipment. All services are provided to assist in the assessment of needs process and/or to support the consumer - Employment Plan. Eligibility is based on a medically documented disability which significantly impacts the ability to obtain or continue employment, and must require vocational rehabilitation services to obtain or continue employment. Vocational Rehabilitation Services gives priority to persons with severe disabilities when resources are inadequate to serve all eligible persons.

Contact:

Paul M. Bridges

Department of Economic Security / Rehabilitation Services Branch

390 North Robert St.

St Paul, MN. 55101
651.296.9981 or 800.328.9095 TTY 651.296.3900

Extended Employment (EE) Program

Extended Employment Programs are 100% state funded. EE Programs provide ongoing employment support services to Minnesotans with severe disabilities or severe impairment to employment who require ongoing support to maintain or advance in employment. The services are provided by thirty Community Rehabilitation Programs located throughout Minnesota.

For further information, contact:

David Sherwood-Gabriel son

Department of Economic Security / Rehabilitation Services Branch
390 North Robert St.
St Paul, MN. 55101
651.296.9150 or 800.328.9095 TTY 651.296.3900

Independent Living

The Independent Living Program is funded through a combination of state and federal dollars. The program provides comprehensive services to persons with significant disabilities to enhance their ability to live independently, function in their homes and with their families, and to participate in their community. There are two components:

A grant program that supports a network of eight community based, cross disability, Centers for independent Living (CILs). Center services include individual and system advocacy, independent living skills training, peer counseling, support groups, information and referral, assistance in obtaining transportation, equipment, personal assistance care, housing, education, recreation, health care, home and work modification, and counseling regarding vocational planning or referral to VR.

An agency based State Independent Living Services program operated cooperatively through VR field offices statewide to provide independent living services including counseling, service coordination and the purchase of equipment. Counselors are liaison coordinators with the Centers for Independent living and refer consumers to center for additional assistance.

For further information on Independent Living programs or services, contact:

William Bauer

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Department of Economic Security / Rehabilitation Services Branch
390 North Robert St.
St Paul. MN. 55101
651.296.5085 or 800.328.9095 TTY 651.296.3900

United Cerebral Palsy Loan Program

United Cerebral Palsy of Minnesota loans augmentative communication devices, switches, and mounting systems to speech language pathologists on a trial basis to assess whether a device is appropriate for an individual. Typically, the equipment is loaned for a one month period although extensions are sometimes granted in cases where no waiting list exists. There is no fee for borrowing the device, although the borrowing agency is required to pay for return postage. It is assumed by staff of the United Cerebral Palsy Loan Program that speech and language pathologists have the basic skills and knowledge about how to use the device. Contact

information: 1821 University Ave Suite 286
St Paul Minnesota 55104 04
651.646.7588 1.800.328.4827 ext. 1437 Fax 651.656.3045

National Resources

In addition to the assistive technology resources available in Minnesota, educators, parents and other professionals can also access a wide range of information and support resources through the Internet. This table provides a partial listing of some resources. Please submit your favorite sites to the AT specialist at CFL for inclusion in future Resource Manuals.

ABLEDATA		http://www.abledata.com/
DO-IT Program (Disabilities, Internetworking, and 'technology)	Opportunities,	http://www.Washington.edu/doi/
Closing the Gap		www.closingthegap.com
Job Accommodation Network	(JAN)	http://janwebicdi.w\uedu
Learning Disabilities On-line		http://www.Idonlmeorg/
Microsoft Accessibility Information		http://www.microsoft.com/onable/default.htm
National Center to Improve Practice	(NCIP)	http://www2.ede.org/NCIP/
National Council on Disability		http://www.ned.gov
Resna		http://www.resna.org
Quality Indicators for Assistive Technology Services (QIA1)		http://sac.uk\xlu/iszatbill/QIVI.html
PACER	Center	http://www.pacer.org/
Trace Research and Development (Center STAR Program)		http://www.trace.wise.edu/
US Department of Education- Office of Special Education and Rehabilitative Services		http://www.ed.gov/offices/OSLRS/
UCP Assistive Technology Project		http://www.ucpa.org/html/inno\atiu/atfa/md./htm
WebAble		http://www.webable.com/

MINNESOTA ASSISTIVE TECHNOLOGY GUIDELINES

Virtual Assistive Technology Center
Wisconsin Assistive Technology Initiative

<http://www.at-center.com/quanda.html>
www.wati.org

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- EAS1 K12, *Adaptive Technology and SPED Glossary* (Equal Access to software and Information) [online] Available:
www.rit.edu/~eaasi/ak12/k_12glossary.html
- U.S. Department of Education (1997) *IDEA '97 Final Regulations 34 CFR Part 300, Assistance to States for the Education of Children With Disabilities (Part B of the Individuals with Disabilities Education Act)*[Online] Available:
[http://www.ideapractices.org/regs/TOC.htm#TC\)C](http://www.ideapractices.org/regs/TOC.htm#TC)C)
- State of Minnesota, *Statutes 1999* [Online] Available:
<http://www.revisor.leg.state.mn.us/stats/>
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- Rees, L., (1998). *Process and Procedures for Consideration of Assistive Technology*, Intermediate School District 287, Plymouth, MN.

Appendix A: Assistive Technology Glossary

The following terms are adapted from the *Glossary of Assistive and Special Terminology*, a product of the Equal Access to Software and Information Project of the TLT Group (Teaching, Learning & Technology)

Adaptive Devices	An adaptive device provides modification in the environment. A switch to control a television from a wheelchair would be an example of an adaptive device, as would a ramp used in place of steps for someone in a wheelchair.
Adapted Technology	An adaptation is a modification to a device or a service or program which renders it usable by or appropriate for a person with a disability. At school, a standard curriculum can be modified to meet the needs of a student in special education through changing expected outcomes. A modification is an adjustment to an assignment or a testing situation that results in changing the standard for a particular student. Examples of possible modifications include: a student completing work on just part of a standard or a student completing an alternate assignment that is more easily achievable than the level expected in the standard. An adaptation or modification can include the use of a specific device which has been identified by an IEP team to assist the student to achieve academic goals.
Aids for Daily Living	Self help aids for use in such activities such as eating, bathing, cooking, dressing toileting and home maintenance.
Alternative Access/Input	Refers to a method of entry other than the standard access such as the keyboard on a computer. See also: Touch Screen, Trackball, Voice Recognition System, Scanning, Headwand or headstick, Joystick, Alternative keyboard.
Alternative Keyboard	A keyboard which has keys and/or spaces between the keys larger or smaller than the standard computer keyboard. Many alternative keyboards give the user the option of programming their own locations and sizes of keys. A single key may also be programmed to represent a sequence of keystrokes.
Americans with Disabilities Act	The Americans with Disabilities Act of 1990 (PL101-336) which prohibits employers from discriminating against people with disabilities and makes such discrimination a civil rights violation. Providers of public services, schools, public buildings and public transportation services may also not discriminate. Their facilities and services must be accessible to people with disabilities.
Assisted Keyboard	A keyboard modification driven by software with options such as talking software, sticky keys, slow keys, mouse keys, and programmable keys. See also: Sticky Keys, Slow Keys, Mouse Keys.
Assistive Technology Service	A service related to an assistive technology device that may include evaluating selecting, procuring, designing, fitting, customizing, applying, maintaining, repairing, replacing, coordinating, training of individual or family, and training.
Assistive Technology Device	Any item, piece or equipment, or product system that is used to increase, maintain, or improve functioning of individuals with disabilities.

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Augmentative Communication System	Any system that increase or improves communication of persons with a receptive or expressive communication impairment. The system can include speech, gestures, sign language, symbols, synthesized speech, dedicated communication devices, microcomputers, and other communication systems
Braille	A raised dot printed language which is used by persons with visual impairments. Each raised dot configuration represents a letter or word combination.
Closed Captioned Television (CCTV)	Closed Captioned Television (CCTV) Provides a written dialog of a television program. The dialog typically appears at the bottom of the screen and will also include descriptions of music or other noises occurring in the television program. New televisions must have the CCTV option built in per Americans with Disabilities Act.
Communication device	A device which communicates for a person who may need alternative communication options to supplement existing communication.
Digitized Speech	Human speech which is recorded onto an integrated circuit chip and which has the ability to be played back.
Direct Selection	Activation of a letter on a keyboard or picture on a communication board by a single method. Pressing a key on a keyboard, eye gazing to a selection, or use of an Infrared headpointing beam are examples of direct selection. See: Infrared Beam, Eye Gaze, Communication Board.
Dynamic Screen Display	A communication device option which uses a computer function of changing screens of overlays to produce a message. These systems typically are accessed through a touch screen computer system.
Environmental Control Unit (ECU)	A system that enables individuals to control various devices in their environment through a variety of alternative access methods such as switches, touch windows, and infrared beams. Target devices include lights, door openers, televisions, telephones, CD players, emergency alert systems, and kitchen appliances.
Eye Gaze	Looking at an item to indicate a choice or communication.
Headwand or Headstick	A pointer or extension device that is mounted to a headpiece and extends from the forehead and angles downward. It is usually used in direct selection of an object such as a key on a keyboard or a symbol or word on a communication board. It is for use by persons with good head control and limited upper and/or lower body movement. if the pointer extends from the chin, it is referred to as a chinwand or chinstick.
Infrared beam	A beam of light which is used to activate a device. Infrared beams can be used to access switches, computers, communication devices, and more. Infrared beams can be mounted on the head or held in the hand and serve as another access method to the environment.
Key guard	A cover, usually made of plastic or Plexiglas, which fits directly over the computer's keyboard. Holes in the cover correspond to each key on the keyboard and guide a finger, headstick, or mouthstick to facilitate direct key presses. Keyguards can also be designed with a limited number of holes to prevent access to specific keys.
Latch	A switch option which keeps a device running after activation of the switch. A second activation of the switch will turn off the device
Linking or Branching	An adaptation used with some communication devices and computer software which links one overlay of messages or screen of computer functions to another overlay of messages or computer

functions. A linking function which may be used with a communication device might be a key with a picture of food which when pressed links to a new communication overlay which represents all food choices from which a user of the communication device could select.

- Moisture guard** A soft plastic cover molded to the shape of the keyboard and placed on the keyboard to protect it from moisture.
- Momentary** The most common switch activation option. When a switch is activated, it will only activate a device for the length of time that the switch is held down. See also: Switch
- Mouse Keys** A software driven computer adaptation which allows keys on the standard keyboard to act as the mouse. Mouse keys are an adaptation for one who does not have the fine or gross motor skills to control the mouse or other mouse options.
- On Screen Keyboard** A software driven computer adaptation which brings the standard keyboard, which is typically used by a two hand typist, onto the computer screen with typing access through the mouse or joystick. Many On Screen Keyboard software programs can be designed to meet the needs of the user.
- Overlay** This term usually refers to a communication system which uses an overlay or page of communication symbols for communication.
- Prosthetics/Orthotics** Replacements, substitutions or augmentations of missing or malfunctioning body parts with artificial limbs or orthotic aids such as splints or braces.
- Scanning** A selection technique which presents groups of items to the user. The user then signals, with a switch press, gesture, or other means, when the desired item is being indicated. The scanning may be performed automatically by an electronic system or manually by the communication partner. See Also: Switch
- Seating/ Positioning** Accommodations to a wheelchair or other seating system to provide greater body stability, trunk/head support and an upright position, and the reduction of pressure on the skin surface.
- Slow Keys/Filter Keys** A software driven computer adaptation which allows one to set the delay which the computer will use before accepting the input of an individual keystrokes on the keyboard.
- Sticky Keys** A software driven computer adaptation which allows a single handed or single finger typist to use two key function commands. When sticky keys is turned on the shift key, control key, open apple key, and other two function lead keys remain active after the original strike of the key and then becomes inactive after the second key is struck. Sticky keys allow a user who is disabled to do capital letters, cut, paste, copy, and other two key function commands.
- Switch** An input device used to control options in a variety of environments. There are a variety of switches including pressure switches, pneumatic switches, and voice activated switches. Each of these switches can control adapted toys, environmental control devices, communication devices, and a wide range of computers. A switch can be designed for use with almost anyone. See also: Direct Selection, Scanning
- Switch Latch Timer** A device used to extend the time that a battery operated device will stay on after a switch is used to activate the device, allowing the selection of an interval from zero to sixty seconds for a device to remain operative. A latching option is also available. See also: Switch,

	Battery, Interrupter, Latch
Switch Mount	A device which allows a switch to be mounted in any variety of positions. A switch mount might be attached to a wheel chair and positioned to allow easy activation of the switch. The switch mount may be positioned at the head, knee, chin, foot elbow or other switch site. See also. Switch
Synthetic speech	Speech which uses computer technology to create a variety of voice options. Although synthetic speech is not a real human voice, the technology that creates the voice can be very similar to the sound of a human voice
Telecommunication Device for the Deaf (TTD)	A Telecommunication Device for the Deaf allows a person to transmit typed messages over phone lines to another person with a TDD. Most TDDs include a keyboard for typing messages to send and a display and/or printer to receive messages
Toggle Keys	Keys that produce tones when specific keys are accessed. This adaptation may serve as a warning or reminder when the computer keyboard is being accessed.
Trackball	An input device which contains a visible sphere mounted in a stationary container. It functions similarly to a mouse, however, the sphere is rotated with the fingers to move the cursor to any position on the screen. With a mouse it is the container of the sphere which is moved with the hand.
Voice Recognition System	An access system designed to replace the standard keyboard as the method of input. The system is "trained" to recognize the utterances that are spoken into a microphone. The utterances are translated into computer commands or sequences of characters and used to operate the computer software.
Word Prediction	A computer software based adaptation which predicts the next letter or word that a typist may type. Word prediction software is available that learns the writing style of a user for more efficient prediction of words. This software feature benefits students with learning disabilities and fine motor impairments

Appendix B: Assistive Technology Concepts and Definitions as Defined in IDEA 9?

IDEA 97 defines assistive technology (AT) devices and services. It informs us about the scope of AT and helps us to identify the range services that should have in place to meet student needs. According to these federal requirements, assistive technology device and service are defined as follows:

Assistive Technology Device (§300.5) The term 'assistive technology device' means 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 functional capabilities of a child with a disability.

Assistive Technology Service (§300.6)- The term 'assistive technology service' means any service that directly assists a child with a disability in *he* selection, acquisition, or use of an assistive technology device. Such term includes —

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

Free Appropriate Public Education (§300.13)- The term 'free appropriate public education' means special education and related services that —

- (A) have been provided at public expense, under public supervision and direction, and without charge;
- (B) meet the standards of the State educational agency;
- (C) include an appropriate preschool, elementary, or secondary school education in the State involved; and

(D) are provided in conformity with the individualized education program required under section §§300.340-300.350.

Consideration of Special Factors (§300.346) Assistive technology. (§300.308)

(a) Each public agency shall ensure that assistive technology devices or assistive technology services, or both, as those terms are defined in §§300.5-300.6, are made available to a child with a disability if required as a part of the child's

- (1) Special education under (§300.26);
 - (2) Related services under (§300.24); or
 - (3) Supplementary aids and services under (§300.28) and (300.550(b)(2)).
- (b) On a case-by-case basis, the use of school-purchased assistive technology devices in a child's home or in other settings is required if the child's IEP team determines that the child needs access to those devices in order to receive FAPE.

The **IEP** team shall —

- (v) consider whether the child requires assistive technology devices and services

Appendix C: Minnesota Statutes

Minnesota Statute 125A: School District Obligations

School district obligations, (a) As defined in this section, to the extent required by federal law as of July 1, 2000, every district must ensure the following: (1) all students with disabilities are provided the special instruction and services which are appropriate to their needs. Where the individual education plan team has determined appropriate goals and objectives based on student needs, including the extent to which the student can be included in the least restrictive environment, and where there are essentially equivalent and effective instruction, related services, or assistive technology devices available to meet the student's needs, cost to the district may be among the factors considered by the team in choosing how to provide the appropriate services, instruction, or devices that are to be made part of the student's individual educational plan.

The student's needs and the special education instruction and services to be provided must be agreed upon through the development of an individual education plan. The plan must address the student's need to develop skills to live and work as independently as possible within the community. By grade 9 or age 14, the plan must address the student's needs for transition from secondary services to post-secondary education and training, employment, community participation, recreation, and leisure and home living. In developing the plan, districts must inform parents of the full range of transitional goals and related services that should be considered. The plan must include a statement of the needed transition services, including a statement of the interagency responsibilities or linkages or both before secondary services are concluded; (2) children with a disability under age five and their families are provided special instruction and services appropriate to the child's level of functioning and needs; (3) children with a disability and their parents or guardians are guaranteed procedural safeguards and the right to participate in decisions involving identification, assessment including assistive technology assessment, and educational placement of children with a disability; (4) eligibility and needs of children with a disability are determined by an initial assessment or reassessment, which may be completed using existing data under United States Code, title 20, section 33, et seq.; (5) to the maximum extent appropriate, children with a disability, including those in public or private institutions or other care facilities, are educated with children who are not disabled, and that special classes, separate schooling, or other removal of children with a disability from the regular educational environment occurs only when and to the extent that the nature or severity of the disability is such that education in regular classes with the use of supplementary services cannot be achieved satisfactorily; (6) in accordance with recognized professional standards, testing and evaluation materials, and procedures, used for the purposes of classification and placement of children with a disability are selected and administered so as not to be racially or culturally discriminatory; and (7) the rights of the child are protected when the parents or guardians are not known or not available, or the child is a ward of the state. (b) For paraprofessionals employed to work in programs for students with disabilities, the

school board in each district shall ensure that: (1) before or immediately upon employment, each paraprofessional develops sufficient knowledge and skills in emergency procedures, building orientation, roles and responsibilities, confidentiality, vulnerability, and reportability, among other things, to begin meeting the needs of the students with whom the paraprofessional works; (2) annual training opportunities are available to enable the paraprofessional to continue to further develop the knowledge and skills that are specific to the students with whom the paraprofessional works, including understanding (disabilities, following lesson plans, and implementing follow up instructional procedures and activities; and (3) a districtwide process obligates each paraprofessional to work under the ongoing direction of a licensed teacher and, when appropriate and possible, the supervision of a school nurse.

125A.08 School district obligations, (a) As defined in this section, every district must ensure the following: (1) all students with disabilities are provided the special instruction and services which are appropriate to their needs. Where the individual education plan team has determined appropriate goals and objectives based on the student's needs, including the extent to which the student can be included in the least restrictive environment, and where there are essentially equivalent and effective instruction, related services, of assistive technology devices available to meet the student's needs, cost to the district be among the factors considered by the team in choosing how to provide the appropriate services, instruction, or devices that are to be made part of the student's individual education plan. The student's needs and the special education instruction and services to be provided must be agreed upon through the development of an individual education plan. The plan must address the student's need to develop skills to live and work as independently as possible within the community. By grade 9 or age 14, the plan must address the student's needs for transition from secondary services to post secondary education and training, employment, community participation, recreation, and leisure and home living. In developing the plan, districts must inform parents of the full range of transitional goals and related services that should be considered. The plan must include a statement of the needed transition services, including a statement of the interagency responsibilities or linkages or both before secondary services are concluded. (2) children with a disability under age five and their families are provided special instruction and services appropriate to the child's level of functioning and needs; (3) children with a disability and their parents or guardians are guaranteed procedural safeguards and the right to participate in decisions involving identification, assessment including assistive technology assessment, and educational placement of children with a disability;

Minnesota Statute, 1999 125A.58: Purchasing Guidelines

Purchasing Guidelines

Subd. 1. Purchasing Guidelines. Rights of districts to purchase school-owned assistive technology, (a) When a child with a disability exits a district and enters a new district, the child's new district may purchase any assistive technology devices that the child's former

district has purchased on the child's behalf. The child's new district must notify, in writing, the child's former district of the intent to purchase the device. The child's new district must complete a purchase agreement according to section 125A.36. The child's former district must respond, in writing, to the request to purchase within 30 days, (b) Districts may decline to sell a device if they can demonstrate the technology is a general use device or can be modified for use by other students.

Subd. 2. Liability for used equipment. The child's former district is not liable for any nonconformities in the equipment after it is purchased by the child's new district, or for injuries arising out of the use of the assistive technology device. This section does not foreclose the child's right to bring suit against the manufacturer, assistive device lessor, or assistive device dealer for nonconformities in or injuries arising out of the use of the assistive technology device.

Subd. 3. Third-party payors. Nothing contained in this section may be construed as decreasing the obligation of an insurance company or other third-party payor to provide coverage for assistive technology.

125A.59 Interagency agreement to purchase used assistive technology devices.

Subd 1. Option to purchase by Department of Economic Security. (a) When a child with a disability transitions into a work environment or enrolls in a post-secondary course or program, the department of economic security may purchase any assistive technology device that the child's former district purchased on the child's behalf. (b) The department of economic security may purchase an assistive technology device initially purchased by a district for a child who is currently a recipient of rehabilitation services and who needs the identical assistive technology device as stated on the recipient's individual written rehabilitation plan. The purchase may be made not more than three months before the child exits the district.

Subd. 2. Liability for used equipment. The department of economic security and the department of children, families, and learning are not liable for any nonconformities in the equipment after it is purchased by the Department of Economic Security, or for injuries arising out of the use of the assistive technology device. This section does not foreclose the child's right to bring suit against the manufacturer, assistive device lessor, or assistive device dealer for nonconformities in or injuries arising out of the use of the assistive technology device.

Subd. 3. Third-party payor. Nothing contained in this section may be construed as decreasing the obligation of an insurance company or other third-part payor to provide coverage for assistive technology.

125A.60 Purchase Agreement

Purchase agreement; price formula. The commissioner must develop guidelines for the sale of used assistive technology including a purchase agreement, a formula lot establishing the sale price, and other terms and conditions of the sale.

125A.21 Third party payment.

Subdivision 1. **Obligation to pay.** Nothing in sections 125A.03 to 125A.24 and 125A.65 relieves an insurer or similar third party from an otherwise valid obligation to pay, or changes the validity of an obligation to pay, for services rendered to a child with a disability, and the child's family.

A school district may pay or reimburse copayments, coinsurance, deductibles, and other enrollee cost-sharing amounts, on behalf of the student or family, in connection with health and related services provided under an individual educational plan.

Subd. 2. **Third party reimbursement.** Beginning July 1, 2000, districts shall seek reimbursement from insurers and similar third parties for the cost of services provided by the district whenever the services provided by the district are otherwise covered by the child's health coverage. Districts shall request, but may not require, the child's family to provide information about the child's health coverage when a child with a disability begins to receive services from the district of a type that may be reimbursable, and shall request, but may not require, updated information after that as needed

Districts shall request, but may not require, the child's parent or legal representative to sign a consent form, permitting the school district to apply for and receive reimbursement directly from the insurer or other similar third party, to the extent permitted by the insurer or other third party and subject to their networking credentialing, prior authorization, and determination of medical necessity criteria.

Subd. 3. **Use of reimbursements.** Of the reimbursements received, districts may

- (1) retain an amount sufficient to compensate the district for its administrative costs of obtaining reimbursements;
- (2) regularly obtain from education- and health-related entities training and other appropriate technical assistance designed to improve the district's ability to determine which services are reimbursable and to seek timely reimbursement in a cost-effective manner; or
- (3) reallocate reimbursements for the benefit of students with special needs in the district.

Subd. 4. Parents not obligated to use health coverage.

To the extent required by federal law, a school district may not require parents of children with disabilities, if they would incur a financial cost, to use private or public health coverage to pay for the services that must be provided under an individual education plan.

Subd. 5. Informed consent. When obtaining informed consent, consistent with sections 13.05, subdivision 4, paragraph (d); and 256B.77, subdivision 2, paragraph (p), to bill health plans for covered services, the school district must notify the legal representative; (1) that the cost of the person's private health insurance premium may increase due to providing the covered service in the school setting, (2) that the school district may pay certain enrollee health plan costs, including but not limited to, copayments, coinsurance, deductibles, premium increases or other enrollee cost-sharing amounts for health and related services required by an individual service plan, or individual family service plan, and

(3) that the school's billing for each type of covered service may affect service limits and prior authorization thresholds. The informed consent may be revoked in writing at any time by the person authorizing the billing of the health plan.

Subd. 6. District obligation to provide service. To the extent required by federal law, no school district may deny, withhold, or delay any service that must be provided under an individual education plan because a family has refused to provide informed consent to bill a health plan for services or a health plan company has refused to pay any, all, or a portion of the cost of services billed.

Subd. 7. District disclosure of information. A school district may disclose information contained in a student's individual education plan, consistent with section 13.32, subdivision 3, paragraph (a), including records of the student's diagnosis and treatment, to a health plan company only with the signed and dated consent of the student's parent, or other legally authorized individual. The school district shall disclose only that information necessary for the health plan company to decide matters of coverage and payment. A health plan company may use the information only for making decisions regarding coverage and payment, and for any other use permitted by law.

Appendix D: U.S Department of Education Policy Letters

United States Department of Education Policy Letters Regarding Assistive Technology for Children With Disabilities

The U.S. Department of Education's Office of Special Education Programs (OSEP) has issued many Policy Letters governing when a school must provide AT to student's with disabilities. The key OSEP Policy Letters are summarized below by category

General Requirements

1. *OSEP Policy Letter to S. Goodman, 16 Educ. Handicapped I. Rep. 131 (8/10/90)*
 - a) Cannot preclude provision of AT; rather, must determine need case-by-case.
 - b) AT may be a special education service, a related service or a supplementary and or service used to maintain a student in the least restrictive setting.
 - c) Includes AT devices and services.
 - d) AT is required if needed to ensure that student receives a free appropriate public education (FAPE).
 - e) IEP must include a statement of the nature and amount of service.

2. *OSEP Policy Letter to B. Orenich, Educ. Handicapped L. Rep. 213:16(> (8/9/88) '*
 - a) When AT is used as a "supplemental aid and service" to educate a student in the regular education environment, it must be included in the IEP.

3. *OSEP Policy Letter to R. Shelby, 21 Individuals with Disabilities Educ. L., Rep. 61 (1/26/95)*
 - a) When AT (large print books) used as a "supplemental aid and service" to educate a student in the regular education environment, any modifications to the regular educational program must be included in the IEP.

4. *OSEP Policy letter to D. Naon, 22 Individuals with Disabilities Educ. I. Rep. 888 (1/26/95)*
 - a) There is no federal "approved list" of AT devices and services covered by IDEA.
 - b) Students are entitled to AT as necessary to ensure a FAPE.

- c) The question is the relationship between the educational needs of the student and the AT device or service.

5. *OSEP Policy Letter to Hon. T. Libous, 17 Individuals with Disabilities Educ. L. Rep. 419, 420 (11/15/90)*

- a) Even if AT were considered only a related service, it could be provided as the sole component of a summer program.

6. *OSEP Policy Letter to Anonymous, 13 Educ. Handicapped L. Rep. 213:198 (2/13/89)*

- a) The related services list is not exclusive. It includes orientation and mobility training for students who are blind.

7. *OSEP Policy Letter to Hon. W. Teague, 20 Individuals with Disabilities Educ. E. Rep. 1462 (2/15/94)*

- a) The related services list is not exclusive. It also includes large print books and adapted spoons.

8. *OSEP Policy Letter to Anonymous, 18 Individuals with Disabilities Educ. L. Rep. 1037 (4/6/92)*

- a) AT devices include an FM auditory trainer.

9. *OSEP Policy letter to C. Lambert, 18 Individuals with Disabilities Educ. E. Rep. 1039 (4/24/92)*

- a) Calculators may qualify as an AT device.

Assistive Technology Evaluations

10. *OSEP Policy Letter to J. Fisher, 23 Individuals with Disabilities Educ. L Rep. 565 (1 2/4/95)*

- a) The IEP team must assess "the student's functional capabilities and whether they may be increased, maintained, or improved through the use of AT devices or services."
- b) A parent has the right to an independent AT evaluation, at school expense, under the terms of 34 C.F.R. ' 300.503(b), if the parent disagrees with the evaluation obtained by the school.

11. *OSEP Policy Letter to T. Bachus, 22 Individuals with Disabilities Educ. L Rep. 629 (1/13/95)*

- a) Hearing, vision, communication and motor abilities are properly included in the school's AT assessment.

Personally Prescribed Services

MINNESOTA ASSISTIVE TECHNOLOGY GUIDELINES

12. *OSEP Policy Letter to J. Stohrer, 13 Educ. Handicapped L. Rep. 213: 211.21. (4/20/89)*

- a) If a wheelchair is required as a related service under 34 C.F.R. ' 300.13., the local education agency (LEA) must provide the service at public expense and without charge [see 34 C.F.R. ' 300.4(a)], regardless of whether the parents possess a wheelchair or can obtain one through private insurance
- b) Related services include transportation in and around school buildings and can involve specialized equipment, such as a wheelchair.
- c) The LEA is not required to provide the wheelchair for personal use while the student is not in school.

13. *OSEP Policy letter to P. Seller, 20 Individuals with Disabilities Educ L Rep. 1216 (11/19/93); OSEP Policy Utter to J. Galloway, 22 Individuals with Disabilities Educ. L. Rep. 373 '(12/22/94)*

- a) A hearing aid is covered under the definition of "AT device."
- c) Historically, the LEA is not required to provide a personal device which x student would require whether or not in school.
- c) However, if the child requires a hearing aid in order to receive a FAPE, the school must provide it at no cost to the child or the parent (s) in accordance with 34 C.F.R.' 300.308.

14. *OSEP Policy Letter to T. Bachus, 22 Individuals with Disabilities Educ. L. Rep. 629 (1/13/ 95)*

- a) If a student requires eyeglasses to receive a FAPE, the school must provide them at no cost to the parents.

Home Use

15. *OSEP Policy Letter to Anonymous, 18 Individuals with Disabilities Educ. I Rep. 627 (11/21/91)*

- a) If IEP team determines that an AT device is needed for home use to ensure a FAPE, it must be provided.
- b) Example given: closed circuit TV for student who is blind and needs to use the device at home to complete

FUNDING SOURCES

16. *Office of Special Education and Rehabilitation Services (OSERS) Polity Letter to Rose, 18 Individuals with Disabilities Educ. L. Rep. 531 (9/19/91)*

- a) The AT must be at no cost to parent or child.
- b) The LEA may access Medicaid or private insurance

- i) Use must be voluntary; cannot deny services if parent refuses to authorize use.
- ii) Use of other insurance must not result in any cost to parent, such as: (1) co-payment, (2) deductible, and/or (3) reduction of an upper limit on coverage.

17. *OSEP Policy Letter to Dr. O. Spann, 20 Individuals with Disabilities Educ. E. Rep. 627 (9/10/93) and OSEP Policy Letter to W. Cohen, 19 Individuals with Disabilities Educ. E. Rep. 278 (7/9/92)*

- a) A parent's use of insurance is voluntary. If the parents refuse to consent to use of insurance, special education services cannot be denied.

18. *OSEP Policy Letter to Anonymous, 21 Individuals with Disabilities Educ. L Rep. 1057 (89/94) 34 C.F.R 300.6(e)(f).*

- a) If parents agree to use family-owned AT to fulfill IEP, school is responsible for maintenance and repair if damaged on school bus or at school.
- b) If the school did not use the family-owned device, it would be responsible for providing and maintaining a needed device.

19. *OSEP Policy Letter to Rieser, U.S. Dept. of Educ, Office of Special Education Programs, Policy Letter to Rieser (7/17/86), 2 Educ. Handicapped E. Rep. 211:403.*

- a) Under an interpretation of IDEA by the United States Department of Education, some protection is offered to the family that moves and leaves an AT device behind. Under that interpretation, if the new school's IEP committee does not recommend purchase of the AT device and parents request a hearing, the new school must provide the device until the case is resolved. See U.S. Dept. of Educ, Office of Special Education Programs, Policy Letter to Rieser (7/17/86), 2 Educ. Handicapped L. Rep. 211:403.

Appendix E: SETTING the Stage For Success: Building Success through Effective Selection and Use of Assistive Technology Systems

Note: Appendix E is from *SETTING the Stage for Success: Building Success Through Effective Selection and Use of Assistive Technology Systems* by Joy Smiley Zabala, M.Ed., ATP (Updated, 1996,) Proceedings of the Southeast Augmentative Communication Conference. Birmingham, AL. 1999.

Introduction

This personal reflection on the SETT Framework shares insights into the development and use of the SETT Framework. It provides considerations for using SETT as a collaborative tool by which groups of people with varying previous experience assistive technology can effectively build consensus and align expectations in order consider and establish the need (or lack of need) of an individual student for assistive technology; 2) work toward developing a system of tools with which a student can use to address identified needs; 3) link assistive technology assessment and intervention, and. 4) align purpose, expected results and evaluation measures when choosing and using a system of assistive technology tools.

Part I: The Big Questions

Several years ago, as the language of the Individuals with Disabilities Education Act (IDEA, P.L. 101-476) regarding assistive technology became widely known, much attention was focused on school districts and the procedures and practices which school personnel use in arriving at decisions regarding the provision of assistive technology devices and services. Many questions which arose then are still in the forefront Which students need assistive technology? What kind of technology is needed? Who is involved in making these decisions? What sort of data should be gathered to aid in the decision-making process? Much discussion has been generated about each of these questions: Though there are few quick and easy answers to any of these questions, processes that support critical thinking and problem-solving in the area of assistive technology have emerged. One of them is the SETT Framework - the subject of this paper.

Which students need assistive technology?...those for whom assistive technology is necessary in order for them to receive a free, appropriate public education (FAPE) and to make progress in a program reasonably calculated to confer educational benefit. Though significant due process in recent years clarified this issue somewhat big questions remain regarding what constitutes need.

What kind of technology is needed?...this must be determined on a case by case basis related directly to what is needed for a student to receive FAPE. Effective assistive technology systems may contain no tech (strategies), low tech and high tech tools.

Who is involved in making these decisions?...the student's IEP team is the actual decision-making body. Their recommendations are guided by input and recommendations from members of a flexible team whose membership includes the student, family members and/or caregivers, and appropriate educational and related services professionals, based on the student's special needs. This team may also include other people who are significantly involved in the student's education and well-being such as medical personnel and peers. Ideally, some members of this team should be on the IEP team, so that there is a clear understanding of how recommended tools and strategies were selected and how they are to be used.

What sort of data should the multidisciplinary team gather to aid in the decision-making and recommendation process?...information about the Student, the Environment, the Tasks, and the Tools. Information on each of these areas must be sought in a collaborative process designed to build consensus as to the direction which intervention is to take, the tools needed to move in that direction and the measures which will be used to evaluate the effectiveness of the tool system and the interventions in supporting the student's progress.

Part II: Establishing the Need for SETT

In 1993, in the National Council on Disability's report to the President and Congress of the United States, it was estimated that seventy-five percent of children with disabilities could remain in regular classes if supplied with the appropriate assistive technology. Additionally, it was estimated that appropriate assistive technology could lower the level of school related services required by forty-five percent of these children. Long before these figures were published, professionals dedicated to meeting the educational and life goals of students with disabilities worked to identify and provide useful augmentative communication and assistive technology devices with features which matched the student's needs and abilities. Decisions were made, devices acquired, and training provided on operational techniques and strategies for effective use. There were high expectations that, with this approach, positive changes would occur on an increasingly regular basis; however, with frustrating frequency, what continued to be seen was students who were marginally involved and devices which were underutilized or abandoned. Why was this happening?

Over the years I pondered these questions along with people with disabilities, families and colleagues with a variety of personal and/or professional perspectives on the issues. Through our mutual explorations and conversations, insights began to emerge. First, even when the features of devices were well-matched to the needs and abilities of users, the devices were not always environmentally useful for the system operator. Perhaps there was a question of portability. Perhaps there was no one in the potential system

operator's daily life who was able to support the person adequately in using the system effectively. Perhaps there were mixed attitudes and expectations on the part of people around the person using the system. There were any number of possibilities. Second, often the systems were not designed to support the person in using the device for the accomplishment of tasks important to that person. The thought came to mind. "How much time and effort would anyone put toward using a tool that did not fit the task or the environment in a useful, meaningful way?" The clear answer for most of us was. "Not much!"

Though the needs and abilities of students and the features of systems of assistive technology tools were well-matched, systems were frequently developed with insufficient up-front attention to the environments in which the system of tools was expected to be used, and to the naturally occurring tasks in which the person was expected to participate by using the tools within the identified environments. As I began to watch more closely what was being done by my colleagues, it became increasingly clear that those who were getting higher rates of success for users and lower rates of device abandonment were those who routinely considered the person within the context provided by the environments and the tasks. In retrospect, it appears to be an obvious issue, for it would be difficult to choose any tool without a clear awareness of where and how the tool was to be used! Most of us would consider it ridiculous to choose a tool at a hardware store without first considering the task which was to be accomplished with that tool. And yet, assistive technology tools are often chosen in just that way.

The need to develop a clear, easily communicated and understood definition of a student-centered, task-focused, environmentally useful approach to looking at assistive technology was brought to my attention by a new colleague at Region IV Education Service Center. Like most people working in the area of assistive technology, we are regularly asked by our participating districts to make recommendations about what hardware and/or software is the "best" for them to purchase for their students with disabilities. This, of course, is not a readily answerable question without considerable additional exploration. Our new colleague, however; wanted very much to provide helpful information, so he came often to consult with our group about what he suggested he might give to districts seeking assistance. Our answer was consistently, "It depends." Though we had frequent, lengthy discussions about what "it" depended upon, we did not make much headway toward developing a common understanding of assistive technology issues and ways to go about addressing them. Patience grew thin on all parts! "This was NOT new sniff!

People have been considering these issues for years!", we said. "OK, then," said he, "last tell me about it in language I can understand! Forget the jargon and just help me know what to do and how to think about all this stuff! "

One day, after yet another discussion, I approached my explanation from another angle, "Consider this. To get the best shot at putting together a system of tools, you need to explore the student, the environments in which the student is expected to use the tools,

and the tasks which are an inherent part of communicating, participating and being productive in those environments !' It was a big "Ah, ha!" for all of us! He understood and we realized how simple, yet complicated this all was! Later, when I was struggling to put these old, tried and true ideas together in a new and easily-remembered way, this persistent and thoughtful colleague said, "Well, THAT part's easy! It's just the SETT!" And so it is!

Part III: Introducing the SETT Framework

To make effective assistive technology decisions, who should be involved in the decision-making process and what information should be included?...information about the Student, the Environments, the Tasks, must be gathered and thoughtful}}' considered before an appropriate system of Tools can be proposed and acted upon by a team with full participation from the person and his/her personal and professional supporters. In order to define a framework around which such a process might occur, the SETT Framework was developed. The SETT Framework considers the Student, the Environments and the Tasks required for active participation in the activities of the environments, before attempting to identify the features of components of the system of tools needed for the student to address the tasks.

It is important to realize that this outline of questions to consider in each area of the SETT Framework was developed as a guideline and a place to start. Teams gathering and acting upon this data may wish to seek answers to numerous additional questions. In virtually every case, however, any questions which arise will relate to one of the areas of the SETT Framework.

The Student

- What does the Student need to do? (This question helps identify main areas of concern)
- What are the Student's special needs?
- What are the Student's current abilities?

The Environments

- What are the instructional and physical arrangements? Are there special concerns?
- What materials and equipment are currently available in the environments?
- What supports are available to the student and the people working with the student on a daily basis?
- How are the attitudes and expectations of the people in the environment likely to affect the student's performance?

The Tasks

- What activities occur in the student's natural environments which enable progress toward mastery of identified goals?
- What is everyone else doing?
- What are the critical elements of the activities?

The Tools

- Is a system of assistive technology tools and strategies required for a student with these needs and abilities to do these tasks in these environments"
- What no tech, low tech, and high tech options should be considered for inclusion in an assistive technology system for a student with these needs and abilities doing these tasks in these environments?
- How might the student's special needs be accommodated without changing the critical elements of the activities?
- Will modifications in the critical elements of the activity be necessary to promote the student's participation?
- What strategies might be used to invite 'increased student performance?
- How might student and others try out the proposed system of tools in the customary environments in which they will be used?

Though there are not many questions in each area of the SETT Framework, each of the questions may generate significant conversation and data. You may have noticed that in is really the FIRST question under the Tools section that is what all of the other questions are about, and, in my view, this is the central question of the assistive technology consideration required of all IEP teams by IDEA. However, it is not possible to adequately answer that question unless the other questions in each section are addressed and discussed.

Basically, the questions about the Student, the Environments, and the Tasks are the data gathering questions. When addressing these questions, it is not uncommon for more than one view of the student to present itself in SETT discussion, just as it is not uncommon for team members to have differing contributions in the other areas as well. It requires time and effort to move toward consensus on which observations are assumptions and which are based on observable data. However, without working toward a common view which can be supported by all members of the team, it is unlikely that alignment in intervention design and system selection can occur. When developing this "commonly held view that can be supported by all", there are some factors to consider as a deeper understanding of the: areas outlined in the SETT Framework is invited.

After the initial data-gathering has been sufficient to begin to move forward, the data analysis phase begins. At this point we begin to see the impact of the data of the possible inclusion of assistive technology tools and strategies on the student's ability to communicate, participate, and be productive in educational and life activities.

Part IV: Taking the SETT to Task

The Student

When considering the Student, these three small questions may yield reams of data. The questions are intentionally broad, so that they do not preclude anyone or any possible solutions at the outset. However, it must be kept in mind that ALL data on a student is not pertinent to choosing and using assistive technology. Meaningful issues must be identified specifically for each individual student.

When first considering what the student needs to be able to do, it is fine to be global. "Talk" or "write" may be appropriate answers, though some elaboration is desirable. Later, in the Tasks section, these issues will be explored more deeply, as it would be useless to pursue "talking" if "about what?" could not be defined. The primary goal of this question is to invite active, nonjudgmental sharing to begin to establish consensus among group members about what it is really important for this student to be able to do.

The question, "What are the student's special needs-?", is designed to generate conversation about the barriers which keep this student from doing whatever needs to be able to be done. When exploring current abilities, it is important to keep in mind that, no matter how great the needs, everyone has abilities which can be built upon and enhanced - and not necessarily replaced.

The Environments

For every student, multiple environments must be considered, as no student exists in only one environment. Even the rare person who operates primarily in one location experiences a multitude of influences which can greatly alter that single environment. When considering only school environments, the differences are profound among the classroom at different hours of the day, the playground, the cafeteria, the hallway, the bus stop and a variety of other environments a student experiences during a typical day. Add to these the home and the community, and the complexity of choosing and using a system of assistive technology tools which will be environmentally useful for a student, can become daunting without a process to follow.

What is the anticipated arrangement of the environment? Though discussion might include possible placement options, it should also include, when known, the setup. For instance, when considering a mobility system which must be used in a crowded hallway, a classroom with close-set rows of desks, a sand and grass covered playground, and a bus that currently has no lift system, remember that each of these environments must be

considered up front in order to determine the components of a functional mobility system. Environmental issues like those mentioned do not mean that power mobility would not be considered. They just mean that, in order for power mobility to be functional in these environments, other parts of the system would be critical, like identifying a lift system for the bus; some assistance for the teacher in altering classroom space; training for the student and others in how to manage in crowded situations; and, possible alterations in scheduling so that the student might avoid the halls at the most crowded times. These should be a part of the initial system design, for without them, the system will not meet expectations and will most likely be abandoned in favor of other strategies which, though practical for the moment, may provide fewer opportunities for independence.

The area of attitudes, may be more critical than any other, because attitudes have far reaching influences on the environment. Within the category of attitudes is expectations. The attitudes and expectations of the people who are responsible for developing environments where learning can take place are crucial, for those attitudes and expectations have much to do with what learning opportunities are offered to students

An example of this can be seen when examining the attitudes and activities of a typical teacher. During the years that I was a first grade teacher, it was my expectation that all <>i my students would eventually acquire the skills needed to participate fully in adult society. They would be able to attend college or engage in whatever activities they chose in order to be productive and happy adults. With this expectation in mind, I set about providing an environment where the necessary skills were readily addressed at an appropriate level. Literacy was the primary focus for all of the students and the classroom setup and activities reflected this focus. Opportunities to build literacy skills were woven throughout the day, regardless of the subject matter being taught. Literacy was never confined to one period of the day or one circumstance. It was far too important for that!

What if, however, there had been some reason to suspect that among my students were those for whom I believed college and adult productivity would be difficult or impossible? Would I have worked as long and hard at developing literacy for those students, suspecting as I did, that it was highly unlikely that they would ever master the art of giving and receiving information in written form? Would I have taken the time and effort to provide a print rich environment and draw attention to its use at every possible moment? Though I would like to think that I would have, I know that this is not likely. I would probably have selected more "meaningful" and "attainable" goals for these students and given the development of literacy the backseat to more "appropriate" goals.

Given my expectations, I would have failed to offer invitations for my students to develop literacy skills. Therefore, whether they were capable of learning to read and write or not, they would not have been able to do so in my classroom. The

opportunities for them to learn these skills had not been sufficiently presented and acted upon.

Are attitudes and expectations important? Certainly, but they are tough to deal with. Consider the IEP meeting where Mrs. Jones finds out that John, a student with severe physical disabilities, will be in her classroom. Mrs. Jones is unprepared to deal with John's special needs and the needs of her other students. She protests that John obviously does not belong in her classroom. She doesn't seem to realize that she will have help in supporting John's learning. Though you suspect that fear and lack of understanding are behind her reactions, you recognize that she has a very poor attitude: toward John and that this will be the biggest obstacle to John's success in her class! You decide to approach her directly, saying, "Mrs. Jones, It is normal to have concerns, but your attitude is what will hinder John's success in your classroom. The IEP committee has decided that he will be in your class, so you will need to make some adjustments. I will help you all I can."

Will this approach change Mrs. Jones' attitude? I believe that it will. Before she was confronted, Mrs. Jones did not want John in her classroom. Now she doesn't want YOU either! And you were the one who was going to assist her!

Attitudes and expectations! Areas rich with opportunities to invite growth and, yet, fraught with the potential for disaster! Attitudinal differences must be recognized, but must also be dealt with in ways that promote the opportunity for growth for all so that every student: will have the opportunity to learn and grow.

The Tasks

The purpose of identifying tasks is to determine what opportunities are present that will enable the student to move toward mastery of his/her goals? If the answer is "None", then assistive technology tools will not solve the problem. Assistive technology is just a means to participate in activities which offer the opportunity to build knowledge and skills. As might have been the case in my first grade classroom, if there are: no tasks which provide meaningful practice, mastery cannot possibly be expected.

When considering tasks,, it is always important to begin with what "everybody else is doing." Participating in the same activities does not always lead to the same results for all participants. An example which demonstrates this principle is an elementary student with significant mental retardation whose goals include categorizing and sorting, task completion, turn taking,, seeking help when needed and grasping and releasing items appropriately. There is little reason for this student to work on these tasks in isolation.

Most of these goals could be addressed by working, for example, with fellow students on an earth science project involving classifying, sorting, and charting various kinds of rocks and the ways in which they were formed? The actual items that would be monitored and measured for mastery would be different, but the tasks would be pretty

much what "everybody else is doing." When necessary, move away from "what everybody else is doing", but first determine that it is really necessary,

As the activities in various environments are considered, it is essential to remember that tasks (or activities) are not isolated skills, but clusters of skills which must be used together in order to participate in the activity. (Calculator and Jorgensen) It is difficult to think of any activity in which participants use skills in only one area motor social/emotional, communicative or cognitive? With that in mind, consider modifications that can increase participation for students with disabilities while not changing the critical elements of the activity for any student.

As an example, think about an important preschool and early elementary activity Musical Chairs For most people, when asked to quickly name two things that are critical elements in the game of Musical Chairs, MUSIC and CHAIRS come to mind

In a classroom I once frequented, there was a student who used a power wheelchair That student's goals included learning to safely manipulate the wheelchair in crowded situations. The teacher made a modification in the game to include this student in the game and provide opportunities to work toward mastery⁷ of that goal. The chairs were removed and mats were placed on the floor. This was the only change made in the game and everyone played as before with one exception - the student using the wheelchair played right along with everyone else! Chairs were traded for mats, but, since that modification did not significantly change the action of any of the students, it would be safe to say that CHAIRS are not a critical element of Musical Chairs.

Later in the year, a student who was deaf joined the class. In order to include this student in Musical Chairs, a light was purchased at a nearby electrical supply store When the tape recorder used to play the music was turned ON, the light began to flash and continued flashing as long as the tape recorder was in the ON position. With this modification, the student who was unable to hear the music participated fully in the activity. Once the tape was accidentally left out of the tape recorder at the start of the session. The ON button was pushed and there was no music, but the light began to flash. As might be expected, all of the students began to march around the mats as the game began! So we also find that MUSIC - a commonly identified critical element of Musical Chairs, really isn't critical after all.

What are the two critical elements of Musical Chairs illustrated here? first, there must be identified spots where students stand and there must be one less spot than there are students Second, there has to be a signal which indicates when to start moving and when to stop

That analysis, though aimed at a simple activity, provides more opportunity for problem addressing and problem-solving than would have been possible if action had been taken on what is now seen as inaccurate conclusions. So that this illustration does not lead toward the assumption that this applies only to the games of young children, take some time to explore the critical elements of writing a term paper and how they might be negotiated to enable participation and productivity⁷ by a student with severe dysgraphia.

In conclusion, when identifying and analyzing tasks, reviewing George Karlan's work with Environmental Communication Teaching is helpful. Chiefly, most tasks contain a multitude of steps. Once the steps have been identified - as anyone would do them - it is possible to look at what elements of the tasks would be difficult or impossible for a student to do without significant assistance. At that point it is possible to begin developing a system of tools which could be used to address those elements. In order to focus interventions on barriers which need to be removed, the barriers must be clearly identified. Just as it is necessary to work to provide tools which remove barriers, it is important not to spend a student's precious time and energy on areas where barriers do not exist.

The Tools

Finally, the SETT Framework addresses the area where most people would like to begin! It is hoped, however, that a group who has used the SETT Framework to arrive at this point, does so with a clearer understanding of what tools should be sought and how those tools would be integrated into the life and education of the student so that tasks could be addressed and goals attained. What a difference to begin seeking tools with a clear idea of who is going to use them, where, and for what!

Among all of the questions in the SETT Framework, the most critical one is "Is a system of no tech, low tech, and high tech tools required for this student to address expected tasks in customary environments?" And then, if so, "What system of no tech, low tech, and high tech options should be considered when developing a system of assistive technology tools for a student with these needs and abilities doing these tasks in these environments?" All other questions merely gather and organize the information that is needed to arrive at answers to this question.

As the features of a workable system of tools are sought, participants must keep in mind that tools are not just things - they are both devices and services. They are "no tech" strategies as well as low tech and high tech devices and supports. They are systems of tools working in combination to assist a student in moving forward. More often than we would like to think - even when ongoing training has been provided - a laptop computer may fail to meet expectations because there is no extension cord available when the battery runs low. In a well-thought-out system, the extension cord would have been included.

Part V: Putting the SETT to Work!

The SETT Framework promotes team-building and builds consensus by using clearly understood language, requiring broad-based participation and valuing input from all perspectives. As data is organized and prioritized within the SETT Framework, it promotes logical thinking by all team members and can be an effective consensus-building tool. As environments and tasks are explored, the links between assessment and intervention become strong and clear, as does the need to develop a system of tools

which will enhance the student's abilities to address the tasks in which he/she is expected to build competency. In addition to developing a system of tools valuable in the student, participating in a process using the SETT Framework increases the likelihood that the people supporting the student will see the relevancy of the technology and will be more active and persistent in encouraging and supporting the student's achievement through its use.

Using the SETT Framework as a guide, it is possible, from the start, to address and overcome many of the obstacles which lead to marginal student inclusion, general dissatisfaction and device abandonment. When the Student, the Environment and the Tasks are fully explored and considered, laments like "Well, the device is here, now what do I do with it?" or "He has it, but he won't use it" should seldom be heard. Instead, students, parents, and professionals should all rejoice at the increased opportunities for success which come with assistive technology systems that are well matched to the student's needs and abilities to perform the natural tasks which are part of living and learning in this world.

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Assistive Technology Forms and Checklists

- *Student, Environments, and Tasks Worksheet*
- *Parent Worksheet*
- *Student Worksheet*
- *Assistive Technology Group Planning Process*
- *Assistive Technology Checklist*
- *Status Log*
- *Planning and Implementation Summary*
- *Extended Assessment Log*
- *SETT Framework*

8. What other issues should be discussed at the team meeting?

III. Environment

What environments are typical for the student to complete IEP related tasks? Select up to three environments where strategies, assistive technology products, or adaptations are necessary.

1.....

Complete questions in the table below each environment. Use additional sheets if necessary.

	Environment 1	Environment 2	Environment 3
1. What materials are currently available to the student?			
2. What is the physical arrangement?			
3. What is the instructional arrangement?			
4. What supports are currently available in this environment?			
5. What resources are available to the team to support the student?			

III. Tasks

Use the table below to identify critical tasks. Use additional sheets if needed for more than three tasks.

	Task 1	Task 2	Task 3
What are the naturally occurring activities (tasks) that take place in the environment that are critical to the student?			

What are other ways of
completing the tasks⁷

Notes:

5). What other issues would you like to discuss at the planning meeting?

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Assistive Technology Group Planning Template

Assistive Technology Consideration Process

Directions: Each of the topics below should be placed on a flip chart or overhead device. Use this template only as a guide to the planning process and for summarizing the information from the *Student, Family, Environments, and task Worksheet* completed by team members. The resulting information from this template can then be transferred to the *Implementation Summary* form.

Student	Environment	Tasks
<i>Strengths/Abilities/Motivators/"Success Stories":</i>	What is currently available? What is the physical arrangement? How is the student positioned in the environment? Are there any supports? Are there any barriers?"	What does the student do naturally occurring tasks to be modified.
<i>Needs</i>		
<i>Successful Strategies</i>		
Options	Prioritized Selections	Implementation Plan
What features of a device or strategy can provide greater participation? Are there strategies to promote this? (Note—this is a brainstorming session only. At the conclusion of this session, select and highlight the top 3 options.	Discuss and prioritize the top 3 ideas from the brainstorming session. Decide if outside assistance is needed for product identification.	What product will be used and how long? Who is responsible? Who criteria will be used to assess the or strategy" Where will the device be obtained? If assistance from an outside consultant is sought have all the necessary release form signed.
		<i>Follow-up</i> Who and Where for the follow-up active

Assistive Technology Checklist

Assistive Technology Consideration Process

Student Name _____ Grade _____ Date _____

Writing

Mechanics of Writing

Pencil /pen with adapted grip

Adapted paper (e.g. raised lines, highlighted lines)

Slantboard

Typewriter

Portable word processor

Computer

Other:

Alternate Computer Access

Keyboard with easy access or accessibility options

Word prediction, word completion, macros, abbreviation expansion to reduce keystrokes

Keyguard

Alternate mouse (e.g. TouchWindow, trackball, trackpad, mouse pen)

Mouse alternative with on screen keyboard

Alternate keyboard (e.g. Intellikeys, Discover Board, Tash)

Mouth stick, head pointer with keyboard

Switch with Morse code

Switch with scanning

Voice recognition

Other:

Composing Written Material

Word cards, word book, word wall

Pocket dictionary, thesaurus

Electronic dictionary/ spell check (e.g. Franklin Bookman)

Word processor with word prediction (e.g. Co:Writer or TextHelpi to facilitate spelling and sentence construction)

Multimedia software for production of ideas (e.g. PowerPoint, Overlay Maker with talking word processor)

Voice recognition software

Other:

Communication

Communication book / board

_____ Eye gaze board

_____ Simple voice output product (e.g. Big Mack, CheapTalk, talking picture frame, etc.)

_____ Voice output device with levels (e.g. Macaw, CheapTalk with Levels, Dig vox)

_____ Voice output with icon sequencing (e.g. AlphaTalker, Vanguard, Libeiator)

_____ Voice output with dynamic display (e.g. Dynavox, laptop with Speaking Dynamically)

_____ Device with speech output for typing (e.g. Link, Write Out Loud with laptop)

_____ Other:

Reading/Studying/Mfith

Reading

_____ Changes in text size/space/color/background color

_____ Book adapted for page turning (e.g. with page flutters, 3 ring binder and folders)

_____ Use of pictures with text (e.g. Picture It, PixWriter)

_____ Talking electronic devices for single words (e.g. Reading pen, Franklin Bookman)

_____ Scanner with OCR and talking word processor

_____ Electronic Books (e.g. Start to Finish)

_____ Other:

Learning/Studying

_____ Print or picture schedule

_____ Low tech aids to find materials (e.g. color tabs, colored paper or folders)

_____ Highlight text (e.g. markers, highlight tape, ruler)

_____ Voice output reminders for tasks, assignments, steps to tasks

_____ Software for manipulation of objects/concept development (e.g. Blocks in Motion, Thinking Things)- may use alternate input device such as Touch Window

_____ Software for organization of ideas and studying (e.g. PowerPoint, Inspiration, ClansWorks Outline)

_____ Recorded materials (e.g. books on tape, recorded lectures with number coded index)

_____ Other:

Math ____

- ____ Abacus, Math Line
- ____ Calculator/calculator with print out
- ____ Talking calculator
- ____ Calculator with large keys, large display
- ____ On screen calculator
- ____ Software with cueing for math computations
- ____ Tactile/voice output measuring devices (e.g. clock ruler)
- ____ Other

Aids for Daily Living

Eating

- ____ Adapted utensil/ plates
- ____ Arm support
- ____ Automated feeding
- ____ Other.....

Dressing

- ____ Velcro fasteners
- ____ Button hook
- ____ Dressing aids
- ____ Other.....

Aids for Daily Living (Continued)

Recreation & Leisure

- ____ Adapted toys and games (e.g. puzzles with handles)
- ____ Battery interrupters and switches.
- ____ Adapted sporting equipment (e.g. Velcro mitt, lighted or beeper ball)
- ____ Universal cuff to hold crayons, markers, paint brush
- ____ Modified utensils (e.g. rollers, stampers, scissors)
- ____ Articulated forearm support (e.g. ErgoRest)
- ____ Drawing/graphics computer programs
- ____ Music or games on the computer
- ____ Other:

Home Living

- ____ Switch

- ____ Battery interrupter
- ____ Control unit
- ____ infrared sender receiver
- ____ X-10 unit and peripherals

Transition

Work / School to Work

- ____ Adaptations as identified to meet individual needs
- ____ Scheduling aids (calendars reminder task analysis)
- ____ Switch / device
- ____ Adapted key board
- ____ Communication aid
- ____ Keyboard emulator
- ____ Other

Transportation

- ____ Get in and out of car as a passenger
- ____ Transfer into vehicle and load mobility device
- ____ Get into vehicle with ramp or lift
- ____ Independently arrange transportation
- ____ Independently utilize public transportation
- ____ Independently drive self with adaptations
- ____ Independently drive self

Tolerance

- ____ Physically tolerate school/work day
- ____ Emotionally tolerate full school/work day
- ____ Medically tolerate full work/school day
- ____ Environmentally tolerate full work/school day
- ____ Tolerate with distance adaptations (internet)

Adaptations

- ____ Adaptive seating/ positioning
- ____ Electronic communication
- ____ Electronic organizers
- ____ Adapted computer input
- ____ Environmental control

Assistive Technology Status Log
Assistive Technology Consideration Process

Directions: Select instructional or access areas in the first column that are appropriate for the student. Leave blank areas that are not relevant. Specify tasks (e.g. copying assignments from the board) in each area. Indicate the manner in which the student completes these tasks in the appropriate column, specifying modifications, standard tool or AT tools. If is not able to complete the task with modifications, standard tools or AT tools, complete the last column.

Student Name.....Grade Date.

Instructional Area Check and only use relevant areas	Modifications	Standard classroom tools	Current AT tools	Additional Solutions Needed, including AT Services
Writing				
Spelling				
Reading				
Math				
Study Skills				
Oral communication				
Aids for Daily Living				
Transition				
Other				
Other				
Other				

Planning and Implementation Summary Assistive Technology Consideration Process

Student Name.....Grade Date

Team members (identify IEPmanager):.....

Directions: The *Planning and Implementation Summary* is completed once the group planning process r, occurred. **Transfer** the information compiled during the planning meeting and from *Student Family, Environment, and Tasks Worksheet* to this form and maintain a copy as part of the student's file

I. Planning Summary

1. What are the devices or strategies to be tried?

2. What IEP goals with these devices or strategies support?

3. What accommodations / supports currently exist for these goals?

4. How will success be determined?

5. What level of achievement is reasonable to expect for a trial period?

6. What staff training will be needed / provided?

7. Who will provide the training?

8. What is the training schedule?

9. Who is responsible for implementation in environment 1?
10. Who is responsible for implementation in environment 2?.....
11. Who is responsible for implementation in environment 3?.....
12. Who else is involved other than those listed (names and roles)?

II. Implementation Summary

Provide information to the following questions about the device(s) used in each environment:

	Environment 1	Environment 2	Environment 3
What is the name of the device, manufacturer and technical support number?			
Who will order the device?			
Is there a cost to the trial usage? If yes, who will pay? ¹ (Indicate amount)			
Who will set up, trouble shoot, and maintain ongoing support for the device?			
Where will the device be stored when not in use?			
How will the device be transported?			
Who will have access to the device?			
Who will provide training to the student and family? Who will pay for the training?			
Who will provide training to the school staff. Who will pay for the training? ³			
0. Who will be responsible for implementation, data collection and reporting?			
1. Indicate start-up date, anticipated ending date, and follow-up meeting date.			

1. Authorized signature of payer of device:.....

2. Authorized signature of payor for student/family training:

3. Authorized signature of payor for staff training:.....

Extended Assessment Log

Assistive Technology Consideration Process

Directions: Use the Extended Assessment Log to document the type of device that was tried, the environment duration overall results The purpose of this log is to help service providers determine whether a device met the student needs assist with future assistive technology planning

Student Name

Grade.Date

	Device 1	Device 2	Device 3
1	What is the name of the device?		
2	What environment(s) was the device used?		
3	How long was the device used? (include start and ending dates)		
4	How many trials were observed?		
5.	What was the criteria used to judge success?		
6.	Was the criteria met? (Yes or No)		
7	Will this device be recommended for the student ¹⁷ (Yes or No)		
8	Other comments regarding this device?		

The SETT Framework

Collaborative Consideration of Assistive Technology Devices and Services

Part 1: Consideration of Student Need

Student: _____ Date: _____

Perspective: _____

PART 1: Examining Current Conditions to Consider Educational Need

Student

Environments

Tasks

Circle areas which may present barriers to students progress.

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Please provide feedback on effectiveness and suggestions for modifications/revisions by email to zabala@technologist.com

Assistive Technology Checklist adapted by the Minnesota Department of Children, Families and Learning from the following sources Rees (1998), Bowser and Reed (1998), WATI (1998) and the SETT (1999)

