## *SPECIAL EDUCATION IN NORTH DAKOTA*

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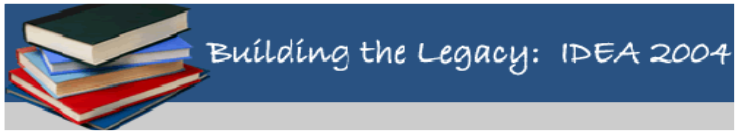
NORTH DAKOTA DEPARTMENT OF
PUBLIC INSTRUCTION

# *Guidelines for the Provision of Assistive Technology to Students with Disabilities under IDEA Part B*




*United States Department of Education, Office of Special Education Programs (OSEP)*

The Department of Public Instruction appreciates the time and effort spent by the task force members in contributing to the development of this guidance document.

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Special Note

"Unless otherwise specified, citations to "section" or "sec." are citations to federal regulations implementing IDEA found in the Code of Federal Regulations at 34 CFR Part 300, which consists of 34 CFR secs. 300.1 through 300.818 and appendices A through E."

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Publication Date: (9/10/2015) Cover artwork: Google Images - NHS West Kent

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## Purpose of the Guidelines

***Guidelines for the Provision of Assistive Technology in Educational Settings*** is intended to serve as a resource for IEP and Section 504 teams looking to overcome barriers to learning for all students with disabilities while developing greater functional independence through individually determined solutions.

**Consider this final thought from the Preamble to IDEA, 2004:**
*"Almost 30 years of research and experience has demonstrated that the education of children with disabilities can be made more effective by . . . supporting the development and use of technology, including assistive technology devices and assistive technology services, to maximize accessibility for children with disabilities."*

The purpose for these guidelines is to:

- Update previous guidelines.
- Identify the legal requirements for consideration of AT in the IEP process.
- Provide clear guidance to IEP and Section 504 teams on the consideration of AT for all students with disabilities.
- Provide clear and consistent definitions of AT for use statewide, as well as an understanding of low tech and high tech AT options across the curriculum.
- Promote the use of AT across all environments through a collaborative approach with parents and professionals, leading to greater independence for the student.
- Promote the concept of Universal Design for Learning (UDL) and the use of AT within that framework.
- Promote the understanding and use of Quality Indicators of Assistive Technology (QIAT) in the ongoing pursuit of improved services for students with disabilities.
- Serve as a resource for families and professionals across North Dakota regarding AT.

Lewis (1993) articulated two primary purposes for AT: AT

1. Serves as a means to augment an individual's strengths so his/her abilities counterbalance the effects of disabilities; and
2. Provides an alternative mode for performing a task to compensate for existing disabilities or to bypass the disability entirely.

Simply stated, the goal of AT is to enhance students' performance on a specific task (Edyburn, 2005) or their ability to maintain current performance levels and achieve success in the instructional program.

## *Introduction to Assistive Technology*

We live in an age when technological advances seem to appear daily, changing the ways in which we live our lives and creating greater access to information. For students with disabilities, technology is an important tool for reducing barriers to learning and independence. Assistive technology and accessible educational materials create opportunities for students with disabilities to enjoy greater access and meaningful participation in the general education curriculum with their nondisabled peers. Technology plays an important role in ensuring that all students with disabilities receive a free and appropriate public education (FAPE).

Assistive technology (AT) refers to technologies that are specific to individuals with disabilities. In the school setting, when a particular type of technology is identified as AT, the AT should be documented in a student's IEP, 504 or other accommodation plan that may be provided to an eligible student.

### *Legal Definitions*

The Individuals with Disabilities Education Act (IDEA) of 2004 includes a legal definition of assistive technology.

| ***34 CFR Sec. 300.5*** | Assistive technology device means any item, piece of equipment, or product system, whether commercially acquired off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of a child with a disability. (Authority: 20 U.S.C. 1401(1)) |
|---|---|

It is important to provide some interpretation of language used in the regulation. The words "any item" can be interpreted broadly to include any technology. Technology may be "high tech," such as voice-activated software, or it may include many "low tech" options such as pencil grips, therapy balls, or other items that increase the learning and independence of students with disabilities.

The words "product system" refer to an AT solution that may require multiple technologies to work together in order to benefit the student with a disability. An example could be a student with a switch mounted on a wheelchair that is used to access an augmentative communication device.

The phrase "whether acquired commercially off the shelf, modified, or customized" indicates that AT systems and tools may be purchased outright. However, once the technology has been purchased, it may require modifications for the individual—just as the driver of a new car needs to make adjustments to the vehicle to drive comfortably, the same is true for AT. Adjustments may be required to customize the technology to meet a student's individual needs.

And finally, the phrase "that is used to increase, maintain, or improve the functional capabilities of a child with a disability" captures the purpose of providing the AT tool or system to a student. Functional capabilities may be those tasks that students are expected to perform daily in school, or to participate successfully in extracurricular activities. Such tasks would include things such as reading, writing, eating, drinking, communicating, seeing, hearing, self-care, attending, and ambulating in the school environment, to name a few.

In addition, IDEA 2004 proposed a limitation on this definition of AT through the following statement:

| ***34 C.F.R. § 300.5*** | The term (assistive technology) does not include a medical device that is surgically implanted, or the replacement of such device. (Authority: 20 U.S.C. 1401(1)) |
|---|---|

Therefore, when a medical doctor is required to perform a procedure to insert an item below the skin level, such as a cochlear implant, this item would not be considered to be an assistive technology under IDEA.

IDEA goes on to provide a definition of assistive technology services.

| ***34 C.F.R. § 300.6*** | Assistive technology service means any service that directly assists a child with a disability in the selection, acquisition, and use of an assistive technology device. The term includes-<br>a) The evaluation of the needs of a child with a disability, including a functional evaluation of the child in the child's customary environment;<br>b) Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by children with disabilities;<br>c) Selecting, designing, fitting, customizing, adapting, applying, retaining, repairing, or replacing assistive technology devices;<br>d) Coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation programs;<br>e) Training or technical assistance for a child with a disability or, if appropriate, that child's family; and<br>f) Training or technical assistance for professionals (including individuals providing education or rehabilitation services), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of that child. (Authority: 20 U.S.C. 1401(2)) |
|---|---|

Delivering AT services requires more than simply providing the assistive technology. It also includes: the process used to consider the need for AT; the selection of AT; the training needed by the student, parent, and school personnel to support its use; a trial use of the AT; and a monitoring process to determine the effectiveness of the AT in assisting the individual with a disability to meet his/her goals.

The obligation of a public agency to ensure the availability of assistive technology follows:

**34 C.F.R. § 300.105**

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

1. Special education under § 300.36;
2. Related services under § 300.34; or
3. Supplementary aids and services under §§ 300.38 and 300.114 (a) (2) (ii).

Assistive technology in the school setting is considered to be a *compensatory intervention.* As such, it includes a set of procedures or tools that allow students with disabilities to increase their performance on a given task without necessarily increasing the underlying skills associated with the task.[1]

Further, Wojcik (2005) and Parette (2006) offered a pragmatic definition of AT as a type of *compensatory intervention*. According to their definition, AT is any tool—or system of tools—that allows an individual to complete a task that, without that tool, the individual would not be able to complete at the expected level of performance.

## *Frameworks for Considering Assistive Technology*

IDEA included a requirement that IEP teams *consider* assistive technology devices and services as a "special factor" as they develop, review, or revise IEPs for students with disabilities.

***34 C.F.R. § 300.24(a)(2)***

**Development, Review, Revision of IEP**
(2) *Consideration of Special Factors*
"The IEP Team shall- (v) Consider whether the child needs assistive technology devices and services."

[1] Illinois Assistive Technology Guidance Manual, 2012.

Given this clear mandate regarding the consideration of assistive technology, the question becomes how to effectively implement this requirement into the IEP process for individual students. A number of protocols for the consideration process have emerged in response to this question.

## *Universal Design for Learning*

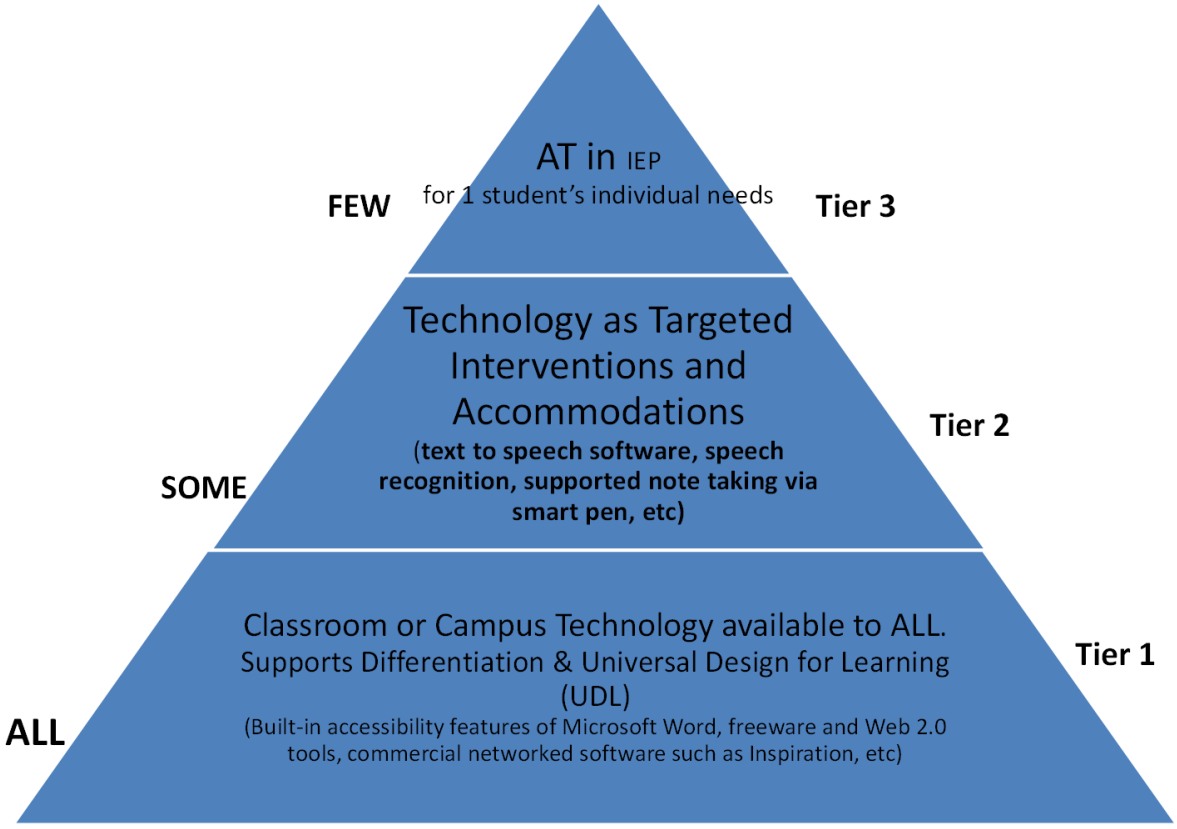
Before reviewing specific options to give consideration to the need for assistive technology devices and services for an individual student with a disability, it is important to examine the larger context of efforts to create instructional methods, materials, and assessments that work for all students—flexible approaches with the ability to be customized and adjusted for individual needs. This larger context is known as Universal Design for Learning (UDL). While UDL grew out of the movement to eliminate physical barriers to individuals with mobility impairments in design and construction, the concept found application in learning. UDL embraces "considering the needs of the broadest range of users from the beginning."[2] The chart below provides a comparison between AT and UDL.

| Assistive Technology (AT) | Universal Design for Learning (UDL) |
|---|---|
| Specifically considered for an individual student. | Makes the general education curriculum accessible to students with varying needs. |
| Used by a student to meet the expectations of the general education curriculum. | Use by all students with diverse learning needs. |
| Monitored by special educators but also used by general education teachers. | Implemented by general and special education teachers. |

Retrieved from: *Maryland Learning Links*, http://marylandlearninglinks.org/3385

In the educational context, the relationship between UDL and AT can be conceptualized in the familiar pyramid format, where Tier 1 includes UDL for all learners, and movement up the Tiers provides more focus on the individual needs of learners.

[2] Quote, Ron Mace, Architect. The Center for Universal Design, College of Design, North Carolina State University.




**Tier 1 = core instruction through evidence-based instructional practices that ALL students can access**

Adapted from: http://www5.esc13.net/thescoop/assistive-technology/files/2011/05/Tiered_Technology_Framework_RTI_UDL.png

Federal legislation provided the impetus to infuse UDL into education systems. IDEA (1997; 2004) and No Child Left Behind (2001) began the process of merging general and special education into one educational system. In order to accomplish this task and ensure meaningful access to learning for all students, the curriculum and the environment in the general classroom must be examined and redesigned in much the same way as buildings and the environment were examined to eliminate physical barriers to accessibility. The WATI Assistive Technology Assessment Guide's Student Information Guide (2009, see Appendix F, p. 106) identifies twelve areas for IEP teams to examine for potential barriers: Seating, Positioning and Mobility, Communication, Computer Access, Motor Aspects of Writing, Composition of Written Material, Reading, Mathematics, Organization, Recreation and Leisure, Vision, Hearing and General areas.

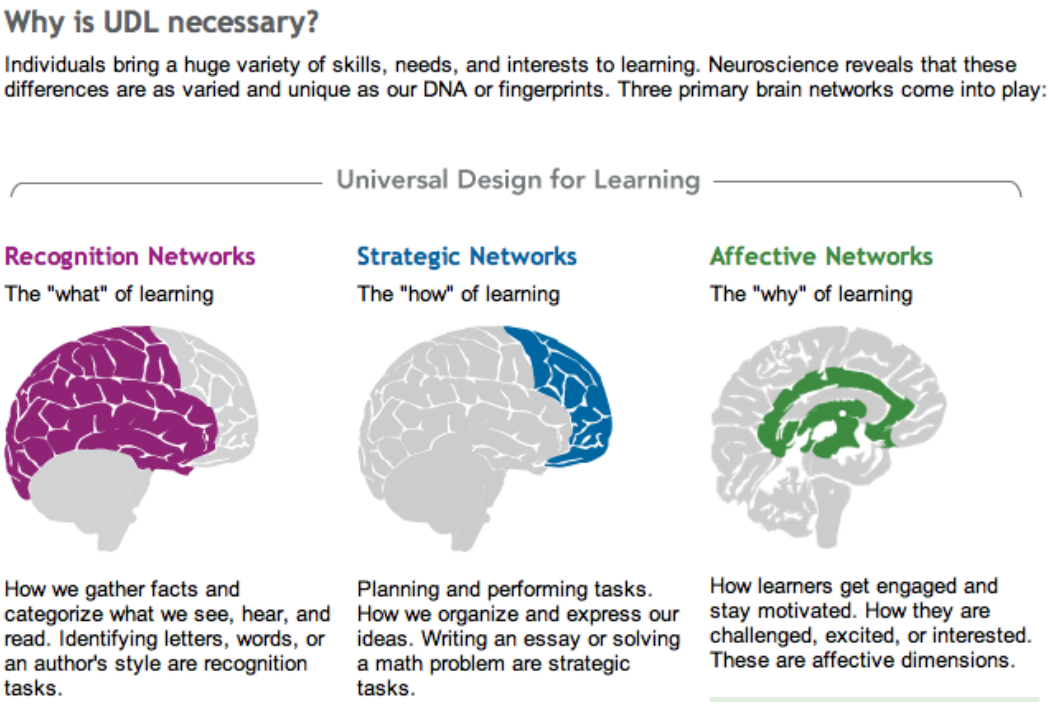
The Higher Education Opportunity Act of 2008 (HEOA) provided a concise definition of UDL:

The term UNIVERSAL DESIGN FOR LEARNING means a scientifically valid framework for guiding educational practice that:

(A) Provides flexibility in the ways information is presented, in the ways students respond or demonstrate knowledge and skills, and in the ways students are engaged; and

(B) Reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students who are limited English proficient.

UDL establishes a framework for curricular reform (Rose & Meyer, 2002) wherein collaborative teams of general and special educators provide access to the general education curriculum while addressing the disability-specific needs of individuals within inclusive classrooms (Jackson & Harper, 2002). This collaboration becomes the intersection of UDL and Assistive Technology (AT), with AT providing solutions for the disability-specific needs of individual students.



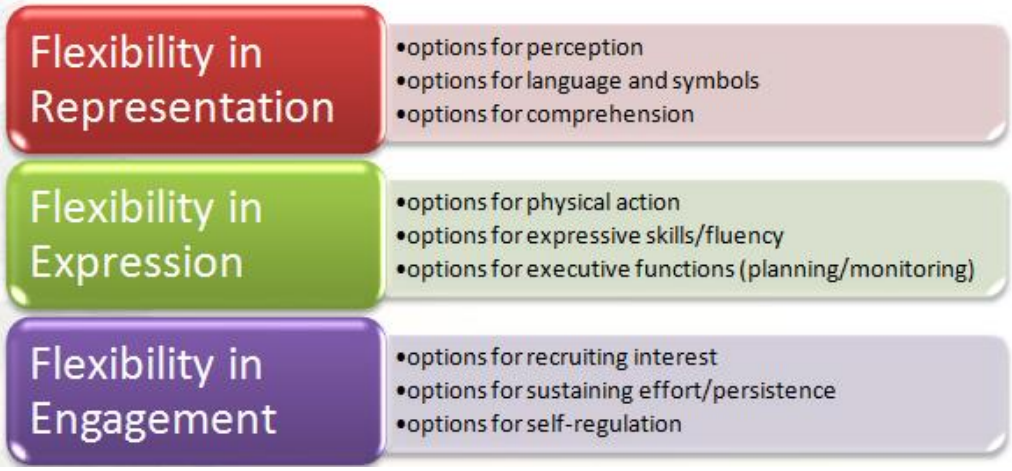

National Center on Universal Design for Learning (http://www.udlcenter.org)

Three basic principles provide the underlying framework of UDL:

1. Provide multiple means of representation (the “what” of learning);

2. Provide multiple means of action and expression (the "how" of learning);
3. Provide multiple means of engagement (the "why" of learning).

The following graphic reflects the expanded principles of UDL (Meyer, Rose, & Gordon, 2014)




https://actionpackedmath.wordpress.com/

The planning process for UDL examines four highly related components:

1. Goals- The knowledge, content, and skills all students should master.
2. Methods- The instructional decisions, approaches, and procedures using evidence-based practices that adjust for learner variability.
3. Materials- The educational materials used to present content and products that demonstrate knowledge.
4. Assessment- Gathering information and providing feedback on a learner's development or mastery of knowledge and skills.

While UDL often employs various technologies to customize curricula for all learners, the use of various technologies (whether low or high tech) does not equal implementation of UDL. During the curriculum development process, consideration should be given as to how technology can support students in mastering and demonstrating the targeted knowledge and skills in the content area. Together, UDL and AT provide greater access to the general education curriculum, a means for

all students to meaningfully participate in that curriculum, and increased achievement for all students.[3]

For additional information about UDL, please visit the National Center on Universal Design for Learning at http://www.udlcenter.org/.

Additional resources on UDL are located in Appendix B (p. 58).

### *Accessible Educational Materials (AEM), NIMAC, and NIMAS*

Within the UDL environment, AT or accessible educational materials (AEM) provide students with access to the curriculum and instruction. AEM may be required for some students, but may also be needed by many others. IDEA (Section 300.172) requires that states and districts provide AEM to students who are unable to utilize print-based materials, whether due to blindness or another print disability.

AEM includes those materials that are designed or enhanced to be used to address the range of student variability, regardless of their format (print, digital, graphical, audio, or video). Both content and the technology used to deliver that content must be accessible and usable by individual students.[4]

The National Instructional Materials Access Center (NIMAC) is a federally funded electronic file repository for National Instructional Materials Accessibility Standard (NIMAS) files which can be converted into specialized formats. The IDEA 2004 created the NIMAC to receive the NIMAS source files from textbook publishers and makes those files available to "authorized users" through an online database.

The NIMAS format is an XML-based source file that is not intended for use directly by students. These files, created by publishers, are used as a starting point for the creation of braille, audio, large print, or digital text formats. The NIMAS files may not include images and/or be appropriate for all students. Districts should carefully consider a variety of factors to ensure that all curriculum materials files can address a wide variety of learners. The NIMAC provides the source files created by the publishers to authorized users in each state who perform the task of converting and/or distributing the accessible versions to eligible students.

In North Dakota, there are 2 entities that can request NIMAS Files; they include the North Dakota Department of Public Instruction and the North Dakota School for the Blind and Vision Services. More information about Accessible Formats, can be provided by a Teacher of the Blind and Visually

[3] Zabala, J. S., "UDL, AIM, and AT: Complementary Supports for the Achievement of All Students," Center for Applied Special Technology (CAST), retrieved March 24, 2015 from http://setsig.iste.wikispaces.net/file/view/Zabala.ISTE.Webinar.UDL.AIM.AT.Sept.2012.pdf

[4] Ibid.

Impaired or the North Dakota School for the Blind and Vision Services. For more information on North Dakota AEM and NIMAS resources, please visit the state website at https://www.nd.gov/dpi/Administrators/SpecialEd/, and the NIMAC webpage on North Dakota at http://aem.cast.org/

Additional resources on AEM are located in Appendix C (p. 59).

### *Quality Indicators for Assistive Technology (QIAT)*

The Quality Indicators for Assistive Technology (QIAT) consortium, a national professional user organization, has developed a set of widely applicable standards for use of AT in school settings. The standards, or indicators, have been developed and validated through research.

The QIAT indicators represent important considerations within a comprehensive decision-making process for evaluating the need for AT, identifying appropriate AT solutions, and selecting and providing the AT and related trainings to the student, staff, and parents. The indicators follow:

1. Consideration of AT Needs
2. Assessment of AT Needs
3. AT in the IEP
4. AT Implementation
5. Evaluation of Effectiveness of AT
6. AT in Transition
7. Administrative Support for AT
8. AT Professional Development

Appendix D, (p. 62), includes each of the quality indicator lists that will assist a district's development of their AT process. Additional information is available at: http://qiat.org/index.html.

## *Consideration of AT Needs*

The first step in the process involves the consideration of AT by the IEP team. The QIAT (revised 2012) list of indicators defines the elements of effective AT consideration as:

1. **Assistive technology devices and services are considered for all students** with disabilities regardless of the type and severity of disability.

2. During the development of the IEP, the team consistently uses a **collaborative decision-making process** that supports systematic consideration of each student's possible need for assistive technology devices and services.

3. IEP team members have the collective knowledge and skills needed to make **informed assistive technology decisions** and seek assistance when needed.

4. Decisions regarding the need for assistive technology devices and services are **based on the student's IEP goals and objectives, access to curricular and extracurricular activities**, and progress in the general education curriculum.

5. The IEP team gathers and analyzes data about the **student, customary environments, educational goals, and tasks** when considering a student's need for assistive technology.

6. Analyze the student, environments, tasks and tools; the SETT Framework.[5] (See Appendix F, p. 99)

7. When assistive technology is needed, the IEP team **explores a range of assistive technology** devices, services, and other supports that address the identified needs.

8. The assistive technology consideration process and results are **documented in the IEP** and include a rationale for the decision and supporting evidence.

[5] Zabala, Joy S., The SETT Framework, http://www.joyzabala.com/.

There are a number of common errors in the consideration process, as identified by QIAT. They include:

1. AT is considered for students with severe disabilities only.
2. No one on the IEP team is knowledgeable regarding AT.
3. The team does not utilize 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 goals in determining if AT is required in order for the student to receive FAPE.
6. It AT is not needed, the team fails to document the basis of its decisions.

### *AT Consideration Guides: GPAT and WATI*

Given the guidance provided by the QIAT, consideration guides and checklists have been developed to support districts in this process. The **Georgia Project for Assistive Technology (GPAT)** *Assistive Technology Consideration Process Guide* represents an example of a checklist or consideration guide that IEP teams may use to guide their discussions about AT. This guide provides a framework for considering AT for students at all levels; it also may serve as documentation of the IEP team consideration process.

In addition, a resource guide was developed as a companion to the consideration guide in order to assist IEP teams with identifying potential modifications, accommodations, standard classroom tools, and AT solutions that may be needed to support a student's individual needs. The resource guide looks at sample instructional tasks across the curriculum and suggests potential AT solutions for students who have challenges with those tasks.

*The Assistive Technology Consideration Resource Guid*e is available from GPAT at: http://www.gpat.org/ . The GPAT's Assistive Technology Process Guide is available in Appendix E (p.83).

The **Wisconsin Assistive Technology Initiative (WATI)** developed a guidance document for IEP teams on the AT consideration process. The *WATI Assistive Technology Consideration Guide* assists IEP teams in evaluating an individual student's skills and abilities and identifying those tasks that create barriers to the student learning and being able to demonstrate their learning.

This guide uses a series of questions to assist the IEP team in determining whether a student does or does not "need" AT devices and services. The questions include:

1. What task is it that we want this student to do that he/she is unable to do at a level that reflects his/her skills/abilities (writing, reading, communicating, seeing, and hearing)?
2. Is the student currently able to complete tasks with special strategies or accommodations?
3. Is there currently assistive technology (devices, tools, hardware, or software) used to address this task?
4. Would use of assistive technology help the student to perform this skill more easily, in the least restrictive environment, or perform successfully with less personal assistance?

The *WATI Assistive Technology Consideration Guide* is available in Appendix E, (p. 81). It is excerpted from a larger document, *Assessing Student' Needs for Assistive Technology (ASNAT), 5th Edition*, which serves as a resource manual for school teams. The complete manual is available on the WATI website at: http://wati.org/ .

While IEP teams have options when considering a student's need for assistive technology, a limited number of outcomes may result:[6]

1. The student independently accomplishes the required tasks within the relevant instructional or access areas using standard classroom tools. AT is not required.
2. The student accomplishes the required tasks within the instructional or access areas using standard classroom accommodations and modifications that are in place. AT is not required.
3. The student accomplishes the required tasks within the relevant instructional or access areas with AT that has been determined to be educationally and functionally necessary, and is currently in place. AT is required. Document required AT devices and services in the IEP where appropriate. Monitor the use of AT and adjust as necessary.

[6] *Considering Assistive Technology for Students with Disabilities*, Georgia Project for Assistive Technology (GPAT), 2004.

4. The student is unable to accomplish the required tasks with the relevant instructional or access areas with modifications, accommodations, and/or the AT that is currently in place.

    - If potential AT solutions are known to the IEP team, trial use of the identified solution(s) may be documented in the IEP and implemented.
    - If potential AT solutions are not known to the IEP team, the team may choose to access consultants or other individuals with expertise who can assist the team in addressing the AT needs, or refer the student for an AT assessment. A trial use period may be recommended following the assessment.

While Congress mandated the "consideration" of AT needs and services, this discussion should be brief and not appreciably increase the length of an IEP meeting. This "consideration," which may be defined as a "thoughtful look," should include some discussion of whether AT might be useful and/or is needed. If a more lengthy discussion is necessary to review a student's needs and possible AT solutions, an AT evaluation may be appropriate and that recommendation should be documented in the IEP.

Another important element in the "consideration" discussion will be the need for **assistive technology services**. AT services may include such things as:

- An evaluation of the student's need for AT;
- Training for the student, family, and/or staff on the use of AT;
- Technical supports on operation or use;
- Modification or customization of the AT;
- Other technical assistance for school personnel to support proper implementation.

The resources available through the GPAT and the WATI provide valuable tools for local districts to develop their own process for discussing and documenting the need for AT for all students with disabilities.

When giving consideration to the need for AT devices and/or services, the IEP team should focus on the student's needs and then consider AT solutions beginning with the most simple and progressing to the more complex. AT need not be sophisticated; it simply must provide the student with access and promote their independence in daily educational tasks.

### *The AT Continuum*

Some examples of AT solutions moving from simple to more complex include:[7]

- *Pencil grips*-assist with handwriting legibility;
- *Sticky notes and highlighter tape*- mark important text;
- *Communication books*- pictures represent messages or tasks;
- *Picture schedules*-assist with following daily routines;
- *Timers*-assist with pacing during activities;
- *Portable CD players and audiobooks*-provide access to information and instruction, support with reading comprehension;
- *Amplification systems*- assist with deficits in hearing or attention;
- *Specialized calculators* (large displays or speech output);
- *Single message voice output devices* to increase participation of students with complex communication needs;
- *Mobile audio devices* -Mp3 players, tablets, and smart phones with applications.
- *Smart Pens* -assist with note taking.
- *Mouse emulators* -trackballs, head sticks, touchscreens, and/or eye gaze systems;
- *Digital whiteboards*- save and print teacher notes;
- *Text-to-speech software* - computer/e-reader speak digital text;
- *Word prediction software* assist with writing tasks.
- *Augmentative communication tools and applications* address complex communication needs.

This small sample illustrates the continuum of AT options from simple to more complex. An excellent resource for IEP teams may be found on the **AbleData** website. AbleData is a federally funded, non-commercial, searchable database of nearly 40,000 AT products. Here, IEP teams may find fact sheets and links to disability-related organizations. AbleData may be accessed at: http://www.abledata.com/.
Tablets and mobile devices have seen a remarkable growth in their application in school settings and may be considered to be AT for an individual student. Many applications for such devices have been created for individuals with disabilities and tend to be low cost or free. These newer technologies have even begun to take the place of some specialized, more costly high tech options.

The *Tools for Life Project* at Georgia Tech University offers a searchable database of applications for both Apple and Android devices, located at: http://www.gatfl.org/index.php. Appendix F, (p. 97), provides additional information on AT Tools.

### *AT Consideration vs AT Assessment*

It is important for IEP teams to recognize that *AT consideration* and *AT assessment* are two very different processes.[8] The major differences in these two processes are depth and duration. As was stated earlier, *consideration* is a brief process that takes place during an IEP meeting. During the AT consideration process the team evaluates the student's need for: AT or additional AT, the effectiveness of current AT, the continued use of current technology, or the need to try a new AT solution to address the student's access issues.

On the other hand, *assessment* goes into much greater detail and looks closely at a student's abilities and challenges, the specific task demands, and the environment in which the student will need AT. It also includes the acquisition of new information. When questions exist about a student's challenges and the viability of AT solutions to those challenges, an AT assessment may provide the guidance the IEP team is seeking.

A flowchart of the AT consideration process can be found in Appendix E (p.80). Appendix F (p. 97) contains a brief set of resources for AT assessment.

## *Addressing Assistive Technology in the IEP Process*

As was discussed in the previous section, IEP teams are required to give "consideration" to a student's needs for assistive technology and assistive technology services during any IEP meeting, whether it be initial, annual, or an amendment. The consideration of the need for AT devices and services should occur throughout the IDEA process of referral, evaluation, and IEP development. It is an ongoing process that continually reflects on a student's changing needs/goals and whether AT is necessary to meet those goals. This section provides guidance on how to address and document the process in the IEP.

### *Consideration of Special Factors*

The North Dakota document, *Guidelines: Individualized Education Program Planning Process* (*https://www.nd.gov/dpi/uploads/60/IEP_Guide.pdf*), suggests a logical process for considering the need for AT during the development of the IEP that meets all legal requirements. This process begins with discussions about the student's present level of academic achievement and functional performance. In these discussions, the team should define the appropriate grade-level expectations as well as the student's barriers to meeting those expectations that result from the disability. These discussions analyze the expectations for and participation of typical learners and suggest how the student with a disability can meet those expectations.

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[7] *Access to Learning: Assistive Technology and Accessible Instructional Materials,* Massachusetts Department of Elementary and Secondary Education, 2012.

[8] WATI, *Assessing Students' Needs for Assistive Technology (ASNAT), 5th Edition*, 2009.

| Consideration of Special Factors |
|---|
| **Does the student need assistive technology devices and services?**<br>☐ **No.**<br>☐ **Assistive technology to be explored; further consideration is needed to determine if assistive technology is necessary.**<br>☐ **Yes. The IEP team has determined, after considering all areas related to the student's present levels of academic achievement and functional performance, that the student needs assistive technology in order to access the general education curriculum.** |

The IEP team makes its determination of the need for AT following consideration of the student's present levels of academic and functional performance and the discussion of grade-level expectations. The team's decision about the need for AT is documented in the *Consideration of Special Factors* section of the North Dakota IEP document.

The discussion of the student's needs and expectations for classroom tasks is central to the description of present levels of academic performance and functional achievement. When students are unable to participate in classroom tasks as a result of their disability, the IEP team should discuss the development of goals, objectives, and services that will **move the student toward greater participation and independence.** AT may be a factor in overcoming many learning challenges, regardless of the student's level of disability. For this reason, AT is considered for **ALL students at each IEP meeting**, and this consideration is embedded throughout the IEP process, from the identification of present levels through the discussions related to the development of goals and services.

### *From Consideration to Assessment*

When the IEP team decides "*further consideration is necessary to determine if assistive technology is necessary*," the process may move toward an assistive technology assessment. An AT assessment will examine/evaluate, in greater depth, the student's abilities and challenges as well as the task and environmental demands that present barriers for the student.[9]

Some important points to note about the assessment process:

1. Unlike other assessment processes, the AT assessment is not completed with the administration of a test or a singular event.
2. AT assessment is an ongoing process; it is a continual part of a student's education planning.

[9] *Technical Assistance Guide for Assistive Technology for Children and Youth with Disabilities, IDEA Part B,* Oklahoma State Department of Education, Special Education Services, 2013.

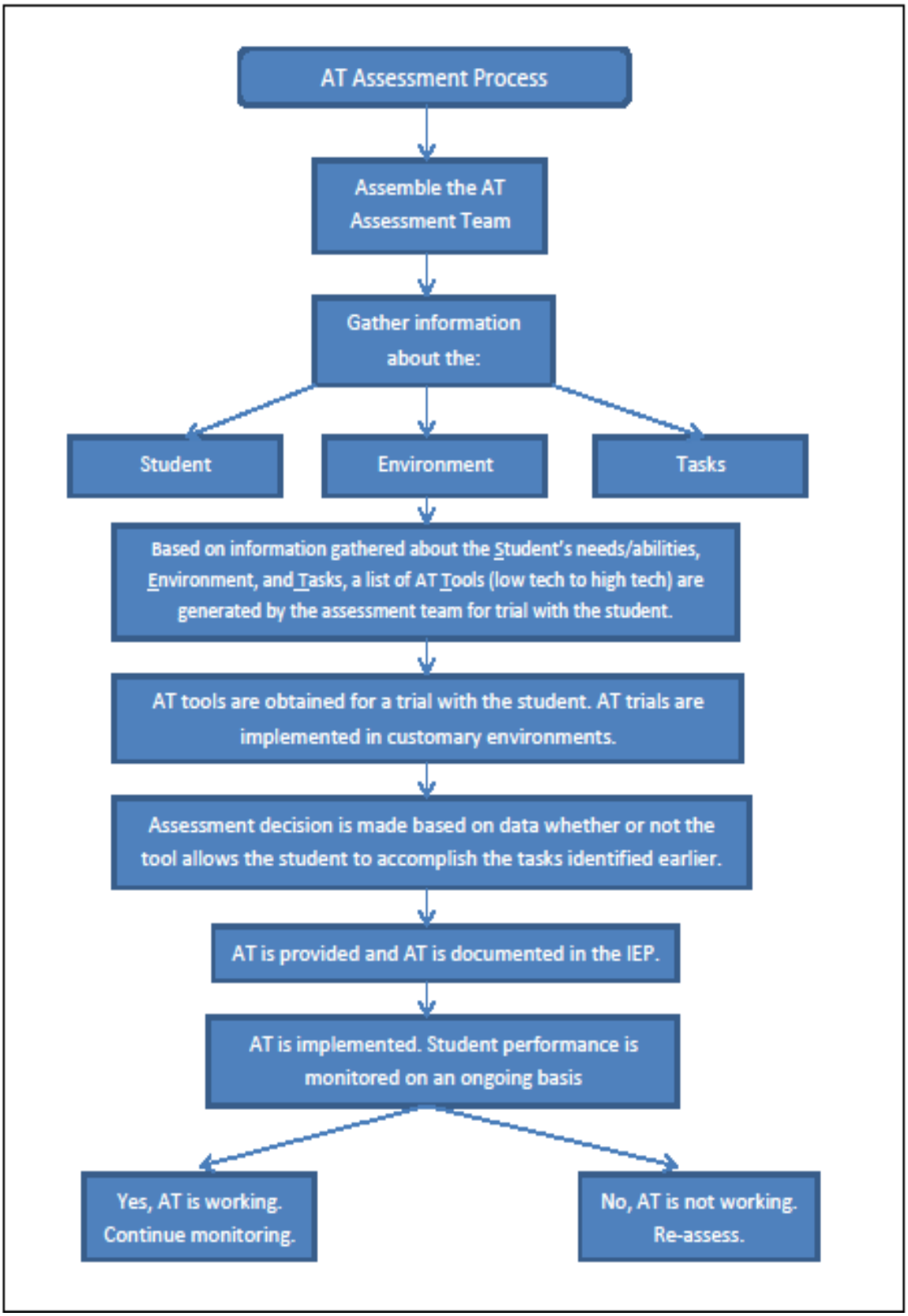
3. AT assessments are conducted in the student's typical educational environments by a multidisciplinary team knowledgeable about AT devices and services.

The QIAT consortium has identified "Quality Indicators of the Assessment of AT Needs" to help guide teams in this process. This list is included with other quality indicator lists in Appendix D, (p.62), of this document.

### *The AT Assessment Process: SETT*

**The SETT Framework** (Zabala, 1995).

The SETT Framework is a systematic AT assessment process that is driven by matching individual student needs to an AT device or service that helps a student complete a task. This process can be followed for all students: it is replicable, accountable, and performed by team members who are knowledgeable about AT.


AT Assessment Process
Assemble the AT Assessment Team
Gather information about the:
Student
Environment
Tasks
Based on information gathered about the Student's needs/abilities, Environment, and Tasks, a list of AT Tools (low tech to high tech) are generated by the assessment team for trial with the student.
AT tools are obtained for a trial with the student. AT trials are implemented in customary environments.
Assessment decision is made based on data whether or not the tool allows the student to accomplish the tasks identified earlier.
AT is provided and AT is documented in the IEP.
AT is implemented. Student performance is monitored on an ongoing basis
Yes, AT is working. Continue monitoring.
No, AT is not working. Re-assess.

**Assembling the AT Assessment Team**

The AT assessment team may look different than the student's IEP team, including individuals with the necessary expertise to develop an understanding of the student, the tasks expected, and the environments. The assessment team may include:

| | |
|---|---|
| The student | Audiologist |
| The family | School nurse |
| The classroom teacher(s) | Physician |
| Paraeducators | Teacher of visually impaired |
| School psychologist | Vocational counselor/case manager |
| Speech language pathologist | School administrators |
| Occupational therapist | AT specialists |
| Physical therapist | AT providers |
| Support service teachers (Title I, ELL) | Transition specialist |
| Orientation and mobility specialists | |

The AT assessment team should include members that fulfill the following roles:[10]

1. A person knowledgeable about the student, which may be **the student**, **parents**, and/or other family members.
2. A person knowledgeable in the area of **curriculum**, often a special or general education instructor.
3. A person knowledgeable in the area of **language**, usually a speech/language pathologist.
4. A person knowledgeable in the area of **motor skills**, generally an occupational or physical therapist.
5. A person who can commit the district's resources, not only for the purchase of devices but also to authorize staff development and provide assurance of implementation in various settings, both educational and
6. extracurricular—usually an **administrator or director of special education**.

Districts should look to assemble a team from the above list of individuals who are able to address these five roles and their perspectives during the assessment process.

[10] *Assessing Students' Needs for Assistive Technology (ASNAT): A Resource Manual for School District Teams*, Wisconsin Initiative for Assistive Technology (WATI), 2009.

**Gathering information about the Student, Environments, Tasks, and Tools**

During the information gathering stage of the SETT Framework, team members may choose from activities such as:

- Record reviews to determine if the specialized assessment information available may provide insights on the student.
- Interview the student, family members, and/or various school personnel to obtain information regarding questions about the student's needs, abilities, interests, preferences, and participation patterns.
- Observations of the student in natural settings in various activities. Observers should note the participation of non-disabled peers. Work samples are gathered to compare the student's performance to what is expected of the non-disabled peers.
- Interactions with the student, focusing on engaging the student in tasks similar to what is required in the classroom. Create opportunities for the student to try AT and/or modifications/accommodations that may be helpful.

An examination of each element of the **SETT Framework** follows:

**The Student:**

- What is (are) the functional area(s) of concern? What does the student need to be able to do independently that is difficult or impossible as a result of their disability?
- What are the student's special needs related to the area of concern?
- What are the student's current abilities related to the area of concern?
- What are the expectations for the student and the concerns related to those expectations?
- What are the student's interests and preferences?

Teams may wish to use the WATI's *Student Information Guide* to inventory the student's needs and/or barriers to their learning or participation in the general education curriculum. This Guide's set of questions in any of the twelve areas and the answers can help identify the barriers limiting the student's access, participation, and/or progress in the general education curriculum. This information can be used to complete the relevant sections on the TIENET North Dakota Technology Guide form leading to the determination of the AT and/or features of the AT device that will be necessary for the student to access, participate in and make progress in the general education curriculum and complete related activities or tasks.

Areas covered by the WATI *Guide* include:

| | |
|---|---|
| • Seating, positioning, and mobility<br>• Communication<br>• Computer access<br>• Motor aspects of writing<br>• Composition of written material<br>• Reading | • Mathematics<br>• Organization<br>• Recreation and leisure<br>• Vision<br>• Hearing<br>• General |

The *WATI Student Information Guide* is available in Appendix F, (p. 106), and is included in the manual *Assessing Students' Needs for Assistive Technology* (*ASNAT*) available from http://wati.org/ .

**The Environments:**

- What is the arrangement (both physical and instructional) in the student's various environments?
- What supports are available (to both student and staff) in the various environments?
- What materials and equipment are commonly used by other students in the various environments?
- Are there access issues for the student (technological, physical, and instructional) in the various environments?
- What are the attitudes and expectations of staff, family, and others in each environment?

WATI has included an environmental observation guide that draws an observer's attention to what is going on in an activity in a particular setting. The *WATI Environmental Observation Guide* is included in Appendix F, (p. 129).

**The Tasks:**

- What specific tasks in the student's natural environments will enable progress toward mastery of IEP goals and objectives?
- What specific tasks are required for active, more independent involvement in the identified environments related to communication, instruction, participation, productivity, and environmental control?

The *WATI Environmental Observation Guide* also provides suggestions for documenting tasks during observations. The document includes: a description of the task, an expected response or product, and any barriers to task completion. From this documentation, a set of potential adaptations for the student with a disability is produced.

**The Tools:**
The final step of the **SETT Framework** requires teams to analyze the answers to the questions asked about the student, the environment, and the task using the question below. Based on the team's determination that AT would be needed by the student, the team would follow the process described after the question:

- Is it expected that the student will not make reasonable progress toward their IEP goals and objectives without the use of AT devices and services?
  - If the answer is YES, describe what the useful system of supports, devices, and services would be like.
  - Brainstorm specific tools that may be included in a system to support a student's needs and move toward greater independence in the least restrictive environment.
  - Select those tools for trial in the student's natural environments.
  - Plan the specifics of the trial (expected changes, when/how tools will be used, what cues may be used, etc.).
  - Collect data on the effectiveness of the AT being tried.

Appendix G (p. 145) provides an abbreviated list of potential AT tools that is taken from *Assistive Technology in Education: Nebraska's Guide for the Delivery of Assistive Technology Services for Students with Disabilities.* In addition, the *WATI Assistive Technology Assessment Checklist* (Appendix F, p. 137) organizes its set of suggested AT tools by task or task requirements.

### *The AT Decision Making Process*

Following the gathering of information through file reviews, observations, etc., the assessment team is ready to make decisions regarding AT solutions for a student. Through use of the **SETT Framework**, the assessment team has focused on the student, his/her personal characteristics and interests, the environment (including the physical arrangements as well as instructional activities), and the tasks or specific activities required of the student in each environment. This leads to a clear definition of the problem that will guide the team in generating AT solutions.

An effective decision making process will include a number of important points:[11]

1. Problem Identification: specific definition of the student's barriers to learning.
2. Solution Generation: what are the possible solutions?
3. Solution Selection: evaluate suggestions, choose an option, and develop an action plan.
4. Implementation: carry out the action plan.
5. Follow-up: meet again to review data on the impact of the AT tool on the student's performance.

This format provides districts with a systematic process for the gathering of AT assessment information and responding to that information through the identification, implementation, and review of potential AT solutions to address a student's barriers to learning. As such, this becomes a regular discussion during the development or revision of a student's IEP.

### *Implementing AT Solutions*

Now that an individual student's barriers to learning have been defined and potential solutions identified, the team moves to determine if the proposed solutions will have the desired impact on the student's performance. Determining whether the proposed AT solutions will work requires the student be given an opportunity to "try" the assistive technology. The length of the trial period with the AT will depend on the student's needs or degree of impairment and the complexity of the AT being used. In either case, it is important to document the student's performance with the AT during the trial period.

During this stage of the assessment process, the IEP team prepares an action plan for the trial period: the plan[12]

1. Identifies who will coordinate the trial, which may include: obtaining a device, scheduling any necessary training for staff, progress monitoring, etc.
2. Includes a training plan for the student and appropriate team members on use of the AT.
3. Proposes a start and finish date for the trial.
4. Identifies criteria to determine whether or not the trial was successful.
5. Determines a process for collecting and reviewing data with the team.

[11] *Assessing Students' Needs for Assistive Technology (ASNAT)*, 5th Ed., Wisconsin Assistive Technology Initiative (WATI), 2009.
[12] *Technical Assistance Guide for Assistive Technology for Children and Youth with Disabilities, IDEA Part B*, Oklahoma State Department of Education, Special Education Services, 2013.

### *Obtaining AT Devices for Trials in North Dakota*

Providing students with a trial period to evaluate whether a particular AT device helps the student accomplish a task or reduces curriculum barriers is often advisable. Most simple AT devices can be found within a school district. Obtaining more complex devices for a trial period often requires locating an outside agency or organization that will loan or rent the equipment as well as provide training on the equipment's use and care. The **North Dakota Resource Guide** (p.166) in this document provides contact information for organizations in North Dakota that offer these services.

Ongoing monitoring of the implementation of AT becomes the final phase of the SETT Framework and corresponds with the ongoing progress monitoring that occurs on goals and objectives for an individual student with a disability. Data-based decision making on the use of AT solutions will be a continuing process for the IEP team, as well as exploring additional considerations of other AT in response to the changing needs and environments of the student.

### *Documenting AT in the IEP*

IDEA has made it clear that AT consideration must be documented in the student's IEP. When the AT consideration process determines that the student requires AT devices and services, there are a number of places in the IEP document where the team should document the use of AT. Checking yes or no regarding AT in the *Consideration of Special Factors* section is considered to be minimal compliance for this requirement.

IEP teams can document the result of their consideration/assessment process in *Consideration of Special Factors* section of the North Dakota IEP:

| Consideration of Special Factors |
|---|
| Does the student require assistive technology devices and services? ___Yes ___No<br>If yes, describe:_____ |

If the IEP determines "**Yes**"—the student requires AT devices and services—the IEP team must describe those devices or services.

When describing the assistive technology devices required by the student to benefit from their IEP, it is important for IEP **teams to describe the functions of the AT** as opposed to brand names and/or models. An example of such a description might be:

"*Carlos uses a portable word processor with a spell-check feature when completing longer written language assignments.*"

*"Janelle utilizes text-to-speech software to access content area reading materials in her general education classes."*

The description focuses on the function(s) of the AT that will assist the student with overcoming the identified barrier to learning.

With AT services—for example, an AT assessment recommended by the team—the description could state:

*"Joshua requires an assistive technology assessment for further consideration of how AT may support his learning needs."*

In addition to these descriptions of identified AT or AT services that are included in the IEP *Special Considerations* section, IEP teams in North Dakota will provide additional information in the section entitled *Adaptation of Education Services*, which is directly related to the outcomes from the *Consideration of Special Factors.*

| Adaptation of Education Services |
| --- |
| Describe changes in educational services that will be made to permit successful accommodation and education of this student (e.g., grading, credits, staff, transportation, facilities, materials, Braille, equipment, technology, adaptive devices, curriculum, methods, and other services). Include procedures for monitoring equipment, if applicable. Include consultation, which is not scheduled or predictable. Consideration must be given to the special factors indicated in section E of the IEP.<br><br>Does the student need instructional and related core materials in an accessible specialize format? □ Yes □ No<br>Identify the alternate format(s) needed for the student:<br>□ None □ Braille □ Large print □ Digital (e-text) □ Audio<br><br>Is the student eligible to receive NIMAS files as certified by a competent authority? □ Yes □ No<br>Please complete verification of eligibility form.<br>The student requires instructional materials in an alternate format, but does not qualify for NIMAS files. The school must ensure the student receives instructional materials in an accessible format. |

The *Adaptation of Education Services* will contain additional information regarding any "special factor" the IEP team considers relevant for a student. Additional descriptions of proposed AT devices and/or services can be included in this section of the IEP form.

**AT accommodations and the North Dakota State Assessment**

The options available in the IEP under *Designated Supports and Accommodations* for the North Dakota State Assessment include a number of AT solutions. The instructional supports and accommodations used by the student and needed for the state assessment should be documented here as well.

***AT as Special Education***

AT may be documented in the IEP as Special Education when specific references in the student's goals and objectives identify that AT is a necessary tool that supports the achievement of measurable and observable outcomes and progress in the curriculum.

While some sources suggest IEP teams' consideration of AT should occur after the development of goals and objectives, the knowledgeable IEP team will embed this consideration throughout the development process. By definition, AT is something that helps a child to "*increase, maintain, or improve a functional capability*." Therefore, the IEP team must understand the specific tasks a child will be expected to accomplish in the coming year and maintain the IEP focus on increasing the student's ability to function independently.

***AT as a Related Service***

AT may be documented as a Related Service when AT services are needed to train the student, parents, and staff to efficiently and effectively use a proposed AT solution. By definition, related services are necessary to help a student benefit from special education; therefore, when training is necessary to support the use of AT by all parties it should be documented as a related service.

***AT as a Supplementary Aid and Service***

AT may be documented as a Supplementary Aid and Service when specific accommodations reference the use of AT. These must be identified in the IEP for classroom instruction as well as assessment situations. IDEA specifies that these aids and services be provided in "regular education classes, other education-related settings, and in extracurricular settings" (34 CFR §§ 300.114–116).

Supplementary aids and services under IDEA are additional supports—beyond special education and related services—that enable a student with a disability to be educated with their nondisabled peers to the maximum extent appropriate (34 CFR § 300.42). They may be accommodations and modifications, direct services that support the student, and/or supports for staff and parents. By definition, an accommodation is a "change that helps a student overcome or work around a disability."[13] Modifications refer to a change in what is being taught or expected from a student. Therefore, AT solutions are more commonly designated as accommodations.

### *AT and Transition*

Early childhood transition as well as post-high school transition requires the IEP team to address the ways in which AT devices and services are transferred from one setting to another. This process requires individuals from different classrooms, programs, buildings, or agencies to work together to ensure the continuity of implementation throughout the transition planning process. The QIAT consortium has developed *Quality Indicators for Assistive Technology Transition* and this list is included in Appendix D (p. 73).

The QIAT consortium's *Quality Indicators for Including Assistive Technology in the IEP* suggests that the documentation of AT provide a "clear and complete" description of the proposed devices and services. There are a number of other places to provide this description in the IEP document. Consider the following examples:

- Present levels of academic and functional performance
  - "John exhibits a severe expressive communication impairment. He communicates with peers and adults within his environment using vocalizations, gestures, and a voice output augmentative communication device. He will have access to his device in all school settings, including extra-curricular as appropriate."

- IEP meeting minutes
  - "The team members shared the results of Susan's recent AT assessment. The consensus of the group was that she will need to utilize her augmentative communication device in all environments."

[13] "Supports, Modifications, and Accommodations for Students with Disabilities," Center for Parent Information and Resources, retrieved April 8, 2015 from http://www.parentcenterhub.org/repository/accommodations/#aids.

- Special education and related services

| Special Education and Related Services | | | | | |
|---|---|---|---|---|---|
| Service | Min/Wk | Starting Date | Duration | Service Provider | Location of Services |
| AT | 30 | 8/27/15 | 1 year | SLP | Speech room |

  - AT as a related service, where goals and objectives are focused on training the student to effectively utilize a specific AT tool.

- Transition services (early childhood and post-high school)
  - "Mary will utilize her AT to apply for and participate in mock job interviews."
  - "Sarah will have access to all her positioning equipment to support her inclusion in activities in the preschool classroom."

- Supplementary aids and services
  - Kathleen will use a portable word processor to help with her completion of writing language assignments during class time.

- Supports for school personnel and family
  - "Peter's teachers and parents will receive training in the use and programming of his augmentative communication device."

- Accommodations and modifications
  - "Donna will utilize a slant board and pencil grip when completing written work in the classroom."
- Accommodations and modifications required for state- and district-wide assessments
  - "All testing materials should be provided to Alonzo in braille."
  - "Jacob requires the use of his auditory trainer when directions are provided during the administration of classroom assessments."

- Annual goals and short term objectives
  - "Jennifer will express basic wants and needs in 80% of opportunities using single word utterances and a voice output system."
  - "John will compose a three or more sentence paragraph with less than two spelling errors when using a hand held spell-checker."

The QIAT consortium's *Quality Indicators for Including AT in the IEP* will assist IEP teams in developing a process for documenting the role of AT in a student's educational program. This document can be found in Appendix D (p. 68).

- Supports for school personnel and family
  - "Peter's teachers and parents will receive training in the use and programming of his augmentative communication device."
- Accommodations and modifications
  - "Donna will utilize a slant board and pencil grip when completing written work in the classroom."
- Accommodations and modifications required for state- and district-wide assessments
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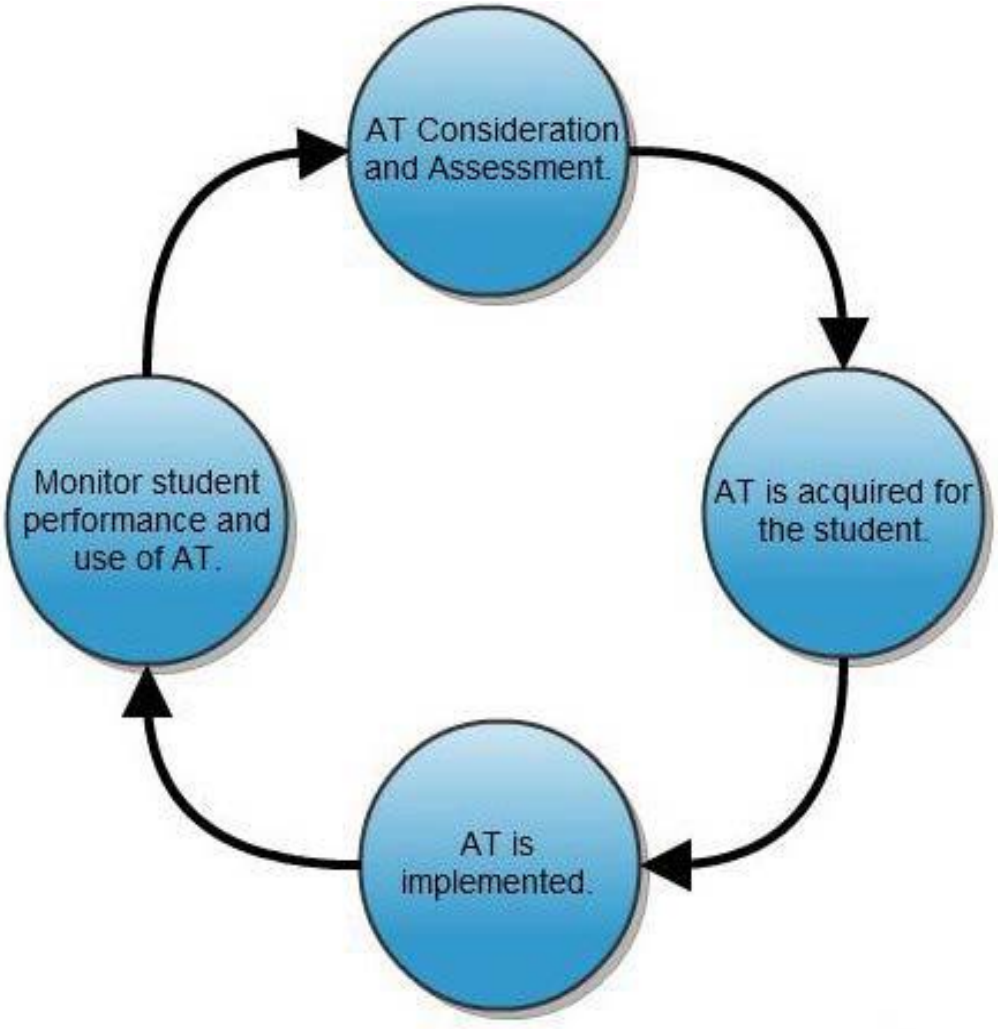
The QIAT consortium's *Quality Indicators for Including AT in the IEP* will assist IEP teams in developing a process for documenting the role of AT in a student's educational program. An excerpt of this document can be found in Appendix D (p. 68).

### *Progress Monitoring and the Use of AT*

As with all goals and services in the IEP, AT requires progress monitoring to determine whether the tool has assisted the student to "*increase, maintain, or improve a functional capability*." Progress monitoring involves data collection and analysis of that data. When the use of AT does not result in the student being able to progress toward the expectations established in the relevant goals, the IEP team should re-examine the use and/or function of the specific AT. Implementation plans may require adjustments that will ultimately support student progress. The team may need to revisit the SETT Framework to determine what may be impacting the student's ability to perform according to the expectations established in their IEP goals.

"AT in the school setting is a process that can be started at any point on the student's educational path" (OK Guidelines for AT, 2013).



## FAQs on Assistive Technology

The QIAT consortium's *Quality Indicators for AT Implementation* and *Quality Indicators for AT Evaluation* provide guidance for IEP teams' discussions related to the student's use of AT to accomplish tasks necessary to progress in their various educational environments.

**Assistive Technology Requirements and Definitions**

1. **What is an assistive technology device?**

   Assistive technology devices are any item (low or high tech), piece of equipment, or product system (software) that is used to increase, maintain, or improve the functional capabilities of a student with a disability. An AT device may be as simple as a pencil grip or as complex as speech-to-text software.

2. **What is an assistive technology service?**

   IDEA identifies six assistive technology services. These services include actions that are necessary to help a child with a disability and their family effectively use AT. AT services listed in IDEA include assessment, provision of AT selection, device maintenance, coordination with other therapies, training of students and families, and training of professionals.

3. **Who is eligible for assistive technology?**

   All students with disabilities, whether under IDEA or Section 504 of the Rehabilitation Act, are eligible to receive assistive technology if it is needed for the child to reach their education goals. Need is based on the student being able to receive FAPE in the least restrictive environment. Infants and toddlers are also eligible for AT devices and services if they are deemed necessary for the child to meet developmental goals.

4. **What is the purpose of assistive technology in special educational programming?**

   The purpose of assistive technology is to facilitate a student's ability to participate in his or her educational program and enable the student to receive FAPE. AT may provide the student with an alternative means of accessing the curriculum (e.g., such as the use of a digital textbook), an alternative means of demonstrating what has been learned (e.g., speech-to-text software), and increased access to all aspects of the school program (e.g., a motorized wheelchair that allows independent movement throughout the campus).

**5. What is the responsibility of the school district with regard to assistive technology?**

IDEA (2004) requires that school districts provide AT to any student with a disability who needs AT in order to receive FAPE. The IEP or 504 team makes the determination of a student's need for AT in order to benefit from their special education program and have access to the general education curriculum.

**6. Must the school district assume financial responsibility for the purchase of AT devices and services if they are identified in the IEP?**

In most cases, the answer is yes. The school district must assume financial responsibility for the purchase of AT devices and services that are included on a student's IEP. However, exceptions include instances when the cost may be covered by third party benefits or insurance coverage and the parent agrees to use such coverage to pay for the AT, or if a donation is made to the districts for the purchase AT devices. It is important to note that the provision of AT devices and services must not be delayed by a district's efforts to seek outside donations or funding. When parents choose to utilize their insurance coverage, they must not be responsible for paying the deductible costs, nor can they be compelled to have homeowners insurance to cover the AT device. Under the law, there must be no cost to parents.

School districts, however, are not required to allow a student to use a device that is purchased with public funds for personal use outside of IEP services and programs.

**7. Is the school district obligated to provide state-of-the-art technology for students with disabilities?**

No. The district is not obligated to provide state-of-the-art technology if the student does not require it or if they are unable to utilize it. The determination is made on an individualized basis and should be based on the features of such devices that enable the student to access the general education curriculum in the least restrictive environment. When a district identifies options for devices and services that vary by cost, the district may choose a less expensive option, provided that it assists with accomplishing the student's IEP goals. The district is under no obligation to purchase the most expensive option.

**8. Is the school district obligated to pay for AT for a student who has been placed in a private school?**

It depends. If the student is attending an approved private, special education school because the IEP determined that such an out-of-district placement was necessary for FAPE, then the district would pay for whatever the student requires.

For parentally-placed private school students with disabilities who do not have a signed IEP, the district is not required to provide the AT. However, federal law requires districts to provide "proportionate share" services to parentally-placed private school students, and that proportionate share could be used to fund AT devices and/or services if the district determines they are needed and are included in a student's individual services plan.

**9. Is the school district responsible for retaining, repairing, or replacing AT devices?**

If the device is purchased or secured by the district, then the district should retain, repair, and replace AT devices for as long as they are required by the student to implement their IEP. Special education administrators or designees must be aware of all warranties and contracts on devices.

Additionally, if a student's family provides an AT device that is necessary for the provision of FAPE and has been included in the IEP, the district, with the agreement of the family, may have the student use the device at school. In this case, the district is responsible for the repair or replacement of the device, if necessary.

**10. Is the school district responsible for maintaining a device that parents elect to purchase on their own when that device has been written into the IEP?**

Federal law is silent on this issue. However, it is reasonable for a school district to assume liability for a family-owned device that has been written into a student's IEP for use either at home or in school. In the absence of such a family-owned device, the district is required to provide and maintain a device that is necessary and included in the IEP. In situations where the family owns a device, it is recommended that the district clarify in its agreements with the family whether the family retains ownership should the device need to be replaced.

## AT and the IEP Process

**1. Should AT be considered for all students with disabilities?**

Yes. The IEP team, in its consideration of special factors, is required by the IDEA to "consider whether the child requires assistive technology devices and services." IDEA does not mandate how consideration is accomplished, only that it must be done.

**2. Is AT required for all students with disabilities who have an IEP?**

No. IDEA requires AT be considered for all students with an IEP as part of each IEP meeting. The IEP team will determine if AT is required by the student based on the results of the consideration process, which may include observations, assessments, file reviews, and trials of AT.

**3. Who makes the decision if a student needs AT devices or services?**

The IEP team has the responsibility under IDEA to determine if the student requires AT for the provision of FAPE. Arriving at this decision may require an AT assessment or consultation from a team of professionals who are knowledgeable on the specific AT. This team may include speech-language pathologists, occupational therapists, physical therapists, special education teachers, technology specialists, and vision and/or hearing specialists, among others. Some districts have identified an AT team that has been trained to provide AT assessments at the local level, and has developed a process for this task. Parent and student input and participation is critical to the assessment process.

**4. What factors should an IEP team take into consideration to determine an individual child's need for AT?**

When team members consider a child's need for AT, they must begin with a review of the child's goals and need for access to the curriculum. If the IEP team identifies an area of performance where progress will be difficult because of the child's disability, the IEP team should consider both AT and other strategies, including accommodations that may help compensate for access issues related to the disability.

**5. How should AT be included in a student's IEP?**

When the IEP team makes the determination that a student needs AT and AT services in order to benefit from his or her IEP, the team indicates that decision in the Consideration of Special Factors section of the IEP document. Additional information about the need for AT or its use should be documented in various sections of the IEP.

Present levels of academic and functional performance can include information on AT that is necessary for a student. In addition, AT and AT services may be documented as special education services, as related services, or as supplementary aids and services. Given that AT is considered to be a compensatory intervention, the use of various AT devices may be considered an accommodation that improves access to the general education curriculum in the least restrictive environment. However, keep in mind that not all accommodations are AT.

IEP meeting minutes can document the discussion of AT and AT services and can be an important element of the documentation process. No matter how AT devices and services are documented in the IEP, it is important that anyone who reads the IEP is able to understand the team's intent in providing AT devices and services.

**6. When should an IEP team recommend an assessment of a student's AT needs?**

Any time a student appears to have the cognitive skills necessary to complete a given task, but encounters barriers because of their disability, an AT assessment may be indicated. If a team member identifies a task or functional life skill with barriers that may be addressed by AT, the team should examine the strategies and accommodations already in place for the student. If these strategies or accommodations have not been sufficient to aid the student in overcoming the barriers, an AT assessment may be warranted.

**7. What information should be gathered during an AT assessment?**

During the AT assessment process, the team gathers information about the student's present levels of academic and functional performance, the environments in which the student is expected to perform, the tasks the student is expected to accomplish, and the tools that may be used (SETT Framework). Consideration of tools should include low tech solutions as well as high tech devices.

Once tools are identified, the assessment process should include a trial period of the most promising solutions in the student's customary environments.

**8. Who is qualified to complete an AT assessment?**

AT assessments should involve all members of the student's IEP team. IDEA states that assessment of a student's AT needs should include "a functional evaluation in the student's customary environment." When an AT assessment is being conducted, at least one member of the team must be "knowledgeable" about the AT devices and services that a student may use to accomplish specific tasks. In many cases, the IEP team will have enough information to complete the assessment process without help; however, when the team needs additional information about devices and/or services, an AT specialist or other knowledgeable person may be added to the team.

**9. If an outside expert recommends AT, must the school district provide it?**

The IEP team is required to consider all available information when developing specially designed instruction for a student with a disability. If an outside expert recommends a particular device for a student, the IEP must consider this recommendation along with all other information about the child's functioning in customary environments. When the student has not had the opportunity to use a particular technology, the team should consider a trial of that technology. In the event that the student repeatedly damages a trial device, that device may not be an appropriate option for that student.

**10. Should specific AT devices be named in a student's IEP?**

In most cases, the IEP should describe the "features" of an AT device rather than include the name of a specific device. This allows for more flexibility in case the student moves to another district or the IEP team discovers a device similar to the original one considered that better meets the student's needs. In some cases, the specific device will be named when the student is required to learn unique ways of operating the device that are unable to be generalized to other AT.

**11. When AT is listed as needed on a student's IEP, must that technology be available in all classes?**

Since students generally use AT to accomplish specific tasks they find difficult to accomplish otherwise, the IEP team must describe the conditions under which the student needs the AT. The conditions include the environments and the tasks necessary to be accomplished in those environments for which the AT is required. Therefore, some environments may present tasks where the AT is not required. The IEP should describe all instances where the AT is required.

**Accessible Educational Materials (AEMs)**

1. **What are accessible educational materials and are districts required to provide them?**

   Yes, federal law requires districts to provide AEMs for students with disabilities who need them in order to benefit from their educational program. AEMs are materials that are provided to students with disabilities in a variety of alternate, accessible formats at the same time other students receive those materials. Accessible formats may include braille, large print, audio, and digital text. Digital text may be used with text-to-speech software, magnification software, or other braille devices.

2. **What is NIMAS?**

   The National Instructional Materials Accessibility Standard (NIMAS) is a technical standard used by curriculum publishers since 2006. NIMAS is designed to make it easier and faster to obtain AIMs. Publishing companies send NIMAS files to the National Instructional Materials Access Center (NIMAC) when requested by a district to do so as part of a purchasing agreement. Requesting NIMAS files does not add to a district's costs when purchasing materials. Files are then downloaded by state-authorized entities that produce and distribute braille, large print, digital text, and audio books. NDDPI adopted the NIMAS and

3. **How do districts in North Dakota access NIMAS files?**

   In North Dakota, the local educational agencies need to contact the North Dakota Vision Services/School for the Blind to obtain materials from the NIMAC. More information on AEMs and NIMAS resources is available on the department's website: http://www.dpi.state.nd.us/ .

**School and Home Use of AT**

1. **Is a school district obligated to allow a student to take an AT device home?**

   When the IEP team determines that a particular AT device is required to be used at home in order for a student to be provided with FAPE and this is communicated in the IEP, then that device must be provided and allowed to go home in order to implement the provisions of the IEP. Discussion of liability for the device while at home should be held by the IEP team and documented.

2. **What if an AT device is sent home and damaged?**

   Parents may not be charged for normal wear and tear on AT devices; however, school districts should consider policies regarding parents' responsibility for equipment due to damage or neglect. Policies on loaning students equipment, such as scientific calculators, could address AT devices. The IEP can discuss and document agreements with parents on this matter.

3. **Can the school require a student to bring a family-owned AT device to school?**

   No. There is no barrier to a student bringing his or her family-owned AT device to school, but schools have no authority to mandate this. If a family agrees to allow a device to travel to and from school, then the discussion regarding liability while the device is transported to or at school needs to be held and recorded in the IEP meeting.

   If a separate rider on an insurance policy is required for protection, the district should reimburse the family for this coverage. The family may insist the district provide the necessary device as part of the student's IEP, even when an identical device exists at home.

**IDEA, Section 504 of the Rehabilitation Act, and Title II of the Americans with Disabilities Act**

1. **Are students who have plans under Section 504 of the Rehabilitation Act eligible for assistive technology? If so, who is responsible for providing this technology?**

   Students with 504 plans may be eligible for AT devices and services if they are required for that student's access to the general education curriculum.

When a student with a 504 plan requires AT, it is the responsibility of the school 504 coordinator and the student's general education team to make sure the devices and services are provided.

**2. What is Title II of the Americans with Disabilities Act and how does it impact the provision of AT devices and services?**

Title II of the ADA requires that schools must, without charge, ensure that communication with students with hearing, vision, or speech disabilities is as effective as communication with students without disabilities. It also gives primary consideration to students and parents when determining which auxiliary aids and services are necessary to provide the effective communication.

The provision to give primary consideration to students and parents when determining which auxiliary aids and services are necessary to ensure effective communication is an important aspect of providing AT devices and services. Under Title II, the school must provide the aid or service requested unless it can demonstrate that a different auxiliary aid or service is as effective in meeting the student's communication needs, or unless it can prove that providing such an aid or service would result in a fundamental alteration or undue financial and administrative burdens.

Schools are not required to provide aids and services greater than what is needed to ensure effective communication.

**3. Does an IEP under IDEA meet the requirements of Title II of the ADA?**

In most cases, an IEP under IDEA will meet the requirements of Title II. However, recent federal court cases have found that, in order to comply with Title II of the ADA, schools may have to provide a student with auxiliary aids or services that are not required under IDEA.

The key lies in giving "primary consideration" to the requests of students and parents for particular aids and services. Under Title II, the school must provide an opportunity for the student with a disability (or an appropriate family member or guardian) to request an aid or service the student feels is needed in order to ensure effective communication, as it is the student or a family member who is most familiar with his or her disability and can provide the most relevant information about what aids and services will be most effective.

Under Title II, the school must honor the choice of the student, unless it can prove that an alternate aid or service provides communication that is as effective as that provided to students without disabilities. If the IEP team, when considering the communication needs of students with disabilities gives such "primary consideration" to the requests of students and their families, they move in the direction of the intent of Title II.

For more information on IDEA, Section 504, Title II of the ADA, and effective communication for students with disabilities in public schools, see the FAQs at: http://www2.ed.gov/ .

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# ***Appendix A*** *- Glossary of Assistive Technology Terminology*

## Assistive Technology Glossary

**Abbreviation Expansion Software:**

Abbreviation Expansion Software is used to help individuals become more efficient writers. This software automatically expands words or phrases based on pre-programmed commands that have been entered by the user. An example of an abbreviation used is first and last initials will be expanded into a name. The Abbreviation Expansion Software allows a user to minimize keystrokes necessary to produce writing. It frequently is combined with word prediction programs or specialized keyboard assistance programs.

**Accessibility Features:**

Accessibility features are various options that are built into products that allow the user to adjust settings to meet their personal needs. Products come with various accessibility features that can adjust to an individual's visual, mobility, hearing, language, and learning needs. Accessibility features permit individuals with disabilities to use products that might otherwise not be useful to them. They serve as AT because adjustments are being made that help an individual user.

**Access Utility:**

An access utility is a software program that modifies a standard keyboard to simply the operation of the keyboard, replace the mouse, substitute visual cues for sound signals, or add sound signals to keystrokes. The ability to alter font size, color contrast, and adding or modifying audio alerts can be accomplished without the purchase of additional software. "Sticky keys" is another useful modification tool that can be made using existing software. Sticky keys allows the user to type one key at a time, sequentially, and experience the same results as holding down multiple keys at the same time, such as CTRL-ALT-DELETE.

**Activities of Daily Living (ADLs):**

Used in measures of self-care activities, ADLs include basic tasks such as eating, bathing, toileting, dressing, getting in and out of a chair or bed, and getting around in the home. Another measure, Instrumental Activities of Daily Living (IADLs) includes household chores, meal preparation, business activities, shopping, telephone use and mobility in the community.

**Adaptive Technologies:**

Adaptive technologies are a type of assistive technology that includes customized systems that help individuals communicate, move, and control their environments. Adaptive technologies are specifically designed for individuals with disabilities and include such things as augmentative and alternative communication devices, powered wheelchairs, and environmental control systems.

**Adjustable Height Tables and Workstations:**

Tables that allow height adjustment are essential for users that cannot access a standard computer workstation. Models include movement mechanisms to include: crank, spring assisted, and electronic. Electronic models are most ideal from an access standpoint as a user can adjust the height independently.

**Aids for Daily Living (ADL):**

This category of assistive technology includes self-help aids for individuals with disabilities to allow them to eat, bathe, cook, and dress more independently. They can be low-tech or high-tech, and would include items such as adaptive utensils for eating.

**Alternate Access/Input Device:**

An alternate access/input device allows a user to control their computer using tools other than a standard keyboard or pointing device. Examples include items such as alternative keyboards, electronic pointing systems, sip-and-puff systems, wands and joysticks, and trackballs.

**Alternative Keyboard:**

Alternative keyboards may be different from standard keyboards in size, shape, layout, or function. They offer individuals with disabilities greater efficiency, control, and comfort. For example, the traditional QWERTY keyboard may be confusing to a student with a disability, and can be replaced with a keyboard that list letters A-Z in large, bold letters, and doesn't include a lot of extra keys. This allows for greater focus and ease with spelling and typing.

**Ambulation Aids:**

These include devices that help individuals walk upright and include things such as canes, crutches, and walkers.

**Amplification Systems (Personal/FM):**

These amplification systems provide enhanced sound to an individual or the entire classroom through a wireless microphone worn by the teacher. Studies show amplified classrooms have fewer student distractions and greater attention to teachers.

**Architectural Adaptations:**

Physical changes to the home, school, or workplace that remove or reduce physical barriers and include such things as ramps, lifts, lighting, altered countertop heights and widened door frames.

**Articulated Forearm Support:**

An articulated forearm support follows the user's movements and reduces the muscle work involved in sustained keying or use of a mouse.

**Assessment:**

Assessment is a formal process of gather information about a student's strengths, weaknesses, and needs to plan for education services. An AT assessment is designed to identify appropriate AT devices and services for a student with a disability and are generally conducted in the student's customary environments.

**Assistive Listening Device (ALD):**

Assistive listening devices are used to aid individuals with hearing impairments to hear more clearly in public situations. They can be set up to amplify such things as televisions, radios, doorbells, and PA systems; they can be used with or without hearing aids.

**Auditory Reminders:**

An auditory reminder is a device or application that provides an auditory cue, with either a sound or speech used to remind a student to complete a task or transition activities, as examples.

**Augmentative and Alternative Communication (AAC) System:**

An AAC system is one that increases or improves the communication abilities of an individual with a disability with receptive or expressive impairments. The system may include sign language, graphical symbol systems, synthesized speech, dedicated communication devices, and computer applications. ACC technology includes a wide range of products, from low-tech picture boards to high-tech speech recognition programs.

**Auxiliary Aids and Services:**

Under Title II of the Americans with Disabilities Act, professionals and organizations must communicate as effectively with individuals with disabilities as effectively as they do with nondisabled individuals. Auxiliary aids and services assist with this effort and may include such things as taped texts, interpreters, or other methods of making materials delivered orally available to students with hearing impairments; readers in libraries for students with visual impairments; classroom equipment adapted for use by students with manual impairments; and other similar services or actions.

**Battery Interrupter:**

A battery interrupter allows a use to modify battery-operated devices for switch input. It is placed between a battery and the connection point in a battery compartment. The compartment is notched to allow the cord to pass through when closed, and the device is left in the ON position with the switch plugged into the input jack of the battery interrupter.

**Braille:**

Braille is a raised dot language that is used by many individuals with visual impairments. Each raised dot arrangement represents a letter or word combination. Information on braille is available through the National Federation for the Blind.

**Braille Display:**

A Braille display is a tactile device consisting of a row of special “soft’ cells. A soft cell has 6 or 8 pins made of metal or nylon which are controlled electronically to move up and down and display characters as the appear on the display of a computer or Braille note taker. A number of cells are placed next to each other to form a soft or refreshable Braille line. As the pins of each cell pop up and down, they form a line of Braille text that can be read by touch.

**Braille Embossers and Translators:**

A Braille embosser transforms computer-generated text into embossed Braille output. Translation programs convert text that has been either scanned or typed into Braille that can be printed on the embosser.

**Captioning:**

This is a text transcript of the audio portion of multimedia products, such a movies and television shows. Captioning is synchronized with the visual events taking place on the screen. In addition to its usefulness with individuals with hearing impairments, it has been shown to have benefits for students with a range of visual and auditory processing problems. It has also been shown to enhance learning for individuals without disabilities.

**Closed Circuit Televisions (CCTV'S):**

These allow users to quickly magnify any objects placed under a camera unit. CCTV's vary in size from portable pocket-sized units to stationary cameras with large displays.

**Competent Authority:**

As defined in 36 CFR 701.6(b)(2), a competent authority is an individual who determines that a student requires a specialized instructional material format through the NIMAC, and includes various professional individuals who are able to verify the need for such alternative formats.

**Computer Aided Real Time Translation (CART):**

The instant translation of the spoken word into English text performed by a CART reporter using a stenotype machine, notebook computer and real time software. The text is then displayed on a computer monitor or other display device for the student who is deaf or hard of hearing to read. This technology is primarily used by people with hearing loss, but it also has been used by people with learning disabilities or those who are learning English as a second language.

**Descriptive Videos:**

These are videos that have been enhanced with narration that describes visual elements of action, characters, locations, costumes and sets without interfering with the production’s dialogue or sound effects. They allow individuals who are blind or have other visual impairments to enjoy a video in greater depth.

**Digitized Speech:**

Digitized speech is speech that has been digitally recorded for later play-back. As it is a recording, the quality is generally good, and easy to understand. It may be used in CD-ROM for talking stories, in encyclopedias, and in software packages where teachers and students are able to records sounds, words, and sentences themselves. Digitized speech has a finite, predetermined vocabulary and does not offer full access to mainstream software.

**Electronic Pointing Devices:**

These devices allow a user to control the cursor on a computer screen using ultrasound, an infrared beam, eye movements, nerve signals, or brain waves. When used with an onscreen keyboard, electronic pointing devices allow the user to enter text and data.

**Electronic Spell Checker:**

Portable dictionary, thesaurus and spell checker with audio feature.

**Environmental Control Unit (ECU):**

ECUs enable individuals with disabilities to control devices in their environment through a variety of alternative access methods, such as switch or voice access. ECUs can control lights, television, music, telephones, door openers, security systems, and kitchen appliances. Such systems are referred to as Electronic Aids to Daily Living (EADL).

**Ergonomic Keyboards:**

A variety of keyboards address positioning of the user to allow for more neutral arm, wrist and hand positioning. Most address wrist deviation and some address pronation.

**Eye Gaze Board:**

This is a clear, Plexiglass board that is used as a simple communication device. Pictures are mounted on the board in strategic locations and the user communicates by looking at the selected picture.

**FM/Amplification Systems:**

FM systems can provide support to students with hearing impairments or students who are highly distractible by increasing the auditory level of sounds or speech over background noise. The system amplifies a speaker's voice or other sounds for the entire room, or for a specific individual.

**Free and Appropriate Public Education (FAPE):**

A central concept to the IDEA and Section 504, FAPE refers to the guaranteed right of a student with a disability to receive an individualized education, designed to address a given student's specific needs, while providing access to the general curriculum in the least restrictive environment, at no cost to parents.

**Full Spectrum Lighting:**

Simulated full spectrum light is color-corrected light that operates in the range of 400 to 800 nanometers. This light will simulate the optical brilliance of outdoor light at noontime.

**Graphic Enhancement/Tactile Graphics:**

This technology creates documents with raised lines or images. The original hardcopy is photocopied onto special heat sensitive paper that is then sent through an oven of sorts. The heat raises the paper where any ink is located.

**Infrared Sender/Receiver:**

This is a device that is commonly found in an environmental control unit (ECU). An infrared signal is sent to the control unit, which in turn sends a signal to the appliance. Usually small and portable, they vary in size and shape, and can be used in different areas of the room but must have an unimpeded path when aimed at the control box.

**Joysticks:**

A joystick may be used as an alternative input device. They can be plugged into a computer's mouse port to control a cursor on a screen.

**Keyboard Additions:**

This refers to a variety of accessories that have been designed to make keyboarding more accessible to individuals with disabilities. **Keyguards** are hard plastic covers with holes for each key and help individuals avoid stroking the wrong key. **Moisture guards** are thin sheets of plastic that protect keyboards from saliva and spills. **Alternative labels** add visual clarity or tactile information to the keys.

**Keyboard Emulator:**

A keyboard emulator is a device that is connected to or resides in a computer and imitates the computer's keyboard in function and performance.

**Mobility and Transportation Aids:**

This category of AT includes products that help mobility-impaired individuals move within their environments and given them independence in personal transportation. These products include standing or walking aids, transfer aids, stair lifts, walkers, scooters, wheelchairs and three-wheeled chairs, adapted bikes and tricycles, car seats or beds, stretchers, ramps, rollers, adapted driving controls, vehicle conversions, patient and wheelchair lifts and carriers.

**Onscreen Keyboards:**

Onscreen keyboards are software-generated images of a standard or modified keyboard placed on the computer screen. The keys are selected by a mouse, touch screen, trackball, joystick, switch, or an electronic pointing device.

**Optical Character Recognition and Scanners:**

Optical character recognition (OCR) software works with a scanner to convert images from a printed page into a standard computer file. With OCR software, the resulting computer file can be edited. Pictures and photographs do not require OCR software to be manipulated

**Pencil Grips:**

Pencil grips slip onto a pencil or other writing implement to aid students in modifying their grasp when writing and develop a better grasp. They come in a variety of shapes and sizes.

**Picture Exchange Communication System (PECS):**

PECS is an augmentative or alternative communication system that uses picture symbols or icons for students with severe communication impairments.

**Pointing or Typing Aids:**

A pointing or typing aid is typically a wand or a stick used to strike keys on the keyboard. They are most commonly word on the head, held in the mouth, strapped to the chin, or held in the hand.

**Portable Word Processor:**

Lightweight and inexpensive devices that can be easily taken from place to place, these devices provide access to word processing without a computer. Some include organization features such as those in a personal digital assistant (PDA). Text can be downloaded from the device to a computer or printer for saving or printing.

**Scan and Read Programs:**

This combination of hardware (flatbed or auto feed scanner) and software will allow a hard copy of a document to be scanned, converted to text the computer understands (OCR) and then read aloud by the computer. The user can choose different voices, reading speeds and other customizable options. This software also has low vision features allowing the user to create enlarged text with choices for foreground and background colors for high contrast.

**Scan and Read Pens:**

A hardware device designed to scan, say, and define a single word. These pens have a database as large as 400,000 words.

**Screen Enlargement Programs:**

Screen enlargement programs magnify a section of the computer screen, increasing visibility for users with limited vision. Most programs have variable magnification levels and some offer text-to-speech options.

**Screen Reader:**

A screen reader is a software program that uses synthesized speech to "speak" graphics and text aloud. This type of program is used by individuals with limited vision or blindness, or with a print disability, such as a learning disability.

**Seating and Positioning Aids:**

Seating and positioning aids offer modifications to wheelchairs and other seating systems to provide greater body stability, upright posture, and reduction of pressure on the skin surface. This equipment includes wheelchair cushions, trunk/head supports, modular seating, and seating lifts.

**Slant Board:**

A slant board is an angled board that is adjustable and to provide an adapted writing or working surface to assist a student with writing and/or reading.

**Smart Pens:**

A pen that is capable of sending handwritten notes or text to a synchronized device to be accessed in different ways by a user.

**Speech Recognition Programs:**

These are software applications that convert words spoken aloud to text. Speech recognition is designed to respond to a wide range of voices, with prior "training" of the software. Voice or speaker recognition, on the other hand, involves the training of a device to recognize a specific individual's voice. Both may be used to create written documents without the use of a keyboard, to control specially adapted equipment, operate a cell phone, and other personal applications.

**Switches and Switch Software:**

Switches provide an alternative method of providing input to a computer when it is not possible to use a standard mouse or keyboard. They come in various shapes and sizes, methods of activation, and placement options. Software programs have been developed specifically for switch use, and can employ on-screen scanning, where the computer highlights the options available to the user, who then selects the desired action. When a visual or auditory prompt indicates a specific keyboard or mouse function, the user activates the switch and the desired function occurs.

**Talking Word Processors:**

Talking word processors are software programs that provide audio feedback as the student writes. As each letter is typed and each word is written, the device will "speak" it aloud. These inexpensive writing programs incorporate powerful tools for reading. Students with learning disabilities often find that having written material read aloud helps them to better edit, understand, and organize projects. These programs may offer accommodations as well, such as enlarging text size and changing the color of text and graphics.

**Text to Speech Programs:**

This software converts written text, including Word documents, Web pages, PDF files, and emails into audio files that play on a computer, CD-ROM player, MP3 device, IPOD or other digital audio playback equipment. Developed for individuals with blindness or low vision, text to speech technology has improved greatly, with natural sounding voices, greater conversion speeds, and improved ease of use.

**Touch Screens:**

A touch screen is a device placed on or built into the computer monitor that allows direct activation of the computer, or selection of a program, through a touch of the screen.

**TTD or TTY:**

This is a telecommunication device for the deaf. TTY/TTD is a device with a keyboard that sends and receives typed messages over a phone line.

**Transfer Board:**

The transfer board is a device that is designed to be used with students with physical impairments and provides assistance in moving from one place to another.

**Video Output Communication Aid (VOCA):**

A voice output communication aid is an electronic device that generates spoken language for individuals who are unable to use natural speech to express their needs and to communicate with others in conversation. These devices are solely for communication purposes.

**Voice Recognition:**

Also known as speech recognition, these systems allow the user to speak to the computer, instead of using a keyboard or mouse, to input data or control computer functions. Voice recognition systems can be used to create documents such as letters or email, browse the Internet, and navigate among applications and menus.

**Visual Supports:**

Visual supports are tools provide increased understanding of language and support for students through the use of pictures, icons, calendars, among others, that are used to communicate choices, organize daily routines, give instructions, reinforce behaviors, and/or assist with transitions.

**White Canes:**

White canes are mobility tools that enable students with visual impairments to navigate their environment and travel safely through various environments.

**Word Prediction Programs:**

These programs allow the user to select a desired word from an on-screen list located in a prediction window. The computer generated list predicts words based on the first or second letters typed by the user. The word may be chosen by the user and inserted into the text with a click or scanning with a switch.

Excerpted from:

1. The ACCESS Project at Colorado State University (http://accessproject.colostate.edu/ ) and:
2. The Family Center of Disability and Technology, *Assistive Technology Glossary*, available through the Center on Disability and Technology at http://www.ctdinstitute.org/ .
3. The Georgia Project for Assistive Technology, Assistive Technology Consideration Guide Glossary, available at http://www.gadoe.org/.

# ***Appendix B*** *– Universal Design for Learning*

## 1. Resource Links

A. **The Center for Applied Special Technology (CAST).** CAST is a non-profit organization working to expand learning opportunities for all individuals through Universal Design for Learning.

http://www.cast.org/

B. **The National Center on Universal Design for Learning.** The UDL Center works to support the effective implementation of Universal Design for Learning by providing resources and information to stakeholders in the field.

http://www.udlcenter.org/

C. **The IRIS Center at Vanderbilt University.** An OSEP funded center that creates resources on evidence-based practices for use in pre-service preparation and professional development. A training module on UDL may be found at:

http://iris.peabody.vanderbilt.edu/module/udl/

# ***Appendix C*** *- Accessible Educational Materials*

## 1. Resource Links

A. **The National Instructional Materials Access Center (NIMAC).** Federally funded electronic file repository that makes National Instructional Materials Accessibility Standard (NIMAS) files available for producing materials in specialized formats.
http://www.nimac.us/

B. **National Center on Accessible Educational Materials (AEM).** This site provides resources for educators, parents, students, and many others on accessible educational materials and NIMAS.
http://aem.cast.org/

C. **AEM Navigator.** An online process facilitator that guides the work of a collaborative team as they work through the accessible educational materials needs of individual students.
http://aim.cast.org/navigator/page/

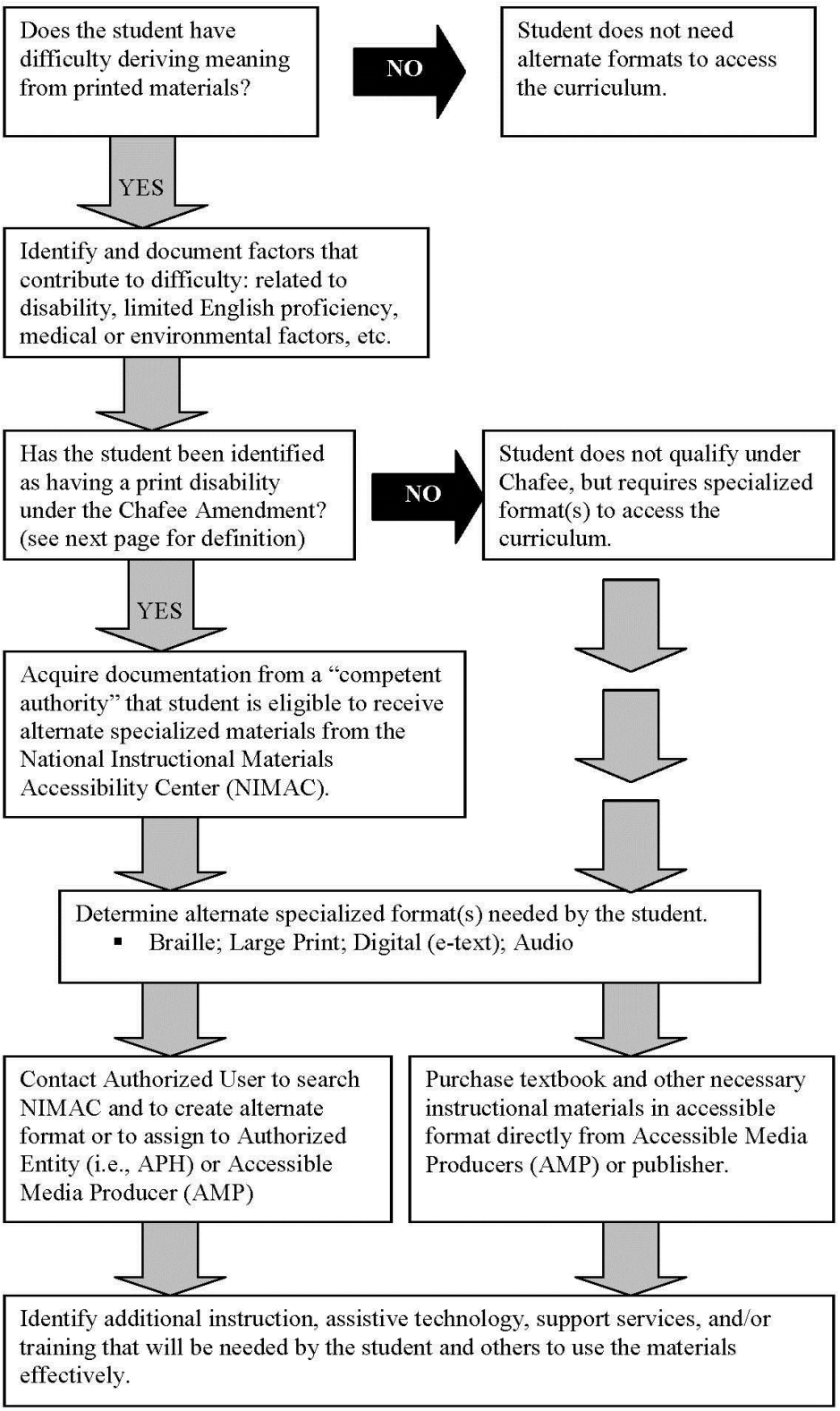
D. **American Printing House for the Blind (APH).** Provides materials and products designed primarily for individuals who are blind or visually impaired, using a variety of means, including NIMAS source files for production of digital and hard –copy braille, large print, and digital files for e-readers.
http://www.aph.org/

E. **Bookshare.** A national, nonprofit organization that maintains an online accessible library of copyrighted ebooks for individuals with print disabilities.
https://www.bookshare.org/cms
In addition, **Bookshare** members can add the **Read to Go** application to any mobile device to easily find, download, and read books.
http://read2go.org/

F. **Learning Ally**. A national, nonprofit, largely volunteer organization that provides an extensive audio book library for qualifying individuals of all ages who cannot read or use standard print.
http://www.learningally.org/

## 2. NIMAS Flowchart

## FLOWCHART FOR DETERMINATION AND ACQUISITION OF SPECIALIZED ACCESSIBLE INSTRUCTIONAL MATERIALS



# FLOWCHART FOR DETERMINATION AND ACQUISITION OF SPECIALIZED ACCESSIBLE INSTRUCTIONAL MATERIALS

## The Chafee Amendment and the NIMAS

The Chafee amendment is a "limitation to exclusive rights" amendment to the Copyright Act that stipulates that allows authorized entities such as American Printing House or Reading for the Blind and Dyslexic to reproduce or distribute copies of previously published non-dramatic literary works into specialized formats to be used exclusively by persons who are blind or who have other print disabilities.

1. Specialized formats referred to Braille, audio, or digital text.
2. IDEA 2004 expanded the definition of specialized formats initially developed in the Chafee Amendment to include Large Print formats.
3. School districts should keep on file documentation of students' eligibility to use NIMAS files. Proof of a student's disability needs to be certified by a qualified professional, as explained below.
4. The National Instructional Materials Accessibility Standard (NIMAS) takes into account publishers' copyright protection. Violating copyright law is a legitimate concern for schools, publishers, and the federal government. School districts are advised to maintain documentation that verifies a student to be eligible to receive specialized formats through the NIMAC or under the Chafee Amendment due to a print disability as determined by a competent authority.

## Competent Authority

Library of Congress federal regulations defines competent authority in 36 CFR 701.6(b)(2)

1. In cases of blindness, visual disability, or physical disabilities a competent authority includes:
   - Doctors of medicine
   - Doctors of osteopathy
   - Ophthalmologists and optometrists
   - Registered nurses
   - Therapists
   - Professional staff of hospitals, institutions, and public or welfare agencies (e.g., social workers, case workers, counselors, rehabilitation teachers, and superintendents).
2. In the case of a reading disability from organic dysfunction, competent authority is defined as
   - Doctors of medicine who may consult with colleagues in associated disciplines.

## Bookshare for Education (B4E)

Benetech was awarded OSEP funding for 5 years to develop and implement Bookshare for Education (B4E). As of October 1, 2007, Bookshare no longer charges a membership fee to students with print disabilities. School districts can sign up their students for free individual memberships to download books on their own. Students under the age of 18 will need permission from a parent or guardian. For more information on how to open individual memberships for students, go to http://www.bookshare.org/web/SupportOrgSignUpInfo.html. Bookshare's textbook library of digital talking books is growing and NIMAS filesets of textbook titles are now assigned to this national accessible media producer (AMP) on a daily basis. Authorized users may assign titles to Bookshare via the NIMAC. For more information about Bookshare and NIMAC, go to http://www.bookshare.org/download/NIMAC-FAQ.doc

# ***Appendix D*** *- Quality Indicators for Assistive Technology*

## 1. Resource Links

A. **The Quality Indicators for Assistive Technology (QIAT).** A website dedicated to guiding the development of quality assistive technology services through access to resources for educators. http://www.qiat.org/

## 2. Consideration of AT Needs

## 3. Assessment of AT Needs

## 4. AT in the IEP

***A. Documenting AT in the IEP***

## 5. AT Implementation

## 6. Evaluation of the Effectiveness of AT

## 7. AT in Transition

## Quality Indicators for Consideration of Assistive Technology Needs

Consideration of the need for AT devices and services is an integral part of the educational process contained in IDEA for referral, evaluation, and IEP development. Although AT is considered at all stages of the process, the Consideration Quality Indicators are specific to the consideration of AT in the development of the IEP as mandated by the Individuals with Disabilities Education Act (IDEA). In most instances, the Quality Indicators are also appropriate for the consideration of AT for students who qualify for services under other legislation (e.g., 504, ADA).

1. **Assistive technology devices and services are considered for all students with disabilities regardless of type or severity of disability.**

   Intent: Consideration of assistive technology need is required by IDEA and is based on the unique educational needs of the student. Students are not excluded from consideration of AT for any reason. (e.g., type of disability, age, administrative concerns)

2. **During the development of an individualized educational program, every IEP team consistently uses a collaborative decision-making process that supports systematic consideration of each student's possible need for assistive technology devices and services.**

   Intent: A collaborative process that ensures that all IEP teams effectively consider the assistive technology of students is defined, communicated, and consistently used throughout the agency. Processes may vary from agency to agency to most effectively address student needs under local conditions.

3. **IEP team members have the collective knowledge and skills needed to make informed assistive technology decisions and seek assistance when needed.**

   Intent: IEP team members combine their knowledge and skills to determine if assistive technology devices and services are needed to remove barriers to student performance. When the assistive technology needs are beyond the knowledge and scope of the IEP team, additional resources and support are sought.

4. **Decisions regarding the need for assistive technology devices and services are based on the student's IEP goals and objectives, access to curricular and extracurricular activities, and progress in the general education curriculum.**

   Intent: As the IEP team determines the tasks the student needs to complete and develops the goals and objectives, the team considers whether assistive technology is required to accomplish those tasks.

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5. **The IEP team gathers and analyzes data about the student, customary environments, educational goals, and tasks when considering a student's needs for assistive technology devices and services.**

   Intent: The IEP team shares and discusses information about the student's present levels of achievement in relationship to the environments, and tasks to determine if the student requires assistive technology devices and services to participate actively, work on expected tasks, and make progress toward mastery of educational goals.

6. **When assistive technology is needed, the IEP team explores a range of assistive technology devices, services, and other supports that address identified needs.**

   Intent: The IEP team considers various supports and services that address the educational needs of the student and may include no tech, low tech, mid-tech and/or high tech solutions and devices. IEP team members do not limit their thinking to only those devices and services currently available within the district.

7. **The assistive technology consideration process and results are documented in the IEP and include a rationale for the decision and supporting evidence.**

   Intent: Even though IEP documentation may include a checkbox verifying that assistive technology has been considered, the reasons for the decisions and recommendations should be clearly stated. Supporting evidence may include the achievement with and without assistive technology, student preferences for competing devices, and teacher observations, among others.

**COMMON ERRORS:**

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 goals 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 its decisions.

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## Quality Indicators for Assessment of Assistive Technology Needs

Quality Indicators for Assessment Technology Needs is a process conducted by a team, used to identify tools and strategies to address a student's specific need(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.

1. **Procedures for all aspects of assistive technology assessment are clearly defined and consistently applied.**

   Intent: Throughout the educational agency, personnel are well-informed and trained about assessment procedures and how to initiate them. There is consistency throughout the agency in the conducting of assistive technology assessments. Procedures may include – but are not limited to – initiating an assessment, planning and conducting an assessment, conducting trials, reporting results, and resolving conflicts.

2. **Assistive technology assessments are conducted by a team with the collective knowledge and skills needed to determine possible assistive technology solutions that address the needs and abilities of the student, demands of the customary environments, educational goals, and related activities.**

   Intent: Team membership is flexible and varies according to the knowledge and skills needed to address student needs. The student and family are active team members. Various team members bring different information and strengths to the assessment process.

3. **All assistive technology assessments include a functional assessment in the student's customary environments, such as the classroom, lunchroom, playground, home, community setting, or work place.**

   Intent: The assessment process includes activities that occur in the student's current or anticipated environments because characteristics and demands in each may vary. Team members work together to gather specific data and relevant information in identified environments to contribute to assessment decisions.

4. **Assistive technology assessments, including needed trials, are completed within reasonable time lines.**

   Intent: Assessments are initiated in a timely fashion and proceed according to a timeline that the IEP team determines to be a reasonable based on the complexity of students needs and assessment questions. Timelines comply with applicable state and agency requirements.

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5. **Recommendations from assistive technology assessments are based on data about the student, environments and tasks.**

   Intent: The assessment includes information about the student's needs and abilities, demands of various environments, educational tasks, and objectives. Data may be gathered from sources such as student performance records, results of experimental trials, direct observation, interviews with students or significant others, and anecdotal records.

6. **The assessment provides the IEP team with clearly documented recommendations that guide decisions about the selection, acquisition, and use of assistive technology devices and services.**

   Intent: A written rationale is provided for any recommendations that are made. Recommendations may include assessment activities and results, suggested devices and alternative ways of addressing needs, services required by the student and others, and suggested strategies for implementation and use.

7. **Assistive technology needs are reassessed any time changes in the student, the environments and/or the tasks result in the student's needs not being met with current devices and/or services.**

   Intent: An assistive technology assessment is available any time it is needed due to changes that have affected the student. The assessment can be requested by the parent or any other member of the IEP team.

## COMMON ERRORS

1. Procedures for conducting AT assessment are not defined, or are not customized to meet the student's needs.
2. A team approach to assessment is not utilized.
3. Individuals participating in an assessment do not have the skills necessary to conduct the assessment, and do not seek additional help.
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.

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## Quality Indicators for Including Assistive Technology in the IEP

The Individuals with Disabilities Education Improvement Act (IDEA) requires that the IEP team consider AT needs in the development of every Individualized Education Program (IEP). Once the IEP team has reviewed assessment results and determined that AT is needed for provision of a free, appropriate, public education (FAPE), 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 describe the role of AT in the child's educational program.

1. **The education agency has guidelines for documenting assistive technology needs in the IEP and requires their consistent application**.

   Intent: The education agency provides guidance to IEP teams about how to effectively document assistive technology needs, devices, and services as a part of specially designed instruction, related services or supplementary aids and services.

2. **All services that the IEP team determines are needed to support the selection, acquisition, and use of assistive technology devices are designated in the IEP.**

   Intent: The provision of assistive technology services is critical to the effective use of assistive technology devices. It is important that the IEP describes the assistive technology services that are needed for student success. Such services may include evaluation, customization or maintenance of devices, coordination of services, and training for the student and family and professionals, among others.

3. **The IEP illustrates that assistive technology is a tool to support achievement of goals and progress in the general curriculum by establishing a clear relationship between student needs, assistive technology devices and services, and the student's goals and objectives.**

   Intent: Most goals are developed before decisions about assistive technology are made. However, this does not preclude the development of additional goals, especially those related specifically to the appropriate use of assistive technology.

4. **IEP content regarding assistive technology use is written in language that describes how assistive technology contributes to achievement of measurable and observable outcomes.**

   Intent: Content which describes measurable and observable outcomes for assistive technology use enables the IEP team to review the student's progress and determine whether the assistive technology has had the expected impact on student participation and achievement.

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5. **Assistive technology is included in the IEP in a manner that provides a clear and complete description of the devices and services to be provided and used to address student needs and achieve expected results.**

   Intent: IEPs are written so that participants in the IEP meeting and others who use the information to implement the student's program understand what technology is to be available, how it is to be used, and under what circumstances. "Jargon" should be avoided.

**COMMON ERRORS:**

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

   Intent: Learning opportunities needed by the student, staff, and family are based on how the assistive technology will be used in each unique environment. Training and technical assistance are planned and implemented as ongoing processes based on current and changing needs.

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## Quality Indicators for Assistive Technology Implementation

Assistive technology implementation pertains to the ways that assistive technology devices and services, as included in the IEP (including goals/objectives, related services, supplementary aids and services and accommodations or modifications) are delivered and integrated into the student's educational program. Assistive technology implementation involves people working together to support the student using assistive technology to accomplish expected tasks necessary for active participation and progress in customary educational environments.

1. **Assistive technology implementation proceeds according to a collaboratively developed plan.**

   Intent: Following IEP development, all those involved in implementation work together to develop a written action plan that provides detailed information about how the AT will be used in specific educational settings, what will be done and who will do it.

2. **Assistive technology is integrated into the curriculum and daily activities of the student across environments.**

   Intent: Assistive technology is used when where it is needed to facilitate the student's access to, and mastery of, the curriculum. Assistive technology may facilitate active participation in educational activities, assessments, extracurricular activities, and typical routines.

3. **Persons supporting the student across all environments in which the assistive technology is expected to be used share responsibility for implementation of the plan.**

   Intent: All persons who work with the student know their roles and responsibilities, are able to support the student using assistive technology, and are expected to do so.

4. **Persons supporting the student provide opportunities for the student to use a variety of strategies – including assistive technology – and to learn which strategies are most effective for particular circumstances and tasks.**

   Intent: When and where appropriate, students are encouraged to consider and use alternative strategies to remove barriers to participation or performance. Strategies may include the student's natural abilities, use of assistive technology, other supports, or modifications to the curriculum, task or environment.

5. **Learning opportunities for the student, family and staff are an integral part of implementation.**

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Intent: Learning opportunities needed by the student, staff, and family are based on how the assistive technology will be used in each unique environment. Training and technical assistance are planned and implemented as ongoing processes based on current and changing needs.

6. **Assistive technology implementation is initially based on assessment data and is adjusted based on performance data.**

   Intent: Formal and informal assessment data guide initial decision-making and planning for AT implementation. As the plan is carried out, student performance is monitored and implementation is adjusted in a timely manner to support student progress.

7. **Assistive technology implementation includes management and maintenance of equipment and materials**.

   Intent: For technology to be useful it is important that equipment management responsibilities are clearly defined and assigned. Though specifics may differ based on the technology, some general areas may include organization of equipment and materials; responsibility for acquisition, set-up, repair, and replacement in a timely fashion; and assurance that equipment is operational.

## COMMON ERRORS

1. Implementation is expected to be smooth and effective without addressing specific components in a plan. Team members assume that everyone understands what needs to happen and knows what to do.
2. Plans for implementation are created and carried out by one IEP team member.
3. The team focuses on device acquisition and does not discuss implementation.
4. An implementation plan is developed that is incompatible with the instructional environments.
5. No one takes responsibility for the care and maintenance of AT devices and so they are not available or in working order when needed.
6. Contingency plans for dealing with broken or lost devices are not made in advance.

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## Quality Indicators for Evaluation of the Effectiveness of Assistive Technology

This area addresses the evaluation of the effectiveness of the AT devices and services that are provided to individual students. It includes data collection, documentation and analysis to monitor changes in student performance resulting from the implementation of assistive technology services. Student performance is reviewed in order to identify if, when, or where modifications and revisions to the implementation are needed.

1. **Team members share clearly defined responsibilities to ensure that data are collected, evaluated, and interpreted by capable and credible team members.**

   Intent: Each team member is accountable for ensuring that the data collection process determined by the team is implemented. Individual roles in the collection and review of the data are assigned by the team. Data collection, evaluation, and interpretation are led by persons with relevant training and knowledge.

2. **Data are collected on specific student achievement that has been identified by the team and is related to one or more goals.**

   Intent: In order to evaluate the success of assistive technology use, data are collected on various aspects of student performance and achievement. Targets for data collection include the student's use of assistive technology to progress toward mastery of relevant IEP and curricular goals and to enhance participation in extracurricular activities at school and in other environments.

3. **Evaluation of effectiveness includes the quantitative and qualitative measurement of changes in the student's performance and achievement.**

   Intent: Changes target for data collection are observable and measurable, so that data are as objective as possible. Changes identified by the IEP team for evaluation may include accomplishment of relevant tasks, how assistive technology is used, student preferences, productivity, participation, and independence, quality of work, speed and accuracy of performance, and student satisfaction, among others.

4. **Effectiveness is evaluated across environments during naturally occurring and structured activities.**

   Intent: Relevant tasks within each environment where the assistive technology is to be used are identified. Data needed and procedures for collecting those data in each environment are determined.

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5. **Data are collected to provide teams with a means for analyzing student achievement and identifying supports and barriers that influence assistive technology use to determine what changes if any, are needed.**

   Intent: Teams regularly analyze data on multiple factors that may influence success or lead to errors in order to guide decision-making. Such factors include not only the student's understanding of expected tasks and ability to use assistive technology but also student preferences, intervention strategies, training and opportunities to gain proficiency.

6. **Changes are made in the student's assistive technology services and educational program when evaluation data indicate that such changes are needed to improve student achievement**.

   Intent: During the process of reviewing evaluation data, the team decides whether changes or modifications need to be made in the assistive technology, expected tasks, or factors within the environment. The team acts on those decisions and supports their implementation.

7. **Evaluation of effectiveness is a dynamic, responsive, ongoing process that is reviewed periodically.**

   Intent: Scheduled data collection occurs over time and changes in response to both expected and unexpected results. Data collection reflects measurement strategies appropriate to the individual student's needs. Team members evaluate and interpret data during periodic progress reviews.

**COMMON ERRORS:**

1. An observable, measurable student behavior is not specified as a target for change.
2. Team members do not share responsibility for evaluation of effectiveness.
3. An environmentally appropriate means of data collection and strategies has not been identified.
4. A schedule of program review for possible modification is not determined before implementation begins.

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## Quality Indicators for Assistive Technology Transition

Transition plans for students who use assistive technology address the ways the student's use of assistive technology devices and services are transferred from one setting to another. Assistive technology transition involves people from different classrooms, programs, buildings, or agencies working together to ensure continuity. Self-advocacy, advocacy and implementation are critical issues for transition planning.

1. **Transition plans address assistive technology needs of the student, including roles and training needs of team members, subsequent steps in assistive technology use, and follow-up after transition takes place.**

   Intent: The comprehensive transition plan required by IDEA assists the receiving agency/team to successfully provided needed supports for the AT user. This involves the assignment of responsibilities and the establishment of accountability.

2. **Transition planning empowers the student using assistive technology to participate in the transition planning at a level appropriate to age and ability**.

   Intent: Specific self-determination skills are taught that enable the student to gradually assume responsibility for participation and leadership in AT transition planning as capacity develops. AT tools are provided, as needed, to support the student's participation.

3. **Advocacy related to assistive technology use is recognized as critical and planned for by teams involved in transition.**

   Intent: Everyone involved in transition advocates for the student's progress, including the student's use of AT. Specific advocacy tasks related to AT use are addressed and may be carried out by the student, the family, staff members or a representative.

4. **AT requirements in the receiving environment are identified during the transition planning process.**

   Intent: Environmental requirements, skill demands and needed AT support are determined in order to plan appropriately. This determination is made collaboratively and with active participation by representatives from sending and receiving environments.

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5. **Transition planning for students using assistive technology proceeds according to an individualized timeline.**

   Intent: Transition planning timelines are adjusted based on specific needs of the student and differences in environments. Timelines address well mapped action steps with specific target dates and ongoing opportunities for reassessment.

6. **Transition plans address specific equipment, training and funding issues such as transfer or acquisition of assistive technology, manuals and support documents.**

   Intent: A plan is developed to ensure that the AT equipment, hardware, and/or software arrives in working condition accompanied by any needed manuals. Provisions for ongoing maintenance and technical support are included in the plan.

**COMMON ERRORS:**

1. Lack of self-determination, self-awareness and self-advocacy on part of the individual with a disability (and/or advocate).
2. Lack of adequate long range planning on part of sending and receiving agencies (timelines).
3. Inadequate communication and coordination.
4. Failure to address funding responsibility.
5. Inadequate evaluation (documentation, data, communication, valued across settings) process.
6. Philosophical differences between sending and receiving agencies.
7. Lack of understanding of the law and of their responsibilities.

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# ***Appendix E*** *- Resource Guides for Consideration of AT*

## 1. Resource Links

**The Wisconsin Assistive Technology Initiative (WATI).** Originally funded through the Wisconsin Department of Education, the WATI site provides resources for educators on all aspects of AT.
http://wati.org/

**Georgia Project for Assistive Technology (GPAT**). A unit of the Georgia Department of Education, GPAT supports schools in their efforts to provide assistive technology devices and services to students with disabilities.
http://www.gpat.org/Georgia-Project-for-Assistive-Technology/Pages/default.aspx

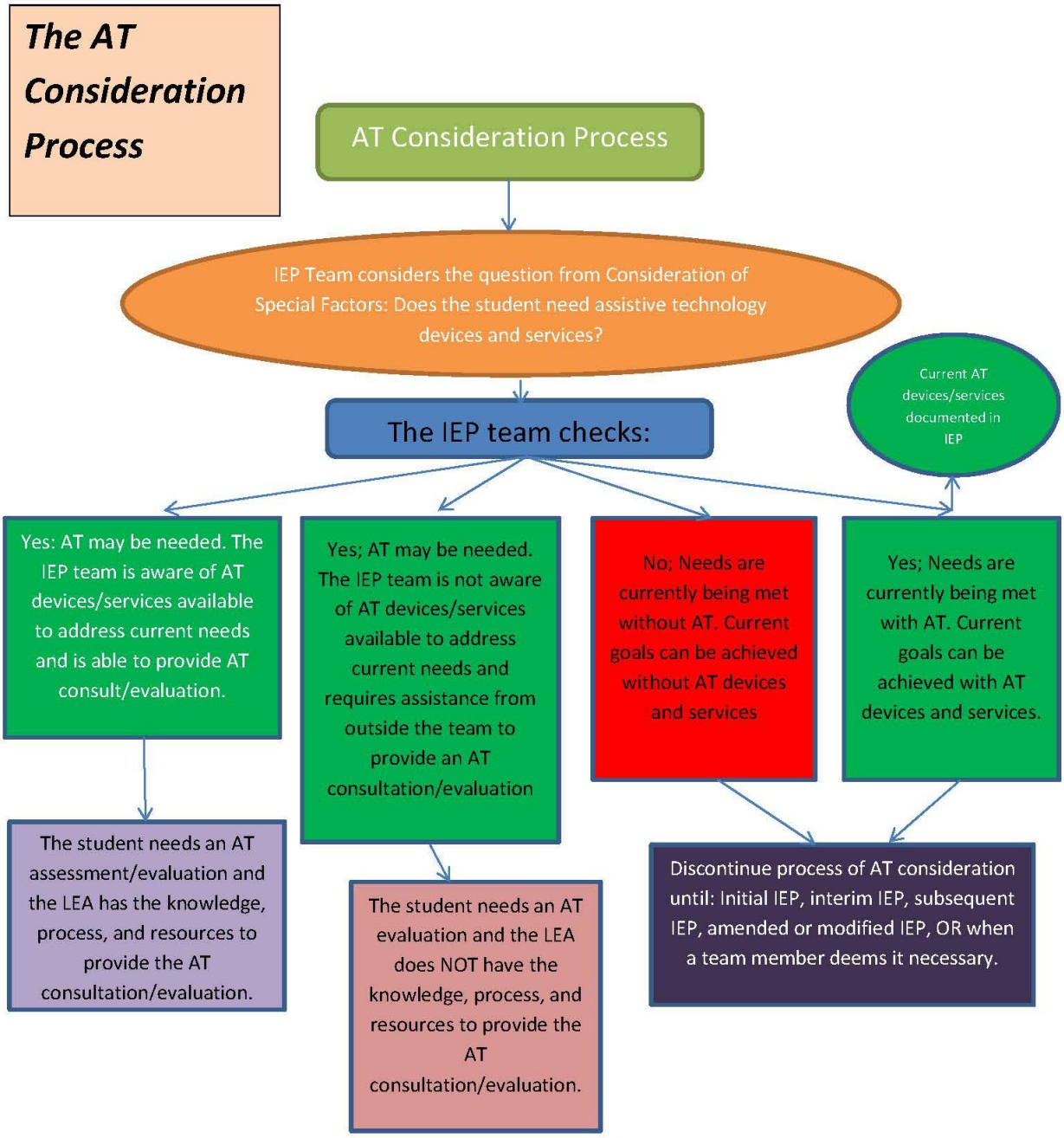
**Ohio Center for Low Incidence Disabilities (OCALI).** The Assistive Technology Center at OCALI features resources on all aspects of the AT process.
http://www.ocali.org/center/at

**The Texas Assistive Technology Network (TATN).** Website with training modules, including one on the AT consideration process.
http://www.texasat.net/default.aspx?name=trainmod.consideration

## 2. Assistive Technology Consideration Graphic

## 3. Wisconsin Assistive Technology Initiative (WATI) AT Consideration Guide (found on TIENET).

## 4. Georgia Assistive Technology Project Resource Guide




Adapted from: *Technical Assistance Guide: Assistive Technology for Children and Youth with Disabilities, IDEA Part B.* Oklahoma State Department of Education, Special Education Services, 2013.

Georgia Project for Assistive Technology

# Assistive Technology Consideration Resource Guide

**This is a companion document to the GPAT Assistive Technology Consideration Process Guide to assist IEP teams by providing examples of each area within the AT Consideration Process Guide. Each column contains general examples for each area but is not considered all inclusive. Remember that others who are not familiar with the student may refer to this document to provide supports.**

| **Assistive Technology Services** – applies to all instructional and/or access areas. |
|---|
| • Activities that help teams select, acquire and/or provide technical assistance in the use of assistive technology devices<br>  ○ Assistive Technology Evaluation of the student<br>  ○ Acquisition of AT - purchasing or leasing<br>  ○ Selecting, designing, fitting, customizing, adapting, applying, maintaining, replacing, and/or repairing AT devices<br>  ○ Coordinating and using other therapies, interventions or services with AT devices<br>  ○ Training or technical assistance for student or student's family<br>  ○ Training or technical assistance for professionals, employees or others who are involved with the student |

**Useful Notes for Using this Resource Guide**

**Column A**: Relates to basic instructional tasks which support the Common Core Georgia Performance Standards (CCGPS) and/or other tasks

**Column B**: Standard classroom materials available for student use (listed in alphabetical order)

**Column C**: Accommodations, modifications and/or strategies (listed in alphabetical order)

**Column D**: Potential Assistive Technology solutions (corresponds to Columns D and E on the GPAT Consideration Process Guide)

| A. Area and Sample Instructional Tasks | B. Standard Classroom Materials | C. Accommodations/Modifications/ Strategies | D. Assistive Technology Solutions |
|---|---|---|---|
| **Writing/Written Composition:**<br>• Draw/illustrate<br>• Write name<br>• Copy information<br>• Write letters/words/numbers<br>• Align numbers and text<br>• Write from dictation<br>• Writes legibly<br>• Complete written worksheets and/or tests<br>• Outline/organize thoughts<br>• Write sentences, paragraphs or narratives<br>• Take notes<br>• Graph<br>• Use appropriate spelling, | • Computer/tablet/word processor<br>• Crayon/Marker<br>• Dictionary, grammar and/or spell checker<br>• Document camera<br>• Interactive whiteboard<br>• Letter and number strip<br>• Paper/writing surface<br>• Pen<br>• Pencil | • Change format or substitute alternatives for written assignments<br>• Decrease assignment length<br>• Decrease number of responses<br>• Increase print size<br>• Increase time<br>• Optimal student seating<br>  ○ appropriate lighting (not facing glare or in shadows)<br>  ○ away from extraneous noises<br>  ○ close proximity to the teacher (distance)<br>  ○ individualized visual | • Pencil grip or other alternative writing aids<br>• Adapted paper<br>  ○ bold line<br>  ○ raised line<br>  ○ different spacing<br>  ○ colored<br>  ○ graph<br>• Positioning Aids (slant board/clip board)<br>• Non-slip material<br>• Personal dry erase board<br>• Slate and stylus<br>• Timers<br>• Device, software or app<br>  ○ spell and grammar checker<br>  ○ outlining/ graphic organizers |

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# Assistive Technology Consideration Resource Guide

| A. Area and Sample Instructional Tasks | B. Standard Classroom Materials | C. Accommodations/Modifications/ Strategies | D. Assistive Technology Solutions |
|---|---|---|---|
| grammar, punctuation, and/or capitalization<br>• Use digital tools to produce and publish writing<br>• Writes within time frames | | proximity to educational environment/materials<br>• Oral dictation<br>• Peer note taker<br>• Picture symbols to supplement written words<br>• Pre-teach content specific vocabulary<br>• Provide outline or copy of lecture notes<br>• Use outline and/or webbing strategies<br>• Word banks, sentence starters, and cloze format writing activities for supports | ○ note taking<br>○ word prediction<br>○ word processor<br>▪ text-and-picture-based<br>▪ text-to-speech (talking)<br>▪ speech recognition<br>▪ portable<br>○ anti-glare screen<br>○ digital recorders/recording software<br>○ smartpen<br>○ onscreen keyboard<br>○ screen enlargement<br>○ document scanner<br>○ electronically scanned worksheets<br>○ online dictionaries<br>○ literacy suite software<br>○ advanced reading and writing aid software that includes:<br>▪ Optical Character Recognition<br>▪ text-to-speech with highlighting<br>▪ study tools<br>▪ dictionary<br>▪ word prediction<br>○ braille writer<br>○ braille note taker with refreshable display<br>• Alternate access/accessibility features<br>○ adapted pointers<br>○ alternative mice<br>○ keyguards<br>○ alternative keyboards<br>○ switch access<br>○ screen readers<br>○ speech recognition<br>○ magnifiers |

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|---|---|---|---|
| **Spelling:**<br>• Identify correctly spelled word<br>• Write spelling words from dictation<br>• Spell words orally<br>• Use correct homonyms<br>• Look up words<br>• Complete writing tasks with correct spelling | • Alphabet strip<br>• Computer/tablet/word processor<br>• Dictionary, grammar and/or spell checker<br>• Document camera<br>• Flashcards<br>• Interactive whiteboard | • Peer/adult assistance<br>• Personal dictionary<br>• Preview of vocabulary<br>• Use synonyms<br>• Word wall/list | • Phonics phone<br>• Portable spell checker with or without auditory output<br>• Device, software or app<br>○ spell and grammar checker<br>○ word prediction<br>○ word processor<br>▪ picture-based<br>▪ text-to-speech<br>▪ speech recognition<br>○ online dictionaries<br>○ advanced reading and writing aid software that includes:<br>▪ Optical Character Recognition<br>▪ text-to-speech with highlighting<br>▪ study tools<br>▪ dictionary<br>▪ word prediction |
| **Reading:**<br>• Positioning reading material<br>• Identify letters/numbers<br>• Recognize/read name<br>• Decodes words<br>• Read common high-frequency words by sight<br>• Read words, sentences and/or longer passages<br>• Comprehend age/grade appropriate reading materials<br>○ Literal meaning<br>○ Inferential meaning<br>○ Main idea<br>• Summarize key points<br>• Retell stories with key details in correct sequence | • Computer/tablet/word processor<br>• Document camera<br>• Electronic texts<br>• Interactive whiteboard<br>• Projected information<br>• Supplemental texts<br>• Tests<br>• Textbooks<br>• Whiteboard<br>• Worksheets | • Change complexity of material<br>• Custom vocabulary list<br>• Decrease assignment length<br>• High interest, low reading level materials<br>• Highlight to emphasize key points<br>• Increase print size<br>• Increase time<br>• Optimal student seating<br>○ appropriate lighting (not facing glare or in shadows)<br>○ away from extraneous noises<br>○ close proximity to the teacher (distance) | • Page fluffers<br>• Positioning Aids (slant board/book holders for positioning books)<br>• Colored paper, overlay filters or lens<br>• Tracking aids<br>• Portable dictionary with speech output<br>• Handheld reading devices<br>• Specialized format books<br>○ large print<br>○ audio<br>○ electronic (eBook)<br>○ braille<br>• Adapted books<br>• Device, software or app<br>○ variable color text/background combinations<br>○ word processor |

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|---|---|---|---|
| • Reads with fluency | | ○ individualized visual proximity to educational environment/materials<br>• Peer/adult assistance<br>• Pre-teach new vocabulary<br>• Provide key points/details ahead of time<br>• Provide picture symbols to supplement printed words<br>• Provide questions ahead of time Provide two sets of textbooks<br>• Read text aloud<br>• Supplement print with audio | ▪ picture-based<br>▪ text-to-speech<br>○ eBook Readers<br>○ literacy suite software<br>○ document scanner<br>○ advanced reading and writing aid software that includes:<br>▪ Optical Character Recognition<br>▪ text-to-speech with highlighting<br>▪ study tools<br>▪ dictionary<br>▪ word prediction<br>○ braille note taker with refreshable display<br>• Alternate access/accessibility features<br>○ adapted pointers<br>○ alternative mice<br>○ keyguards<br>○ alternative keyboards<br>○ switch access<br>○ screen readers<br>○ magnifiers |
| **Math:**<br>• Identify numbers<br>• Use number concepts<br>• Complete basic calculations<br>• Complete complex calculations<br>• Complete math word problems<br>• Use time concepts<br>• Use money concepts<br>• Use measurement concepts<br>• Use geometric concepts<br>• Use fractions and decimals<br>• Use and interpret data<br>• Explain knowledge of mathematical process | • Calculator<br>• Computer/tablet/word processor<br>• Document camera<br>• Formula sheet<br>• Graph paper<br>• Interactive whiteboard<br>• Manipulatives<br>• Math chart<br>• Math drawing tools<br>• Math fact sheet<br>• Number line | • Change assignment format<br>• Change complexity of material<br>• Color-code operation symbols and/or text<br>• Decrease assignment length<br>• Dictionary of math terms<br>• Group similar problems together<br>• Have students verbalize the process<br>• Increase print size<br>• Increased time<br>• Peer/adult assistance<br>• Provide additional spacing between problems | • Adapted paper<br>• Tactile graphics<br>• Calculator<br>• Alternative calculators<br>○ talking<br>○ on-Screen<br>○ braille<br>○ money<br>• Talking watch/clock<br>• Device, Software or App<br>○ equation editors<br>○ math translator<br>○ document scanner<br>○ electronic math worksheets |

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| | | • Re-phrase vocabulary in word problems<br>• Turn lined paper vertically for ready-made columns | ○ graphing<br>○ color identifier<br>○ money identifier<br>• Adapted measuring devices<br>○ measuring cups<br>○ talking tape measures<br>○ rulers<br>○ compasses or protractors<br>○ thermometers |
| **Study Organizational Skills:**<br>• Maintain dedicated study time<br>• Maintain 'to do' list<br>• Follow organizational system<br>• Keep track of assignments<br>• Follow steps to complete assignments<br>• Complete assigned task within designated timelines<br>• Request teacher/peer assistance when needed<br>• Have appropriate materials/ supplies<br>• Identify important points<br>• Compile and organize information from various sources | • Agendas<br>• Calendars<br>• Classroom reminders<br>• Computer/tablet/word processor<br>• Document camera<br>• Interactive whiteboard<br>• Notebooks<br>• Parent/student portals<br>• Rubrics<br>• Social learning networks<br>• Study guides<br>• Syllabuses | • Additional spacing between desks<br>• Assignment sheet<br>• Color coding<br>• Daily planner book<br>• Dedicated study time<br>• Highlighters/sticky notes<br>• Optimal student seating<br>○ appropriate lighting (not facing glare or in shadows)<br>○ away from extraneous noises<br>○ close proximity to the teacher (distance)<br>○ individualized visual proximity to educational environment/materials<br>• Outline of key points<br>• Peer/adult assistance<br>• Provide extra supplies of classroom materials<br>• Provide long-term assignment timelines<br>• Provide oral and printed directions | • Digital recorder<br>• Device, software or app<br>○ auditory reminders<br>○ speech prompting<br>○ daily planners<br>○ outlining/graphic organizers<br>○ advanced reading and writing aid software that includes:<br>▪ Optical Character Recognition<br>▪ text-to-speech with highlighting<br>▪ study tools<br>▪ dictionary<br>▪ word prediction<br>○ braille note taker with refreshable display<br>• Timers<br>• Specialized tote for students with visual impairments |

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| | | • Provide portable electronic storage file system<br>  ○ cloud technology<br>  ○ portable hard drive<br>  ○ USB flash drive<br>• Provide print copies of ordered steps in a task<br>• Sensory supports<br>  ○ auditory<br>  ○ tactile<br>  ○ visual<br>• Show a model of the end product<br>• Student checklist<br>• Study carrel | |
| **Hearing/Listening:**<br>• Follow verbal directions<br>• Listen to stories and answer questions<br>• Listen to classroom discussion and apply information<br>• Listen to teacher lecture and apply information<br>• Listen to verbally presented information and retell with correct sequencing and facts<br>• Listen to videos to gather information about current instructional topics<br>• Respond to environmental stimuli appropriately (someone knocking on classroom door, bell ringing, fire alarm)<br>• Paraphrase information heard<br>• Focus on/understand verbal responses by classroom peers | • Closed captioning access to caption ready television and video presentations<br>• Computer/tablet/word processor<br>• Digital recorder/player<br>• Headphones for clarity of sound and blocking of extraneous noises<br>• Document camera<br>• Interactive whiteboard<br>• Projection system/ overhead projector<br>• Television<br>• Video player | • Audio-tape verbally presented information for repeated presentation<br>• Break directions into smaller steps/segments<br>• Have student verbally summarize directions<br>• Optimal student seating<br>  ○ appropriate lighting (not facing glare or in shadows)<br>  ○ away from extraneous noises<br>  ○ close proximity to the teacher (distance)<br>  ○ individualized visual proximity to educational environment/materials<br>• Peer note-taker<br>• Pre-teach vocabulary and/or components of the lesson | • Amplification systems<br>  ○ soundfield system<br>  ○ assistive listening devices<br>• Alerting devices<br>• Telecommunication devices<br>• Digital recorder with indexing capability<br>• Device, software or app<br>  ○ audiobooks<br>  ○ note taking<br>  ○ smartpen<br>  ○ speech recognition for converting teacher lecture to text and/or sign<br>• Closed captioning<br>• Translation services |

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| • Understand auditory information presented via instructional media | | • Provide a written outline of lecture<br>• Provide organizer in advance<br>• Provide print copy of script in videotapes<br>• Provide sign language/oral interpreter<br>• Provide unobstructed view of the teacher<br>• Reduce distractions<br>• Use gestures<br>• Use verbal prompts<br>• Use visual supports (picture symbols, diagrams, maps) | |
| **Oral Communication/Language:**<br>• Gain attention of peers/adults within environment<br>• Express wants/needs<br>• Request assistance as needed<br>• Provide appropriate greetings<br>• Inform others<br>• Request clarification<br>• Participate in collaborative conversations<br>• Terminate conversation<br>• Ask and answer questions<br>• Retell stories<br>• Describe<br>• Define<br>• Sequence<br>• Explain<br>• Summarize<br>• Compare and contrast<br>• Persuade<br>• Give oral presentations | • Books<br>• Computer/tablet/word processor<br>• Document camera Interactive Whiteboard<br>• Manipulatives<br>• Non-verbal communication (gestures and body language)<br>• Verbal communication<br>• Writing materials | • Accept alternative responses (i.e. shortened, single word, less grammatically correct)<br>• Accept descriptive responses<br>• Additional response time<br>• Aided language stimulation<br>• Engineering the environment<br>• Interpreter<br>• Model use of communication device<br>• Provide questions ahead of time<br>• Repetition of spoken answers<br>• Teacher modeling<br>• Use 'Total Communication'<br>• Verbal prompts<br>• Video modeling<br>• Visual supports | • Speech amplification systems<br>• Communication representation (objects, pictures, symbols, tactile, letters, words)<br>• Augmentative & Alternative Communication (AAC) solutions<br>  ○ sign language / gestures<br>  ○ communication books/boards/wallets/vests<br>  ○ Picture Exchange Communication Systems<br>  ○ voice Output Communication Aids<br>  ▪ digitized / synthesized<br>  ▪ multi-level<br>  ▪ static / dynamic display<br>  ▪ computer/tablet app-based<br>• Device, Software or App<br>  ○ computer<br>  ○ tablet<br>• Alternate access/accessibility features<br>  ○ adapted pointers<br>  ○ alternative mice<br>  ○ alternative keyboards<br>  ○ switch access |

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| | | | ○ screen readers<br>○ magnifiers<br>• Graphic organizers<br>• Digital recorders |
| **Activities of Daily Living:**<br>• Feeding self<br>• Prepare snack & meals<br>• Dressing self<br>• Perform personal hygiene and grooming tasks<br>• Perform medically necessary procedures<br>• Perform simple household chores<br>• Transferring self<br>• Toileting self | • ADA compliant accessibility features<br>• Cleaning materials and appliances<br>• Computer/tablet/word processor<br>• Document camera<br>• Eating and cooking utensils<br>• Personal hygiene tools<br>• Safety Rails<br>• Ramps | • Change complexity of task<br>• Increased time<br>• Modeling appropriate skills<br>• Needed items within reach<br>• Stabilization strategies<br>• Use visual supports<br>• Verbal and/or visual cues | • Adapted eating utensils<br>• Adapted dressing aids<br>• Adapted cooking and food preparation aids<br>• Adapted personal hygiene aids<br>• Adapted household cleaning tools and appliances<br>• Adapted toileting equipment<br>• Picture cues<br>• Environmental control units<br>• Power control units<br>• Slant board/book holders for positioning<br>• Transfer boards<br>• Switches |
| **Recreation and Leisure:**<br>• Participate in games and play activities<br>• Participate in art activities<br>• Participate in sports and exercise activities<br>• Listen to music<br>• Read a book<br>• Watch TV/Movie<br>• Play with toys<br>• Participate in social media/online communities<br>• Use the computer/internet | • Art materials<br>• Books and magazines<br>• Games<br>• Computer/tablet/word processor<br>• Document camera<br>• Music (e.g. musical instruments, digital player, CD player, etc.)<br>• Puzzles<br>• Sports and exercise equipment<br>• Toys | • Adjust workspace for easier access<br>• Adult/peer assistance<br>• Change complexity of task Model appropriate skills<br>• Modify games and activities<br>• Sensory supports<br>○ auditory<br>○ tactile<br>○ visual<br>• Use readily available materials to provide modifications<br>• Verbal and/or visual cues | • Puzzles with knobs<br>• Switch adapted spinners<br>• Oversized dice<br>• Adapted utensil holders (i.e. crayons, paint brush, stamps)<br>• Raised line coloring sheets<br>• Adapted scissors<br>• Card holders<br>• Adaptive sports equipment<br>• Adapted games<br>• Adapted books<br>• Specialized format books<br>• Adapted music with symbols<br>• Adapted instruments<br>• Non-skid surface<br>• Switch accessible toys/devices<br>• Environmental control devices<br>• Power control units and battery adapters |

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| | | | • Alternate access/accessibility features<br>  ○ adapted pointers<br>  ○ alternative mice<br>  ○ alternative keyboards<br>  ○ switch access<br>  ○ screen readers<br>  ○ magnifiers |
| **Pre-vocational and Vocational:**<br>• Completes assigned tasks within designated timelines<br>• Utilize tools and/or equipment to complete tasks<br>• Completes single and multiple step tasks<br>• Stays on task until work is complete<br>• Stays on task without supervision<br>• Self-advocates to get needs met<br>• Procurement of accessible instructional materials (AIMs)<br>• Contacts post-secondary service providers to obtain assistance<br>• Manages finances<br>• Safely navigates community and local environments<br>• Completes steps to obtain a job | • Computer/tablet/word processor<br>• Document camera<br>• Office equipment<br>• Pencil and paper<br>• Sorting and assembling materials<br>• Timers and watches | • Break tasks into smaller steps/segments<br>• Cooperative participation with peers and adults<br>• Daily planner book<br>• Determine and teach regularly traveled routes to students with visual impairments<br>• Follow a picture task analysis<br>• Individualized task and material modifications to meet student needs<br>• Location identifiers<br>• Modification of task length and complexity<br>• Orientation to unfamiliar environments<br>• Sensory supports<br>  ○ auditory<br>  ○ tactile<br>  ○ visual<br>• Show a model of the end product<br>• Sighted guide for visually impaired<br>• Student self-monitoring sheets<br>• Teacher modeling<br>• Verbal and/or visual cues | • Watches and timers<br>• Electronically scanned application<br>• Device, Software or App<br>  ○ auditory reminders<br>  ○ speech prompting<br>  ○ daily planners<br>  ○ outlining/graphic organizers<br>  ○ financial management software<br>  ○ screen enlargement<br>  ○ document scanner<br>  ○ OCR scanning software<br>  ○ braille translation software<br>  ○ braille note taker with refreshable display<br>  ○ braille embosser<br>  ○ digital recorder/player<br>  ○ long white cane<br>  ○ GPS for students with visual impairments<br>  ○ smart phone with appropriate apps<br>• Augmentative & Alternative Communication (AAC) solutions<br>• Alternate access/accessibility features<br>  ○ adapted pointers<br>  ○ alternative mice<br>  ○ alternative keyboards<br>  ○ switch access<br>  ○ screen readers<br>  ○ magnifiers |

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|---|---|---|---|
| | | • Video modeling<br>• Work checklist | |
| **Seating, Positioning, and Mobility:**<br>• Moves about/ambulates around the classroom, school, and/or community<br>• Manipulates educational materials as required in assigned activities<br>• Maintains appropriate seating/ position for participation in relevant activities | • Chairs, desks and tables<br>• Computer workstations | • Adult assistance<br>• Modification of requirements based upon student's daily energy level and the task to be completed<br>• Modifications to standard chairs, tables, desks<br>• Provide ergonomic seating and positioning<br>• Provide multiple seating and positioning options throughout the day<br>• Wheelchair friendly classroom set-up | • Positioning Aids (e.g., prone and supine standers, side lyers)<br>• Adapted Classroom Equipment (e.g., tables, chairs and desks<br>• Hospital beds<br>• Reacher/Grabber<br>• Lifts for transfers<br>• Mounting systems<br>• Bookstand<br>• Walkers<br>• Crutches/canes<br>• Wheelchairs (manual/electric)<br>○ supports<br>○ accessories |

The assistive technology solutions referenced in this document are included to provide general categories of different types of devices and services used by students with disabilities. The document does not include all assistive technology device and/or service categories.



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# ***Appendix F*** *- AT Assessment Resources*

## Resource Links:

A. **The SETT Framework**; documents and resources available at: http://www.joyzabala.com/

B. **The Wisconsin Assistive Technology Initiative (WATI),** Assessing Student's Needs for Assistive Technology (ASNAT), 5th Edition, available at: http://wati.org/?pageLoad=content/supports/free/index.php

C. **The Georgia Project for Assistive Technology (GPAT),** website with a full set of assessment forms, available at: http://www.gpat.org/Georgia-Project-for-Assistive-Technology/Pages/default.aspx

1. **The SETT Framework Overview**
2. **WATI Referral/Question Identification Guide**
3. **WATI Student Information Guide**
    - **Seating, Positioning, and Mobility**
    - **Communication**
    - **Computer Access**
    - **Motor Aspects of Writing**
    - **Composition of Written Material**
    - **Reading**
    - **Mathematics**
    - **Organization**
    - **Recreation and Leisure**
    - **Vision**
    - **Hearing**
    - **General**
4. **WATI Environmental/Task Observation Guide**
5. **WATI AT Decision-Making Guide**
6. **WATI AT Checklist**
7. **WATI AT Trial Use Guide**

## Using the SETT Framework to Level the Learning Field for Students with Disabilities

**Joy Smiley Zabala, Ed.D., ATP**

The SETT Framework is a tool that helps teams gather and organize information that can be used to guide collaborative decisions about services that foster the educational success of students with disabilities. Originally developed to support assistive technology selection and use in educational settings, the principles of the SETT Framework have been used to guide decisions about a much broader range of educational services, and also, with minor adjustments, have been successfully used in non-educational environments and service plans.

SETT is an acronym for Student, Environments, Tasks and Tools. The SETT Framework is based on the premise that in order to develop an appropriate system of Tools (supports – devices, services, strategies, accommodations, modifications, etc.) teams must first develop a shared understanding of the student, the customary environments in which the student spends time, and the tasks that are required for the student to be able to do or learn to do to be an active participant in the teaching/learning processes that lead to educational success. When the needs, abilities, and interests of the Student, the details of the Environments, and the specific Tasks required of students in those environments are fully explored, teams are able to consider what needs to be included in a system of tools that is Student-centered, Environmentally useful, and Tasks-focused.

**What questions does the team ask in each section of the SETT Framework?**

As playwright Eugene Ionesco said, "It's not the answer that enlightens, but the question." This is true of the questions in the SETT Framework because they are expected to guide and deepen discussion rather than be complete and comprehensive in and of themselves. As each of these questions is explored, it is likely that many other questions will arise. The team continues the exploration until there is consensus that there is enough shared knowledge to make informed, reasonable decisions that can be supported by data.

**The Student**

- What is (are) the functional area(s) of concern? *What does the student need to be able to do that is difficult or impossible to do independently at this time?*
- Special needs (related to area of concern)
- Current abilities (related to area of concern)

**The Environment**

- Arrangement (instructional, physical)
- Support (available to both the student and the staff)
- Materials and Equipment (commonly used by others in the environments)
- Access Issues (technological, physical, instructional)
- Attitudes and Expectations (staff, family, other)

©Zabala, J.S. (2005). For more information on the SETT Framework or the availability of SETT Scaffolds, please email Joy Smiley Zabala, at joy@joyzabala.com or visit the website at http://www.joyzabala.com

**The Tasks**

- What SPECIFIC tasks occur in the student's natural environments that enable progress toward mastery of IEP goals and objectives?
- What SPECIFIC tasks are required for active involvement in identified environments? (related to communication, instruction, participation, productivity, environmental control)

**How is the S-E-T Information used to think about Tools?**

In the SETT Framework, Tools include devices, services, strategies, training, accommodations, modifications – everything that is needed to help the student succeed. Some parts of the Tool system address the specific needs of the student, while parts of the Tool system may more specifically address issues in the Environments, such as access to the classroom, accessibility of instructional materials, support for staff that helps them develop and sustain learning Environments that are inviting, challenging, and productive for ALL students, including those with the full range of abilities and special needs.

When determining what the needs to be in the system of Tools to support and increase the achievement of a student, team members analyze the information gathered on the Student, the Environments, and the Tasks to address the following questions and activities.

- Is it expected that the student will *not* be able to make reasonable progress toward educational goals without assistive technology devices and services?
- If yes, *describe*, what a useful system of supports, devices, and services for the student would be like if there were such a system of Tools.
- Brainstorm specific Tools that could be included in a system that addresses student needs.
- Select the most promising Tools for trials in the natural environments.
- Plan the specifics of the trial (expected changes, when/how tools will be used, cues, etc.)
- Collect data on effectiveness.

**Does use of the SETT Framework require using a specific process?**

No. It must have the basic elements of an effective process, like those mentioned above, but SETT is a FRAMEWORK, not a protocol requiring a specific set of implementation practices for validity. It is important, however to keep in mind that consistent processes are required for effective implementation: therefore, people are encouraged to imbed the use of the SETT FRAMEWORK into existing processes (such as referral, IEP development, implementation planning, evaluation, etc.) or include it in the development of new, more effective processes when required.

©Zabala, J.S. (2005). For more information on the SETT Framework or the availability of SETT Scaffolds, please email Joy Smiley Zabala, at joy@joyzabala.com or visit the website at http://www.joyzabala.com

Because many people have requested examples of how the SETT Framework fits into various processes, brief guides and forms are being developed to provide a place to begin. Those guides and forms are known as SETT Scaffolds. In the building trade, a scaffold is used to support the integrity of a structure and also while it being developed and also provide access to harder to reach parts of the structure. The SETT Scaffolds have a similar purpose. They provide teams with a place to begin and support the building of strong processes that are imbedded in or aligned to other processes that suit specific environments. During the development of personalized processes, the SETT Scaffolds help teams remember and attend to issues that might be missed without guidance. SETT Scaffolds, however, may also be used more permanently if appropriate references are maintained.

**What are the critical elements of using the SETT Framework?**

While the individual processes that a team uses to implement the SETT Framework will vary based on the particular phase of service delivery is being discussed and the particular challenges and facilitators of the environments in which it is being used, there are some critical elements that must ALWAYS be included. They are:

- *Shared Knowledge:* One of the major premises of the SETT Framework is that decisions about Tools – the devices and actions that are needed for the student and others to succeed – are most valid when they are made based not on the knowledge that one person has (or believe that they have) but based on an agreed-upon, mutually valid shared knowledge of the students, the environments, and the task.

- *Collaboration:* The SETT Framework is tool that both requires and supports the collaboration of the people who will be involved in the decision-making and those who will be impacted by the decisions. Collaboration is not only critical for the SETT Framework, it is also critical to gaining the buy-in necessary for effective implementation of any decisions.

- *Communication*: The SETT Framework requires that people communicate actively and respectfully. Shared knowledge can only be developed if the opinions, ideas, observations, and suggestions are respected and respectful.

- *Multiple Perspectives*: Everyone involved beings different knowledge, skills, experience, and ideas to the table. Although multiple perspectives can be challenging at times they are critical to the development of the accurate, complete development of shared knowledge. Not only are the multiple professional perspectives important to include, but also those of the student and the parents. This can make the difference between success and lack there of.

- *Pertinent Information*: Although there is much information that is pertinent to decision-making, there is other information that is not relevant. Knowing where to draw the line is important, but that line may well be a loving target.

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- *Flexibility and Patience*: When working through the SETT Framework or using any other means of concerns-identification and solution seeking, there is a tremendous human tendency to suggest possible solutions before the concerns have been adequately identified. When a solution springs to mind, collaborators are urged NOT to voice it until it is time to talk about the Tools because when a solution is mentioned, the conversation shifts immediately from concern-identification to determining the worth or lack of worth of the suggested solution. Even when a team member thinks of the "perfect" solution, silent patience is urged. It might not look quite so perfect when all important factors are discussed.

- On-going Processes: Decision-making in educational settings involves ongoing processes. Whatever conclusions are reach at any point are only as valid as the evidence shows they have been successful in lowering barriers to student achievement. It is expected that the SETT Framework will be useful during all phases of assistive technology service delivery. With that in mind, it is important to revisit the SETT Framework information periodically to determine if the information that is guiding decision-making and implementation is accurate, up to date, and clearly reflects the shared knowledge of all involved.

**Conclusion:**

The SETT Framework supports a thorough yet simple approach to assistive technology assessment and intervention. When data is gathered and organized with simplicity, a team's ability to effectively generate a range of Tools that can be used to support student achievement is greatly enhanced. It is much more likely that the selected system of tools will enhance the student's abilities to address the tasks in which he/she is expected to build competency, thus making the tools more valuable. Equally, it is more likely that the people supporting the student will see the relevancy of using the Tools as the student grows in competence, confidence, and independence, and thus, be more active 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 abandonment or "under-implementation" of Tools. When the Environment and the Tasks are fully explored and considered, the lament "Well, I tried that but it didn't work" is much less likely to be heard. Instead, students, parents, and professionals should all rejoice at the increased opportunities for success which come when Tools-devices, services, strategies, accommodations, modifications, training, etc. 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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# Referral/Question Identification Guide

Student's Name_____ Date of Birth_____ Age__

School_____ Grade_____

School Contact Person_____ Phone_____

Persons Completing Guide_____

Date_____

Parent(s) Name_____ Phone_____

Address_____

Student's Primary Language_____ Family's Primary Language_____

**Disability** (Check all that apply.)

- ❒ Speech/Language
- ❒ Significant Developmental Delay
- ❒ Specific Learning Disability
- ❒ Cognitive Disability
- ❒ Other Health Impairment
- ❒ Hearing Impairment
- ❒ Traumatic Brain Injury
- ❒ Autism
- ❒ Vision Impairment
- ❒ Emotional/Behavioral Disability
- ❒ Orthopedic Impairment – Type_____

**Current Age Group**

- ❒ Birth to Three
- ❒ Early Childhood
- ❒ Elementary
- ❒ Middle School
- ❒ Secondary

**Classroom Setting**

- ❒ Regular Education Classroom
- ❒ Resource Room
- ❒ Self-contained
- ❒ Home
- ❒ Other_____

**Current Service Providers**

- ❒ Occupational Therapy
- ❒ Physical Therapy
- ❒ Speech Language
- ❒ Other(s)_____

**Medical Considerations** (Check all that apply.)

- ❒ History of seizures
- ❒ Fatigues easily
- ❒ Has degenerative medical condition
- ❒ Has frequent pain
- ❒ Has multiple health problems
- ❒ Has frequent upper respiratory infections
- ❒ Has frequent ear infections
- ❒ Has digestive problems
- ❒ Has allergies to_____
- ❒ Currently taking medication for_____
- ❒ Other – Describe briefly_____

_____

**Other Issues of Concern**_____

## Chapter 1 - Assistive Technology Assessment

**Assistive Technology Currently Used** (Check all that apply.)

- ❒ None
- ❒ Manual Communication Board
- ❒ Low Tech Vision Aids
- ❒ Environmental Control Unit/EADL
- ❒ Manual or Power Wheelchair
- ❒ Voice Recognition
- ❒ Low Tech Writing Aids
- ❒ Augmentative Communication System
- ❒ Amplification System
- ❒ Computer – Type (platform)_____
- ❒ Word Prediction
- ❒ Adaptive Input - Describe_____
- ❒ Adaptive Output - Describe_____
- ❒ Other_____

**Assistive Technology Tried**

Please describe any other assistive technology previously tried, length of trial, and outcome (how did it work or why didn't it work.)

_____ _____
Assistive Technology Number and Dates of Trial(s)

_____
Outcome

_____ _____
Assistive Technology Number and Dates of Trial(s)

_____
Outcome

_____ _____
Assistive Technology Number and Dates of Trial(s)

_____
Outcome

**REFERRAL QUESTION**

What task(s) does the student need to do that is currently difficult or impossible, and for which assistive technology may be an option? _____

_____

**Based on the referral question, select the sections of the Student Information Guide to be completed.** (Check all that apply.)

- ❒ Section 1 Seating, Positioning and Mobility
- ❒ Section 2 Communication
- ❒ Section 3 Computer Access
- ❒ Section 4 Motor Aspects of Writing
- ❒ Section 5 Composition of Written Material
- ❒ Section 6 Reading
- ❒ Section 7 Mathematics
- ❒ Section 8 Organization
- ❒ Section 9 Recreation and Leisure
- ❒ Section 10 Vision
- ❒ Section 11 Hearing
- ❒ Section 12 General

# WATI Student Information Guide

## SECTION 1

## Seating, Positioning and Mobility

**1. Current Seating and Positioning of Student** (Check all that apply.)

- ❒ Sits in regular chair w/ feet on floor
- ❒ Sits in regular chair w/ pelvic belt or foot rest
- ❒ Sits in adapted chair—list brand or describe: _____
- ❒ Sits in seat with adaptive cushion that allows needed movement
- ❒ Sits comfortably in wheelchair _____ part of day _____ most of the day _____ all of the day
- ❒ Wheelchair in process of being adapted to fit
- ❒ Spends part of day out of chair due to prescribed positions
- ❒ Spends part of day out of chair due to discomfort – specific or general area of discomfort _____
- ❒ Uses many positions throughout the day, based on activity
- ❒ Has few opportunities for other positions
- ❒ Uses regular desk
- ❒ Uses desk with height adjusted
- ❒ Uses tray on wheelchair for desktop
- ❒ Uses adapted table

**2. Description of Seating** (Check all that apply.)

- ❒ Seating provides trunk stability
- ❒ Seating allows feet to be flat on floor or foot rest
- ❒ Seating facilitates readiness to perform task
- ❒ There are questions or concerns about the student's seating
- ❒ Student dislikes some positions, often indicates discomfort in the following positions_____

_____

How is the discomfort communicated?_____

- ❒ Student has difficulty using table or desk—specific example: _____
- ❒ There are concerns or questions about current seating.
- ❒ Student has difficulty achieving and maintaining head control, best position for head control is_____

_____

How are their hips positioned?_____

❒ Can maintain head control for _____ minutes in _____ position.

**Summary of Student's Abilities and Concerns Related to Seating and Positioning**

_____

_____

# WATI Student Information Guide

## SECTION 2
## Communication

**1. Student's Present Means of Communication**

(Check all that are used. **Circle the primary method** the student uses.)

❒ Changes in breathing patterns ❒ Body position changes ❒ Eye-gaze/eye movement

❒ Facial expressions ❒ Gestures ❒ Pointing

❒ Sign language approximations ❒ Sign language (Type_____ # signs_____

# combinations _____ # signs in a combination _____

❒ Vocalizations, list examples_____

❒ Vowels, vowel combinations, list examples_____

❒ Single words, list examples & approx. #_____

❒ 2-word utterances ❒ 3-word utterances

❒ Semi intelligible speech, estimate % intelligible:_____

❒ Communication board ❒ Tangibles ❒ Photos ❒Symbols ❒ Visual Scenes

❒ Combination symbols/words ❒ Words

❒ 2 symbol combinations- list examples _____

❒ 3 or more symbol combinations – list examples _____

❒ Communication book/binder – number of pages in book/binder _____

Does student navigate to desired page/message independently? ❒ yes ❒ no

❒ Schedule board(s) – list examples _____

❒ Speech Generating device(s) - please list_____

❒ Multiple overlays or levels – list examples _____

❒ Partner Assisted Scanning – please describe strategies and communication system _____

_____

❒ Intelligible speech ❒ Writing ❒ Other_____

Comments about student's present means of communicating _____

_____

**Purposes of Communication**

Does the student communicate:

❒ Wants/Needs – list examples _____

❒ Social interactions – list examples _____

❒ Social etiquette - list examples _____

❒ Denials/rejections – list examples _____

❒ Shared information, including joint attention – list examples _____

_____

**2. Those Who Understand Student's Communication Attempts** (Check best descriptor.)

| | Most of the time | Part of the time | Rarely | Not Applicable |
|---|---|---|---|---|
| Strangers | ❒ | ❒ | ❒ | ❒ |
| Teachers/therapists | ❒ | ❒ | ❒ | ❒ |
| Peers | ❒ | ❒ | ❒ | ❒ |
| Siblings | ❒ | ❒ | ❒ | ❒ |
| Parent/Guardian | ❒ | ❒ | ❒ | ❒ |

**3. Current Level of Receptive Language**

Age approximation _____

If formal tests used, name and scores_____

If formal testing is not used, please give an approximate age or developmental level of functioning. Explain your rationale for this estimate. _____

_____

**4. Current Level of Expressive Language**

Age approximation: _____

If formal tests used, name and scores_____

If formal testing is not used, please give an approximate age or developmental level of functioning. Explain your rationale for this estimate._____

**5. Communication Interaction Skills**

Desires to communicate ❒ Yes ❒ No

To indicate *yes* and *no* the student

❒ Shakes head ❒ Signs ❒ Vocalizes ❒ Gestures ❒ Eye gazes

❒ Points to board ❒ Uses word approximations ❒ Does not respond consistently

Can a person unfamiliar with the student understand the response? ❒ Yes ❒ No

*(Continued on next page)*

## Chapter 1 - Assistive Technology Assessment

**Does the student** (check best descriptor)

| | Always | Frequently | Occasionally | Seldom | Never |
|---|---|---|---|---|---|
| Turn toward speaker | ❒ | ❒ | ❒ | ❒ | ❒ |
| Get other's attention | ❒ | ❒ | ❒ | ❒ | ❒ |
| Interact with peers | ❒ | ❒ | ❒ | ❒ | ❒ |
| Show awareness of listener's attention | ❒ | ❒ | ❒ | ❒ | ❒ |
| Initiate interactions | ❒ | ❒ | ❒ | ❒ | ❒ |
| Ask questions | ❒ | ❒ | ❒ | ❒ | ❒ |
| Respond to communication interaction | ❒ | ❒ | ❒ | ❒ | ❒ |
| Request clarification from communication partner | ❒ | ❒ | ❒ | ❒ | ❒ |
| Repair communication breakdowns | ❒ | ❒ | ❒ | ❒ | ❒ |
| Require verbal prompts | ❒ | ❒ | ❒ | ❒ | ❒ |
| Require physical prompts | ❒ | ❒ | ❒ | ❒ | ❒ |
| Maintain communication exchange | ❒ | ❒ | ❒ | ❒ | ❒ |
| Terminate communication | ❒ | ❒ | ❒ | ❒ | ❒ |

Describe techniques student uses for repair (e.g. keeps trying, changes message, points to first letter etc.).

_____

_____

**6. Student's Needs Related to Devices/Systems** (Check all that apply.)

❒ Walks ❒ Uses wheelchair ❒ Carries device under 2 pounds

❒ Drops or throws things frequently ❒ Needs digitized (human) speech

❒ Needs device w/large number of words and phrases

❒ Requires scanning

❒ Requires auditory preview

❒ One reliable switch site ❒ More than one reliable switch site

❒ Other_____

**7. Pre-Reading and Reading Skills Related to Communication** (Check all that apply.)

❒ Yes ❒ No Object/picture recognition

❒ Yes ❒ No Symbol recognition (tactile, Mayer-Johnson, Rebus, etc.) Number of symbols _____

❒ Yes ❒ No Auditory discrimination of sounds

❒ Yes ❒ No Auditory discrimination of words, phrases

❒ Yes ❒ No Selects initial letter of word

❒ Yes ❒ No Follows simple directions

❒ Yes ❒ No Sight word recognition Number of words _____

❒ Yes ❒ No Recognizes environmental print

❒ Yes ❒No Puts two symbols or words together to express an idea

List any other reading or pre-reading skills that support communication _____

_____

**8. Visual Abilities Related to Communication** (Check all that apply.)

- ❒ Maintains fixation on stationary object
- ❒ Visually recognizes people
- ❒ Visually recognizes common objects
- ❒ Visually recognizes photographs
- ❒ Visually recognizes symbols or pictures
- ❒ Needs additional space around symbol
- ❒ Requires high contrast symbols or borders
- ❒ Looks to right and left without moving head
- ❒ Scans matrix of symbols in a grid
- ❒ Scans line of symbols left to right
- ❒ Visually shifts horizontally
- ❒ Visually shifts vertically
- ❒ Looks at communication partner
- ❒ Benefits from "zoom" feature

Is a specific type (brand) of symbols or pictures preferred?_____

What size symbols or pictures are preferred?_____

What line thickness of symbols is preferred? _____ inches

Does student seem to do better with black on white, white on black, or a specific color combination for figure/ground discrimination?_____

Explain anything else you think is significant about the communication system the student currently uses or his/her needs (Use an additional page if necessary)_____

_____

_____

_____

_____

_____

**9. Sensory Considerations:**

Does the student have sensitivity to:

- ❒ Velcro
- ❒ Synthesized (computer generated) voices
- ❒ Volume
- ❒ Switch feedback (clicking noise)
- ❒ Tactile sensations
- ❒ Other

Explain student's reaction to any of the checked items _____

_____

**What are the communication expectations for the student in different environments?**

**School (regular and special ed., with peers, formal and informal- such as lunch room settings)**

_____

_____

_____

**Home** _____

_____

_____

**Community (stores, restaurants, church, library, etc.)** _____

_____

_____

**Summary of Student's Abilities and Concerns Related to Communication including past AT used to support student's communication**_____

_____

_____

_____

_____

_____

# WATI Student Information Guide

## SECTION 3

## Computer Access

**1. Current Computer Access**

How does the student currently access the computer?

- ❒ Doesn't access the computer
- ❒ Touch type with two hands
- ❒ Hunt/peck with one hand
- ❒ Touch type with one hand
- ❒ Hunt/peck with one hand
- ❒ Touchscreen
- ❒ Adapted keyboard/mouse_____
- ❒ Specialized Software _____
- ❒ Head _____
- ❒ Speech recognition _____
- ❒ Switch scanning _____
- ❒ Other _____

List current AT_____

_____

_____

What difficulty is the student having with current method? _____

_____

_____

**2. Previous Assistive Technology**

List any AT tried in the past for computer access and describe how it worked. _____

_____

_____

_____

_____

**3. Physical Abilities**

Does student have limitations to range of motion? ❒Yes ❒No

Does student have abnormal reflexes or abnormal muscle tone? ❒Yes ❒No

Does student have difficulty with accuracy? ❒Yes ❒No

Does student fatigue easily? ❒Yes ❒No

Describe how physical abilities affect computer use._____

_____

_____

_____

**4. Motor Control**

Does the student have voluntary, controlled movement of the following? (check all that apply)

| | | |
|---|---|---|
| ❒ Right hand | ❒ Left hand | ❒ Head |
| ❒ Right arm | ❒ Left arm | ❒ Eyes |
| ❒ Right leg | ❒ Left leg | ❒ Mouth |
| ❒ Right foot | ❒ Left foot | ❒ Voice (Speech) |
| ❒ Finger(s) | ❒ Other _____ | |

**5. Positioning**

How is the student positioned for computer access?

❒ Regular classroom chair
❒ Regular classroom chair with adaptations _____
❒ Specialty chair _____
❒ Wheelchair _____
❒ Other _____

**6. Sensory**

Does the student have any issues with hearing? ❒Yes ❒No
Does the student have any issues with vision? ❒Yes ❒No
Describe how sensory issues abilities affect computer use._____

_____

_____

_____

**7. Literacy**

Is the student working at grade level in the following areas?
Reading ❒Yes ❒No _____
Composition ❒Yes ❒No _____
Spelling ❒Yes ❒No _____
Math ❒Yes ❒No _____
Computer Skills ❒Yes ❒No _____

**8. Summary of Students Abilities and Concerns Related to Computer Access**

_____

_____

_____

_____

# WATI Student Information Guide

## SECTION 4
## Motor Aspects of Writing

**1. Current Writing Ability (Check all that apply.)**

- ☐ Writes independently and legibly
- ☐ Writes cursive
- ☐ Writes on 1" lines
- ☐ Writes on narrow lines
- ☐ Uses space correctly
- ☐ Sizes writing to fit spaces
- ☐ Prints a few words
- ☐ Prints name
- ☐ Scribbles with a few recognizable letters
- ☐ Pretend writes
- ☐ Uses adapted pencil or pencil grips
- ☐ Holds pencil, but does not write
- ☐ Copies from book (near point)
- ☐ Copies from board (far point)
- ☐ Copies simple shapes
- ☐ Writing is limited due to fatigue
- ☐ Writing is slow and arduous

**2. Current Keyboarding Ability (Check all that apply.)**

- ☐ 10 finger typing (functional speed)
- ☐ Multi finger typing (functional or slow)
- ☐ one finger typing (functional or slow)
- ☐ Does not currently type
- ☐ Activates desired key on command
- ☐ Accidentally hits unwanted keys
- ☐ Requires arm or wrist support to type
- ☐ Uses alternate keyboard (list) _____
- ☐ Uses access software(list)_____
- ☐ Uses touch window
- ☐ Uses head or mouth stick
- ☐ Uses switch to access computer
- ☐ Uses Morse code to access computer
- ☐ Other_____

**3. Computer Use (Check all that apply.)**

- ☐ Uses a computer for word processing
- ☐ Uses a computer for Internet searches
- ☐ Uses a computer for spell check
- ☐ Uses computer at school
- ☐ Uses computer at home
- ☐ Has never used a computer
- ☐ Uses computer for leisure (games, music, IM)_____
- ☐ Uses computer for other (list)_____
- ☐ Has potential to use computer but has not used a computer because_____

_____

_____

- ☐ Uses computer rarely (less than 1x/weekly)
- ☐ Uses computer daily
- ☐ Student uses computer for one or more subjects (list subjects) _____

_____

_____

**4. Assistive Technology Currently Used (Check all that apply.)**

☐ Adapted pencils-pencil grips
☐ Adapted papers
☐ Writing templates
☐ Adapted/portable keyboards
☐ Computers with accessibility features
☐ Adaptive Software: text to speech; word prediction; voice recognition_____ ____
☐ Scanned worksheets
☐ Other _____

**5. Computer Availability**

The student has access to the following computer(s):

☐ PC ☐ Macintosh ☐ Other_____
☐ Desktop ☐ Laptop

Location:_____

**Summary of Student's Abilities and Concerns Related to Writing** _____

_____

_____

_____

_____

# WATI Student Information Guide

## SECTION 5

## Composition of Written Material

**1. Typical of Student's Present Writing** (Check all that apply.)

- ❒ Short words
- ❒ Short phrases
- ❒ Complex phrases
- ❒ Sentences
- ❒ Paragraphs of 2-5 sentences
- ❒ Longer paragraphs
- ❒ Multi-paragraph reports
- ❒ Other _____

**2. Difficulties Currently Experienced by Student** (Check all that apply.)

- ❒ Answering questions
- ❒ Getting started on a sentence or story
- ❒ Adding information to a topic
- ❒ Sequencing information
- ❒ Integrating information from two or more sources
- ❒ Relating information to specific topics
- ❒ Determining when to begin a new paragraph
- ❒ Generating ideas
- ❒ Working w/peers to generate ideas and information
- ❒ Planning content
- ❒ Using a variety of vocabulary
- ❒ Summarizing information
- ❒ Other_____

**3. Strategies for Composing Written Materials Student Currently Utilizes** (Check all that apply.)

- ❒ Story starters
- ❒ Preset choices or plot twists
- ❒ Templates to provide the format or structure (both paper and electronic)
- ❒ Webbing/concept mapping
- ❒ Outlines
- ❒ Other_____

**4. Aids/Assistive Technology for Composing Written Materials Utilized by Student** (Check all that apply.)

- ❒ Word cards
- ❒ Word book
- ❒ Word wall/word lists
- ❒ Prewritten words on cards or labels
- ❒ Dictionary
- ❒ Electronic dictionary/spell checker
- ❒ Whole words using software or hardware (e.g., IntelliKeys)
- ❒ Symbol-based software for writing (e.g., Writing with Symbols 2000 or Pix Writer)
- ❒ Word processing with spell checker/grammar checker
- ❒ Talking word processing
- ❒ Abbreviation/expansion
- ❒ Word processing with writing support
- ❒ Multimedia software
- ❒ Voice recognition software
- ❒ Other_____

**Summary of Student's Abilities and Concerns Related to Computer/Device Access**_____

_____

_____

# WATI Student Information Guide

SECTION 6

## Reading

**1. The Student Demonstrates the Following Literacy Skills.**

(Check all that apply. Add comments to clarify)

- ❒ Engages in joint attention with adult caregiver to activities (e.g. songs, stories, games and/or toys)
- ❒ Shows an interest in books and stories with adult
- ❒ Shows and interest in looking at books independently
- ❒ Associates pictures with spoken words when being read to
- ❒ Realizes text conveys meaning when being read to
- ❒ Recognizes connection between spoken words and specific text when being read to
- ❒ Pretend writes and "reads" what he or she has written, even if scribbles
- ❒ Recognizes and reads environmental print
- ❒ When asked to spell a word, gets first consonant correct, but not the rest of the word
- ❒ Demonstrates sound manipulation skills including:
  - ❒ Initial and final sounds in words
  - ❒ Initial letter names/sounds
- ❒ Recognizes, names and prints the alphabet (if motor skills are limited, may use alternative means rather than printing to demonstrate knowledge of the alphabet)
- ❒ When asked to spell a word, gets first and last sounds correct
- ❒ Applies phonics rules when attempting to decode printed words
- ❒ Sound blends words
- ❒ Reads and understands words in context
- ❒ Uses inventive spelling most of the time
- ❒ Uses conventional spelling most of the time
- ❒ Reads and understands sentences
- ❒ Composes sentences using nouns and verbs
- ❒ Reads fluently with expression
- ❒ Reads and understands paragraphs
- ❒ Composes meaningful paragraphs using correct syntax and punctuation

**2. Student's Performance Is Improved by** (Check all that apply.)

- ❒ Smaller amount of text on page
- ❒ Word wall to refer to
- ❒ Graphics to communicate ideas
- ❒ Bold type for main ideas
- ❒ Additional time
- ❒ Spoken text to accompany print
- ❒ Increased spacing between words/lines
- ❒ Symbol or Rebus supports to text
- ❒ Enlarged print
- ❒ Pre-teaching concepts
- ❒ Text rewritten at lower reading level
- ❒ Reduced length of assignment
- ❒ Being placed where there are few distractions
- ❒ Color overlay or colored text/background (List color_____)
- ❒ Other _____

**3. Reading Assistance Used**

Please describe the non-technology based strategies and accommodations that have been used with this student

_____

_____

**4. Assistive Technology Used**

The following have been tried. (Check all that apply. Add comments for clarification)

❒ Highlighter, marker, template, or other self-help aid in visual tracking

❒ Colored overlay to change contrast between text and background

❒ Tape recorder, taped text, or talking books to "read along" with text

❒ Digital Audio files (Mp3, iPod, etc.)

❒ Talking dictionary or talking spell checker to pronounce single words

❒ Hand held pen scanner to read difficult words or phrases

❒ Electronic text from

❒ internet ❒publisher ❒ scanned text ❒ other _____

❒ Computer with text to speech software to

❒ Speak single words ❒ Speak sentences ❒ Speak paragraphs ❒ Read entire document

❒ Handheld device to read electronic books

❒ Electronic books from Bookshare or other digital source

Explain what seemed to work or not work with any of the above assistive technology that has been tried.

_____

_____

_____

**5. Approximate Age or Grade Level of Reading Skills_____**

**6. Cognitive Ability in General**

❒ Significantly below average ❒ Below average

❒ Average ❒ Above average

**7. Difficulty** (Check all that apply. Add comments for clarification.)

Student has difficulty physically accessing the following.

❒Single sheets of paper ❒ Books

Student has difficulty understanding written language based on

❒ English Language Learner ❒ Limited background experiences

Student has sensory difficulties with

❒ Visual clutter ❒ Fluorescent lighting ❒Background noise

❒ Personal Space ❒ Other _____

Student has difficulty decoding the following.

❒ Worksheets ❒Content Textbooks ❒ Trade Books ❒ Tests

❒ Websites or other digital text

❒ Modified Curriculum _____

❒ Recreational text

Student has difficulty comprehending the following.

❒ Worksheets ❒ Content Textbooks ❒ Trade Books ❒ Tests

❒ Websites or other digital text

❒ Modified Curriculum _____

❒ Recreational text

**8. Computer Availability and Use**

The student has access to the following computer(s):

❒ PC ❒ Macintosh

**9. The Student Uses a Computer:**

❒ Rarely ❒ Frequently ❒ Daily for one or more subjects or periods ❒ Every day, most of the day

For the following purposes_____

**Summary of Student's Abilities and Concerns Related to Reading**

_____

_____

_____

_____

# WATI Student Information Guide

SECTION 7

## Mathematics

**1. Difficulties Student Has with Mathematics (check all that apply).**

**Reading Math**

Math related language and vocabulary
- ❒ Interpreting visual representation
- ❒ Switching from one representational format to another, as in complex numbers, fractions, charts and graphs
- ❒ Understanding math concepts like:
  - ❒ Money
  - ❒ Time
  - ❒ Units of Measurement
- ❒ Math Facts
- ❒ Understanding percents/decimals

**Organizing**
- ❒ Drawing meaning from numbers, shapes and other representational formats
- ❒ Drawing meaning from charts, grids and graphs
- ❒ Applying correct operational step such as addition, subtraction, multiplication or division
- ❒ Drawing meaning and applying action steps from/to a story problem
- ❒ Organizing work on a page
- ❒ Understanding place value
- ❒ Organizing and applying multiple steps
- ❒ Converting mixed numbers
- ❒Applying functions and formulas

**Writing and Presentation**
- ❒ Writing legible numbers
- ❒ Drawing math figures
- ❒ Aligning steps of a problem
- ❒ Filling in numbers and data in small places graphing
- ❒ Completing simple addition and subtraction
- ❒ Completing multiplication and division
- ❒ Completing complex addition and subtraction
- ❒Representing math concepts in alternate formats such as graphs, charts or geometric shapes
- ❒ Noting points on graphs
- ❒ Writing simple math equations
- ❒ Writing complex math equations
- ❒ Editing work

*(Continued on next page)*

**2. Assistive Technology Tried (Check all that apply.)**

- ❒ Adapted manipulatives
- ❒ Adapted number, shape or fraction stamp
- ❒ Adapted time pieces
- ❒ Adapted measuring devices
- ❒ Mathline
- ❒ Adapted paper
- ❒ Enlarged paper
- ❒ Graph paper
- ❒ Onscreen keyboards or calculators
- ❒ Virtual Manipulatives
- ❒ Voice recognition for math notation
- ❒ Alternate calculator
  - ❒ Large print
  - ❒Talking
  - ❒ Graphing
- ❒ Smart chart
- ❒ Math graphic organizer
- ❒ Math specific writing, drawing software
- ❒ Digital Math toolbars for writing equations
- ❒ Math software to help visualize, script visual math concepts

3. **Strategies Used**
Please describe any strategies that been used to help.

**Summary of Student's Abilities and Concerns Related to Math**

# WATI Student Information Guide

SECTION 8

## Organization

**1. Difficulties Student has with Organization (Check all that apply.)**

| | |
|---|---|
| **Self management**<br>Unable to self regulate behavior and attention<br>Easily distracted<br><br>**Time management**<br>Arrives late<br>Misses deadlines<br>Poor transitions between activities<br>Struggles to settle down after transitions or when it is work time | **Materials Management**<br>Messy work and storage areas<br>Lost papers and projects<br>Can't find work tools such as book, scissors or markers quickly<br><br>**Information Management**<br>Breaking a large project into smaller steps<br>Organizing notes or review items<br>Completing multi-step tasks |

**2. Assistive Technology tried (Check all that apply.)**

| | |
|---|---|
| **Self:**<br>Fidgets<br>Sitting on a therapy ball, bounce or sitz cushions<br>Pressure or weighted vest<br>Concentration CD's or Mp3's<br>**Information:**<br>Folders<br>Tabs/Post Its<br>Highlighters<br>Study guides<br>Hand Held Recorders<br>Digital Organizers<br>Search tools/engines<br>Bookmarking tools<br>Graphic organizers<br>Manipulatives/ Instructional Tutorials<br>Animations | **Materials:**<br>Folders/ Containers/ Bins/ Boxes<br>Checklists<br>Coding<br>Filing<br>Portable electronic Storage<br>Computer based electronic storage<br>**Time:**<br>Clock analog vs. digital<br>Adapted clocks and watches<br>Talking readout<br>Large numbers<br>Visual cue<br>Timed reminder message<br>Schedules<br>Picture<br>Worded<br>Calendar-based<br>Digital scheduler<br>Digital reminder |

**3. Summary of Student's Abilities and Concerns Related to Organization**

# WATI Student Information Guide

SECTION 9

## Recreation and Leisure

**1. Difficulties Student Experiences Participating in Recreation and Leisure** (Check all that apply.)

- ❒ Understanding cause and effect
- ❒ Understanding turn taking
- ❒ Handing/manipulating objects
- ❒ Throwing/catching objects
- ❒ Understanding rules
- ❒ Waiting for his/her turn
- ❒ Following simple directions
- ❒ Following complex directions
- ❒ Communicating with others
- ❒ Hearing others
- ❒ Seeing equipment or materials
- ❒ Operating TV, VCR, etc.
- ❒ Operating computer
- ❒ Other _____

**2. Activities Student Especially Enjoys**_____

_____

_____

_____

**3. Adaptations Tried to Enhance Participation in Recreation and Leisure**_____

_____

_____

How did they help?_____

_____

_____

**4. Assistive Technology Tried** (Check all that apply.)

- ❒ Toys adapted with Velcro®, magnets, handles etc.
- ❒ Toys adapted for single switch operation
- ❒ Adaptive sporting equipment, such as lighted or beeping ball
- ❒ Universal cuff or strap to hold crayons, markers, etc.
- ❒ Modified utensils, e.g. rubber stamps, rollers, brushes
- ❒ Ergo Rest or other arm support
- ❒ Electronic aids to control/operate TV, VCR, CD player, etc.
- ❒ Software to complete art activities
- ❒ Other computer software
- ❒ Games on the computer
- ❒ Other _____

**Summary of Student's Abilities and Concerns in the Area of Recreation and Leisure**

_____

_____

# WATI Student Information Guide

SECTION 10

## Vision

*A vision specialist should be consulted to complete this section.*

**1. Date of Last Vision Report** _____

Report indicates (please address any field loss, vision condition, etc.)_____

_____

_____

**2. Visual Abilities** (Check all that apply.)

❒ Read standard textbook print

❒ Read text if enlarged to (indicate size in inches)_____

❒ Requires specialized lighting such as_____

❒ Requires materials tilted at a certain angle (indicate angle)_____

❒ Can read using optical aids; list:_____

❒ Currently uses the following screen enlargement device_____

❒ Currently uses the following screen enlargement software_____

❒ Recognizes letters enlarged to _____ pt. type on computer screen

❒ Recognizes letters enlarged to _____ pt. type for _____minutes without eye fatigue.

❒ Prefers ❒ Black letters on white ❒ White on black ❒_____(color) on _____

❒ Tilts head when reading

❒ Uses only one eye: ❒ Right eye ❒ Left eye

❒ Uses screen reader:_____

❒ Requires recorded material, text to speech, or Braille materials

**3. Alternative Output**

Currently uses (Check all that apply.)

❒ Slate and stylus

❒ Talking calculator

❒ Braille calculator

❒ Braille notetaker

❒ Electric Brailler

❒ Refreshable Braille display

❒ Tactile images

❒ Screen reader

❒ Braille translation software:_____

## Chapter 1 - Assistive Technology Assessment

**Level of proficiency** (Check the one that most closely describes the student.)

- ❒ Requires frequent physical prompts
- ❒ Requires frequent verbal cues
- ❒ Needs only intermittent cues
- ❒ Uses device to complete tasks independently
- ❒ Trouble-shoots problems related to device

**4. Writing/Handwritten Materials** (check all that apply)

- ❒ Writes using space correctly
- ❒ Writes on line
- ❒ Writes appropriate size
- ❒ Reads own handwriting
- ❒ Reads someone else's writing
- ❒ Reads hand printing
- ❒ Reads cursive
- ❒ Skips letters when copying
- ❒ Requires bold or raised-line paper
- ❒ Requires softer lead pencils
- ❒ Requires colored pencils, pens, or paper
- ❒ Requires felt tip pen ❒ Thin point ❒ Thick point

**Summary of Student's Abilities and Concerns Related to Vision**_____

_____

_____

_____

_____

# WATI Student Information Guide

## SECTION 11

## Hearing

*A hearing specialist should be consulted to complete this section.*

### 1. Audiological Information

Date of last audiological exam_____

Hearing loss identified

| | | | | |
|---|---|---|---|---|
| Right Ear | ❒ Mild | ❒ Moderate | ❒ Severe | ❒ Profound |
| Left Ear | ❒ Mild | ❒ Moderate | ❒ Severe | ❒ Profound |

Onset of hearing loss _____Etiology _____

### 2. Unaided Auditory Abilities (Check all that apply.)

❒ Attends to sounds ❒ High pitch ❒ Low pitch ❒ Voices ❒ Background noises
❒ Discriminates environmental vs. non-environmental sounds
❒ Turns toward sound
❒ Hears some speech sounds
❒ Understands synthesized speech

### 3. Student's Eye Contact and Attention to Communication (Check best descriptor.)

❒ Poor ❒ Inconsistent ❒ Limited ❒ Good ❒ Excellent

### 4. Communication Used by Others

Indicate the form of communication generally used by others in each of the following environments. (Check all that apply.)

| | School | Home | Community |
|---|---|---|---|
| ❒ Body language | ❒ | ❒ | ❒ |
| ❒ Tangible symbols | ❒ | ❒ | ❒ |
| ❒ Gestures | ❒ | ❒ | ❒ |
| ❒ Speech | ❒ | ❒ | ❒ |
| ❒ Cued speech | ❒ | ❒ | ❒ |
| ❒ Picture cues | ❒ | ❒ | ❒ |
| ❒ Written messages | ❒ | ❒ | ❒ |
| ❒ Signs and speech together | ❒ | ❒ | ❒ |
| ❒ Signed English | ❒ | ❒ | ❒ |
| ❒ Contact (Pidgin) sign language | ❒ | ❒ | ❒ |
| ❒ American Sign Language (ASL) | ❒ | ❒ | ❒ |

### 5. Level of Receptive Proficiency in Each Environment

| | School | Home | Community |
|---|---|---|---|
| ❒ Understands single words | ❒ | ❒ | ❒ |
| ❒ Understands short phrases | ❒ | ❒ | ❒ |
| ❒ Understands majority of communications | ❒ | ❒ | ❒ |

## Chapter 1 - Assistive Technology Assessment

**6. Student Communicates with Others Using** (Check all that apply)

❒ Speech ❒ American Sign Language ❒ Body language
❒ Signs and speech together ❒ Gestures ❒ Written messages
❒ Signed English ❒ Picture cues ❒ Contact (Pidgin) sign language
❒ Other_____

**Level of expressive communication**:

❒ Single words ❒ Combination of words ❒ Proficient

**7. Is There a Discrepancy Between Receptive and Expressive Abilities?**

❒ Yes ❒ No

If yes, describe further._____

_____

**8. Services Currently Used** (Check all that apply)

❒ Audiology_____ ❒ Note taker
❒ Educational interpreter using:_____ ❒ ASL ❒ Transliterating ❒ PSE ❒ Oral

**9. Equipment Currently Used** (Check all that apply.)

❒ Hearing aids ❒ Cochlear implant ❒ Telecaption decoder
❒ Vibrotactile devices ❒ Classroom amplification system ❒ TTY/TDD
❒ FM system ❒ Other_____

**10. Present Concerns for Communication, Writing, and/or Educational Materials**

❒ Cannot hear teacher/other students ❒ Cannot respond to emergency alarm
❒ Cannot participate in class discussions ❒ Cannot benefit from educational videos/programs
❒ Displays rec./exp. language delays ❒ Cannot use telephone to communicate

**11. Current communication functioning** (Check all that apply)

❒ Desires to communicate
❒ Initiates interaction
❒ Responds to communication requests
❒ Reads lips
❒ Appears frustrated with current communication functioning
❒ Requests clarification from communication partners ("Would you please repeat that?")
❒ Repairs communication breakdown (Keeps trying, changes message)

**12. Current Reading Level**_____

**Summary of Hearing Abilities and Concerns**_____

_____

_____

## Gathering Information about Environments and Tasks

Effective, appropriate decisions about assistive technology can only be made when teams are well informed about the unique characteristics of the environments in which the student spends time and the tasks that are being done in those environments (Zabala, 1994). The Wisconsin Assistive Technology Initiative strongly encourages observing the student in several environments with a specific focus on describing the environment and the activities/tasks in which the target student and other students are engaged. The Environmental Observation Guide is a tool for that purpose.

Consider all customary environments, including the classroom and other school environments, such as the lunchroom, playground, assemblies, etc., the home, and any relevant community sites such as shopping malls, restaurants, church, scouts or other groups. Information to be gathered can be guided by specific questions such as these:

- What equipment and materials, including technology supports, are available in each environment?
- Who are the primary people interacting with the student?
- How is instruction or direction delivered?
- What modifications are typically made in various environments?
- What is the student's position and location in room?
- Where are the things the student needs to see, such as chalkboard, overhead, etc.?
- What is the lighting and sound like in the setting?
- How are transitions accomplished? Are there concerns?

**Teams may modify or add to these questions, they are provided only as a starting place**.

There are many different types of Environmental or Classroom Observation Guides. This manual includes two versions. Remember that you can adapt either of or both these to fit your needs.

### Using the Environmental Observation Guide

*The Environmental Observation Guide instructions was developed by the National Assistive Technology Research Institute (2001), modified and used with permission.*

The Environmental Observation Guide forms draw the observer's attention to what is going on in the activity and setting. Teams may modify or add to these questions. They are provided only as a starting place.

**Prior to the observation:**

Clarify the purpose of the observation:

- Record successful assistive technology use in educational environments
- Observe a student using assistive technology in educational environments
- Record characteristics of the educational environments

Select a time and place:

- Review the student's IEP for specifics about the student's AT use.
- First preference – Schedule the observation for the place and time indicated in the IEP as to when AT is supposed to be used during the day.

- Second preference – If it is not specified in the IEP, talk to a teacher to schedule a time and place when the student uses AT the most during the day.

- Third preference – If the student uses the AT across the entire day, observe in the setting where he spends the most amount of his instructional day

Meet with the teacher(s), therapists, and assistants to determine:

- What will happen in the class that day; Is it a typical day?
- What the student using assistive technology will be doing that day.
- Inform them what you will be doing during the observation.

**During the observation:**

Record observations:

- Complete the environmental assessment checklist.
- Record direct student observation field notes.
- Record impressions and comments.
- Record time markers in the observation notes to determine length of activities.
- Participate in the class only if invited to do so.

**After the observation:**

Thank the teacher for allowing you to observe.

If time allows in the teacher's schedule:

- Probe for additional information directly related to your observations for clarity.
- Share a brief summary of what you saw.

Provide the teacher with a copy of the observation summary when completed.

Conduct the teacher interview at a mutually agreed upon time.

The observer's role is to capture what is occurring, not to make decisions or even formal recommendations; that comes later in the decision-making part of the assessment process. During the observation(s), the observers are simply gathering information.

## WATI Classroom Observation Guide

**Classroom(s)** _____

**Teacher** _____

**Student** _____

**Date** _____ **Time** _____ **Observer** _____

**(J. Gierach, 2009, Wisconsin Assistive Technology Initiative)**

| **Task:**<br>Ex. Writing a report, working on SMART Board, aligning mat problems, researching topic in media center.<br>**Directions:**<br>Were they given:<br>Visually<br>Auditorally<br>**Time:**<br>For task completion | **General students response:**<br>How does the rest of the class respond to the directions, how do they complete their work | **Target Student Response:**<br>Do you notice any difference in how the target student handles the directions? How do they begin, maintain, and end the task? Was the time for the activity sufficient? | **Barrier to task completion:**<br>What do you notice about the environment that might affect the target student's work? Ex. Manner that the directions were delivered, time to complete the task, different learning style. | **Potential Adaptations:**<br>What pops into your head as a solution that you might bring to the brain storm session during the ASNAT meeting? | **Questions:**<br>What information do you need? What questions do you have for the teacher/student/parent? |
|---|---|---|---|---|---|
| **Task:**<br><br>**Directions:**<br><br>**Time:** | | | | | |
| **Task:**<br><br>**Directions:**<br><br>**Time:** | | | | | |
| **Task:**<br><br>**Directions:**<br><br>**Time:** | | | | | |

# WATI Assistive Technology Decision Making Guide

**Student:**_____ **Date:**_____ **Area of Concern:**_____

**Attendees:**_____

## PROBLEM IDENTIFICATION

| **Student's Abilities/Difficulties** | **Environmental Considerations** | **Tasks** |
|---|---|---|
| • | (Location, technology, activities) • | • |
| • | | • |
| • | • | • |
| • | | • |
| • | • | • |
| • | | |
| **Sensory Considerations** | | **Narrowing the Focus** |
| (Vision/Hearing/Tactile) | | (Specific task for solution generation) |

| **Solution Generation Tools & Strategies** | **Solution Selection Tools & Strategies** | **Implementation Plan** |
|---|---|---|
| (Brainstorming - No Decision)<br>(Review AT Checklists) | (Discuss & Select Solutions) | AT Trials/Services Needed:<br>Item:<br>Date:<br>Length:<br>Person Responsible: |
| • | • | **Follow-Up Plan** |
| • | | When/Date: |
| • | • | With Whom: |
| • | | Contact info: |
| • | • | |
| • | | |

******Important:* **It is intended that you use this as a guide. Each topic should be written in large print where everyone can see them, i.e. on a flip chart or board. Information should then be transferred to paper for distribution, file, and future reference.**

## Using the AT Checklist

In some cases team members are not fully aware of all the assistive technology that might be available to assist with the task that is of concern. In that case there are several tools and resources that can be used to assist them. One of those tools is the AT Checklist. The AT Checklist is a concise listing of assistive technology arranged by the task for which it would be utilized. Categories are: Seating, Positioning and Mobility; Communication; Computer Access; Motor Aspects of Writing, Composition of Written Material; Reading; Mathematics; Organization; Recreation & Leisure; Activities of Daily Living; Vision; Hearing; and Multiple Challenges.

Within each of these categories suggested assistive technology is arranged in a hierarchy from the simplest, low-tech alternatives to more complex or high-tech items. They are arranged this way because the developers shared a belief that we want to select the simplest alternative that successfully assists the student. Many years ago we had a number of experiences where service providers immediately jumped to the most complex solution without first trying other alternatives. The hierarchical arrangement of the items in the AT Checklist is in response to this type of thinking. For example, just because a student has difficulty with writing, does not mean that the first thing we try would be voice recognition. While voice recognition is exciting and very appealing, there are other, simpler tools that should be tried first to see if they work.

You will note that each section also includes a space to write in new assistive technology. Since many new products are introduced each year, it is important to be able to add new items. The final section of the AT Checklist is a place to write comments that the team has as they utilize the Checklist. These may include something that has been tried or a plan to try a sequence of items. It is always important to capture in writing the discussions that take place as team members works together to arrive at an assistive technology decision.

## WATI Assistive Technology Assessment Checklist

### SEATING, POSITIONING AND MOBILITY

**Seating and Positioning**

❒Standard seat/workstation at correct height and depth
❒ Modifications to standard seat or desk
❒ Alternative chairs
❒ Adapted/alternate chair, sidelyer, stander
❒ Custom fitted wheelchair or insert

**Mobility**

❒ Walking devices - crutches/walker
❒ Grab bars and rails
❒ Manual wheelchair
❒ Powered scooter, toy car or cart
❒ Powered wheelchair w/joystick or other control
❒ Adapted vehicle for driving

### COMMUNICATION

❒ Concrete Representation
❒Simple speech generating device
❒Speech generating device with levels
❒ Speech generating device with icon sequencing
❒ Speech generating device with dynamic display
❒ Text based device with speech synthesis

### COMPUTER ACCESS

❒ Positioning of student
❒ Standard Keyboard/Mouse with accessibility/access features built into the operating system
❒ Standard Keyboard/Mouse with Adaptations
❒ Rate Enhancement
❒ Alternate Keyboard/Mouse
❒ Onscreen keyboard
❒ Voice recognition software
❒ Eye Gaze
❒ Morse Code
❒ Switch Access
❒ Other: _____

### MOTOR ASPECTS OF WRITING

❒ Environmental and seating adaptations
❒ Variety of pens/pencils
❒ Adapted pen/pencil
❒ Writing templates
❒ Prewritten words/phrases
❒ Label maker
❒ Portable word processor
❒ Computer with accessibility features
❒ Computer with word processing software
❒ Alternative keyboards
❒ Computer with scanner
❒ Computer with word prediction
❒ Computer with voice recognition software

### COMPOSITION OF WRITTEN MATERIAL

❒ Picture Supports to write from/about
❒ Pictures with words
❒ Words Cards/Word Banks/Word Wall
❒ Pocket Dictionary/Thesaurus
❒ Written templates and Guides
❒ Portable, talking spellcheckers/dictionary/thesaurus
❒ Word processing software
❒ Word prediction software
❒ Digital templates
❒ Abbreviation expansion
❒ Word processing with digital supports
❒ Talking word processing
❒ Multimedia software with alternative expression of ideas
❒ Tools for citations and formats
❒ Voice recognition software

### READING

❒ Standard Txt
❒ Book adapted for access
❒ Low-tech modifications to text
❒ Handheld device to read individual words
❒ Use of pictures/symbols with text
❒ Electronic text
❒ Modified electronic text
❒ Text reader
❒ Scanner with OCR and text reader
❒ Text reader with study skill support

### MATHEMATICS

❒ Math manipulatives
❒ Low-tech physical access
❒ Abacus/mathline
❒ Adapted math paper
❒ Adapted math tools
❒ Math "smart chart'. math scripts
❒ Math tool bars
❒ On-screen calculator
❒ Alternative keyboards/portable math processors
❒ Virtual manipulatives
❒ Math software and web simulations
❒ Voice recognition math software

### ORGANIZATION

**Self-Management**

❒ Sensory regulation tools
❒ Movement and deep pressure tools
❒ Fidgets
❒ Auditory
❒ Visuals

*(Organization continued in next page)*

## ORGANIZATION *(continued)*

**Information Management**
- ❒ Tabs
- ❒ Sticky notes, index cards
- ❒ Highlighters
- ❒ Key words
- ❒ Study guide
- ❒ Task analysis
- ❒ Digital highlighters and sticky notes
- ❒ Handheld scanners/electronic extraction
- ❒ Electronic organization
- ❒ Study grid generators/grading rubric
- ❒ Online search tools
- ❒ Online web trackers
- ❒ Online sorting file tools
- ❒ Digital graphic organizers
- ❒ Online manipulatives, interactive, tutorials, animations

**Time Management**
- ❒ Checklists
- ❒ Paper planners/calendars
- ❒ Schedules (visual)
- ❒ Portable, adapted timekeepers
- ❒ Electronic reminders
- ❒ Digital planners (PDA) cell phones
- ❒ Web-based planning tools

**Material Management**
- ❒ Low-tech organizers
- ❒ Checklists
- ❒ Container system
- ❒ Coding system
- ❒ Electronic filing and storage
- ❒ Portable electronic storage
- ❒ Computer-based tools

## RECREATION AND LEISURE
- ❒ Typical toys/puzzles/balls/utensils/instruments adapted; adjustable equipment; flexible rules; add visual/auditory clarity
- ❒ Specially designed utensils/equipment
- ❒ Electronically/mechanically adapted utensils and equipment
- ❒ Electronic aids – remote controls, timers, CD players, speech generating devices
- ❒ Computer-facilitated and computer-based activities
- ❒ Online and virtual recreational experiences

## VISION

**Computer access**
- ❒ Color scheme
- ❒ Large operating system features
- ❒ Built-in magnification
- ❒ Fully-featured magnification
- ❒ Magnification with screen reader
- ❒ Screen reader
- ❒ Screen Reader with Braille device

## VISION *(continued)*

**Reading**
- ❒ Glasses
- ❒ Color Filter
- ❒ Slantboard
- ❒ Large print
- ❒ Optical Magnifier
- ❒ Electronic Magnifier
- ❒ CCTV
- ❒ Monocular
- ❒ CCTV with distance camera
- ❒ Audio text
- ❒ Computer-based reading software
- ❒ Electronic Braille notetaker

**Writing**
- ❒ High contrast pen
- ❒ Portable word processing device
- ❒ Typing with audio support
- ❒ Braillewriter
- ❒ Typing with Braille support
- ❒ Electronic Braille note taker
- ❒ Voice recognition

**Mathematics**
- ❒ Large print measuring tools
- ❒ Large key calculator
- ❒ Tactile measuring devices
- ❒ Abacus
- ❒ Talking calculator
- ❒ Models or 2D and 3D geometric shapes
- ❒ Tiger embossed, PIAF Tactile representation

**Pictorial Information**
- ❒Enlarged format
- ❒CCTV
- ❒Models or objects
- ❒Tactile graphics
- ❒Tactile-audio graphics

**Mobility**
- ❒ Cane
- ❒ Monocular
- ❒ Braille/talking compass
- ❒ Electronic travel device
- ❒ GPS device

**Note taking**
- ❒ Slate and stylus
- ❒ Tape or digital recording device
- ❒ Computer-based recording software
- ❒ Electronic Braille note taker

## HEARING

**Hearing Technology**
- ❒ FM
- ❒ Infrared
- ❒ Induction Loop
- ❒ 1:1 Communicators
- ❒ Personal amplification

**Alerting**
- ❒Visual or vibrating alerting devices

**Communication**
- ❒ Telecommunication supports
- ❒ Closed captioning
- ❒ Person to person
- ❒ Classroom/group activities
- ❒ Voice to text/sign
- ❒ Real-time captioning

## Additional Tools for the Team as They Select Appropriate Assistive Technology

**Closing the Gap Resource Directory and Online Searchable Database**
Once the common vendors are known, the next useful tool is the *Closing the Gap Resource Directory*. The Resource Directory is published each spring as the February/March issue of the Closing the Gap newsletter. It is an excellent tool for school teams. The first step in using the Directory is to go to the Producers Section, which is near the back of the directory. In the Producers Section, team members can look at each of the vendors obtained from the Product Description Section of Resource Directory.

In our example, Don Johnston Incorporated was one of the common vendors listed for talking word processors. Looking up Don Johnston Incorporated reveals a long list of products. Scanning that list reveals *Write:OutLoud*®, which sounds like it might be a talking word processing. Turning to the Software section of the Resource Directory provides a description of this talking word processing software, including price, type of computer it runs on, system requirements, and other valuable information.

Closing the Gap also has a searchable database on its website http://www.closingthegap.com/solutions/products/advanced_search.lasso. Annual subscriptions are required to use the online version but there is a free 14-day trial. The same type of information is included there; once the name of a product or the type of product is known, more information can be obtained from the website.

**QIAT Listserv**
Quality Indicators of Assistive Technology (QIAT) is a voluntary organization of AT professionals from around the world who share both ideas and questions. This group is a wonderful resource when looking at the needs of students with AT needs. They provide a collegial support network of some of the finest minds and pioneers in the field of assistive technology. Post questions to this listserv, or share ideas and resources. The site is hosted on the University of Kentucky website. Dr. Joy Zabala is the creator and moderator of the site. http://natri.uky.edu/assoc_projects/qiat/

**AAC TechConnect**
AAC TechConnect has created Device Assistant, a resource designed to provide information on nearly 100 AAC devices currently on the market from major manufacturers. (Information is provided in cooperation with all of the manufacturers.) You can use a feature-match tool to search for a device, and also do side-by-side comparisons. A subscription fee is required, but there is a 14-day free trial. The site was created by Debby McBride, MS, CCC-SLP.
http://www.aactechconnect.com/da.cfm

## Implementing Trials with Assistive Technology

In order to determine which assistive technology will work effectively for a student, that student must have an opportunity to try the assistive technology. In some cases, a brief trial during a short visit with one of the team members reveals an effective solution. More typically, a longer trial of several days, weeks, or in some cases, months is necessary. Whether the trial is short or long, documenting the student's performance while they try the assistive technology is critical.

Included are two planning tools that can help the team as they prepare for a more extensive trial with one or more assistive technology devices. The Assistive Technology Trial Use Guide is a form that guides the team through a sequence of important questions that must be addressed prior to implementing trial use of assistive technology and after the trial.

# WATI Assistive Technology Trial Use Guide

**AT to be tried:**_____

Student's Name: _____ DOB:_____ Age:__ Meeting Date:____

School/Agency:_____Grade/Placement:_____

Contact Person(s):_____

School/Agency Phone: _____ Address: _____

Persons Completing Guide: _____

Parent(s) Name: _____ Phone: _____

Parent(s) Address: _____

**Goal for AT use:** _____

ACQUISITION

| Source(s) | Person Responsible | Date(s) Available | Date Received | Date Returned |
|---|---|---|---|---|
| | | | | |

Person primarily responsible to learn to operate this AT:_____

**Training**

| Person(s) to be trained | Training Required | Date Begun | Date Completed |
|---|---|---|---|
| | | | |

Chapter 1 - Assistive Technology Assessment

**MANAGEMENT/SUPPORT**

| Location(s) | Support to be provided (e.g. set up, trouble shoot, recharge, program, etc.) | Person Responsible |
|---|---|---|
| | | |

**Student Use**

| Date | Time Used | Location | Task(s) | Outcome(s) |
|---|---|---|---|---|
| | | | | |

# ***Appendix F*** *- AT Tools*

## Resource Links

A. **AbleData.** A website containing information on thousands of AT products, sponsored by the National Institute on Disability and Rehabilitation Research, it provides comprehensive information on AT tools and solutions. Available at http://www.abledata.com/

B. **TechMatrix.** This website is a tool for finding AT tools for individuals with disabilities, with information on a variety of hardware and software tools. Available at: http://techmatrix.org/

C. **AbilityHub.** A website specializing in adaptive equipment and alternative methods for computer access. Available at: http://abilityhub.com/index.htm

D. **EnableMart.** A website with a wide variety of AT tools for purchase. Available at: https://www.enablemart.com/

E. **AssistiveTech.Net.** A national public website of the Center of Assistive Technology and Environmental Access (CATEA) on assistive technology products with information on thousands of products. Available at: http://assistivetech.net/

F. **One Place for Special Needs.** Site offers a complete guide to educational and special needs apps for all disabilities for IPad, IPhone, IPod Touch and some Android devices. Available at: http://www.oneplaceforspecialneeds.com/main/library_special_needs_apps.html

G. **Tools for Life: Georgia's Assistive Technology Act Program**. Located at Georgia Tech University, the site offers a searchable database for Android and Apple devices. Available at: http://gatfl.org/index.php

1. **Assistive Technology Devices**
2. **GPAT AT Guide**

# Assistive Technology Devices

This table represents a checklist of devices, products, and systems that may be considered to be within the definition of assistive technology for an individual with a disability.

Ambulation:
- ☐ Canes
- ☐ Cane accessories
- ☐ Crutches
- ☐ Crutch accessories
- ☐ Walkers
- ☐ Walker accessories

Architectural Access: Bathroom
- ☐ Bathtubs
- ☐ Modified showers
- ☐ Toilets
- ☐ Bathroom sinks

Architectural Access: Kitchen
- ☐ Shelves
- ☐ Accessible appliances
- ☐ Cabinets
- ☐ Sinks/appliances
- ☐ Doors/auto open
- ☐ Handles
- ☐ Lighting

Safety/Security:
- ☐ Elevators
- ☐ Wheelchair lifts
- ☐ Chair-stair lifts
- ☐ Pool lift
- ☐ Ramps
- ☐ Drinking fountain

Orthotics:
- ☐ Restraints
- ☐ Supports
- ☐ Helmets
- ☐ Braces
- ☐ Splints
- ☐ Foot orthosis

Personal Care:
- ☐ Feeding devices
- ☐ Dishes/utensils
- ☐ Feeding accessories
- ☐ Drinking
- ☐ Grooming/hygiene
- ☐ Mechanical transfer lift
- ☐ Wheeled bath chair
- ☐ Wheeled commode
- ☐ Toileting accessories
- ☐ Incontinence supplies
- ☐ Shower/bath chair
- ☐ Bathing accessories
- ☐ Reaching/carrying devices
- ☐ Grab bars/grips/handles
- ☐ Transfer board

Personal Health:
- ☐ Scales
- ☐ Thermometers
- ☐ Blood pressure/pulse
- ☐ Dispenser aids

Communication:
- ☐ Mouth sticks
- ☐ Head wands
- ☐ Light pointers
- ☐ Page turners
- ☐ Reading machines
- ☐ Book holders
- ☐ Writing aids
- ☐ Typing aids
- ☐ Modified keyboards
- ☐ Telephone access
- ☐ Signal system
- ☐ Communication boards
- ☐ Augmentative devices
- ☐ Television adaptations
- ☐ Personal voice amplification

Computer software:
- ☐ Educational programs
- ☐ Recreational programs
- ☐ Communication programs
- ☐ Voice recognition
- ☐ Switch operated
- ☐ Assessment/evaluation training
- ☐ Tools/word processing/database

Prosthetics:
- ☐ Upper extremity
- ☐ Lower extremity

Recreation:
- ☐ Crafts
- ☐ Sewing
- ☐ Board games
- ☐ Other games
- ☐ Gardening
- ☐ Toys
- ☐ Music
- ☐ Electronics
- ☐ Photography
- ☐ Modified sports equipment
- ☐ Sports activities
- ☐ Playground equipment
- ☐ Park/picnic equipment
- ☐ Hunting/fishing
- ☐ Vacation travel

Robotics:
- ☐ Robotic arm
- ☐ Other robotic equipment

Environmental controls:
- ☐ Environmental control systems and components

Seating:
- ☐ Postural support system
- ☐ Postural support hardware
- ☐ Bolster or corner chairs
- ☐ Other therapeutic seats
- ☐ Large print
- ☐ Special access
- ☐ Recliner

Computer Hardware:
- ☐ Special computer system
- ☐ Keyboards
- ☐ Printers
- ☐ Computer supplies
- ☐ Computer workstations
- ☐ Computer peripherals
- ☐ Expanded keyboards
- ☐ Other keyboards
- ☐ Key guards
- ☐ Voice synthesizers
- ☐ Voice recognition systems
- ☐ Braille printers
- ☐ Visual accessories
- ☐ Cursor control
- ☐ Interface adaptations
- ☐ Other adaptations

Ergonomics:
- ☐ Arm/wrist supports
- ☐ Back supports
- ☐ Ergo joystick
- ☐ Industrial workstations
- ☐ Office workstations
- ☐ Tools/seat/chair
- ☐ CRT access

Technology for hearing:
- ☐ Alert/signal systems
- ☐ Telephone adaptations
- ☐ TV decoders
- ☐ TV amplifiers
- ☐ Personal amplification
- ☐ FM amplification
- ☐ Infrared amplification system
- ☐ Audio loop systems
- ☐ TDDs/TTYs
- ☐ Hearing aids

Technology for vision:
- ☐ Braille
- ☐ Clock/watches
- ☐ Sensors/safety/security
- ☐ Labeling
- ☐ Large button phone/speakerphone
- ☐ Large print books
- ☐ Taped/audio books
- ☐ Magnifiers
- ☐ Magnification system
- ☐ Talking equipment
- ☐ Calculators
- ☐ Other devices

Therapeutic aids:
- ☐ Sensory integration
- ☐ Perceptual motor
- ☐ Gross motor
- ☐ Fine motor
- ☐ Crawling/scooting
- ☐ Hand controls
- ☐ Pressure monitors
- ☐ Decubitis cushion
- ☐ Wheelchair cushion
- ☐ Other cushions

Working animals:
- ☐ Animals for low-vision
- ☐ Animals for hearing impairment
- ☐ Animals for physical

Home Management:
- ☐ Food preparation
- ☐ Housekeeping
- ☐ Lift chairs/lift cushions
- ☐ Modified furniture
- ☐ Beds/mattresses
- ☐ Protective bed pad
- ☐ Special pillows
- ☐ Shopping aids

Mobility:
- ☐ Manual wheelchair
- ☐ Adult light weight chair
- ☐ Child light weight chair
- ☐ Sports/racing
- ☐ Standing wheelchair
- ☐ Power wheelchair
- ☐ Power standing wheelchair
- ☐ 3-wheeled mobility device
- ☐ Other mobility devices
- ☐ Wheelchair trays
- ☐ Portable ramps
- ☐ Batteries
- ☐ Power conversion
- ☐ Ambulation training
- ☐ Balance training
- ☐ Prone standers
- ☐ Upright frames
- ☐ Supine standers
- ☐ Parapodiums
- ☐ Side lying boards
- ☐ Stand tables
- ☐ Treatment tables
- ☐ Rolls/inclines
- ☐ Mats
- ☐ Positioning
- ☐ Strengthening
- ☐ Exercise equipment
- ☐ Pain relief
- ☐ Hydrotherapy
- ☐ Other accessories

| | | |
|---|---|---|
| Switches:<br>☐ Wheelchair controls<br>☐ Mounting hardware<br>☐ Other switches<br><br>Transportation:<br>☐ Vehicles<br>☐ Vehicle conversions<br>☐ Motorcycles<br>☐ Motorcycle conversions<br>☐ Driving controls<br>☐ Assistive accessories<br>☐ Seat belts<br>☐ Wheelchair restraint system<br>☐ Wheelchair lifts<br>☐ Ramps | disability<br>Medical equipment-adapted:<br>☐ Stethoscopes<br>☐ Diabetic equipment<br>☐ Thermometers<br>☐ Pressure monitors<br>☐ Scales<br>☐ Signal systems<br>☐ Other medical equipment | Vocational education:<br>☐ Workstations<br>☐ Desks<br>☐ Classroom equipment<br>☐ Tools<br>☐ Office equipment<br>☐ Adjustable tables<br>☐ Education/instruction<br>☐ Vocational assessment<br>☐ Training<br>☐ Literature/books |

Excerpted from: *Assistive Technology in Education: Nebraska's Guide for the Delivery of Assistive Technology Services for Students with Disabilities*, 2013.

# Assistive Technology Consideration Resource Guide

The following information is provided to assist educational teams in considering assistive technology in the development, review, and/or revision of a student's Individual Educational Plan. This document provides a framework for identifying relevant tasks within instructional areas as well as appropriate accommodations, modifications, and technology solutions. Additional tasks and solutions will need to be added to address individual student needs.

| Instructional or Access Area | Standard Tools | Modifications and Accommodations of Task and Expectations | Assistive Technology Solutions |
|---|---|---|---|
| **Writing:**<br>Sample Tasks:<br>• Write name<br>• Copy letters/words/numbers for skills practice<br>• Write words from memory<br>• Copy print from book or worksheet<br>• Copy notes from board or overhead<br>• Complete written worksheets with single word responses (fill-in-the blank)<br>• Complete written worksheets with phrase or sentence response<br>• Complete written test with multiple choice response (circle/mark answer)<br>• Complete written test and forms with fill-in-the-blank response<br>• Complete written test with matching response<br>• Complete written test with phrase/sentence (short answer)<br>• Complete written test with essay response (multi-paragraph)<br>Record notes from teacher dictation/lecture with teacher recording notes on board/overhead<br>• Record notes from teacher dictation/lecture without teacher notes<br>• Generate creative/spontaneous writing samples<br>• Copy numbers<br>• Enter number in correct location within calculation problems<br>• Copy math calculation problems with correct alignment | • Crayon/Marker<br>• Pencil<br>• Pen<br>• Letter and number strip<br>• Clipboard<br>• Typewriter<br>• Computer with word processing software with grammar and spell checker<br>• Instructional software to remediate and enhance specific writing skills | • Increased time for completing assignments<br>• Decreased length of assignment/number of responses<br>• Oral dictation as an alternative to writing<br>• Peer notetaker<br>• Format of assignment changed to meet need of student - multiple choice, matching word banks, fill-in-the-blank, short answer<br>• Word banks, sentence starters, and cloze format writing activities for supports<br>• Provide typed outline or typed copy of lecture notes to student prior to delivery for student to use to follow lecture<br>• Student highlights key points on printed copy of notes rather than copying/recording lecture notes<br>• Webbing-concept mapping strategy used | • Pencil grip or other adapted writing aids<br>• Adapted paper (bold line, raised line, different spacing, secured to desk, paper stabilizers)<br>• Slant board<br>• Personal dry erase board<br>• Non-slip writing surface (e.g. dycem)<br>• Tape recorder or digital recorder for dictated responses and notetaking<br>• Portable word processor (e.g. AlphaSmart Neo, The Writer Fusion, etc.)<br>• Notetaking device (e.g. Braille, adapted tape/digital recorder, smartboard, Notetaker, Iris Pen)<br>• Computer with word processing software with spell and grammar checks (e.g. Microsoft Word)<br>• Computer with word processing software and outlining/webbing software (e.g. Inspiration or Kidspiration, Draft:Builder)<br>• Computer with graphic-based word processor (e.g. Writing with Symbols)<br>• Computer with talking word processing software (e.g. Write Out:Loud, Classroom Suite, Talking Word Processor)<br>• Computer with word prediction software (e.g. Co:Writer, WordQ)<br>• Computer with graphic based word processor (e.g. Writing with Symbols)<br>• Scanner and computer with form filling software to create electronic worksheets<br>• Computer-based advanced reading and writing aids (e.g. Kurzweil 3000, WYNN, Read & Write Gold)<br>*Adaptive input hardware and/or software (e.g. keyguard, keyboard utilities, enlarged keyboard, touchscreen, on-screen keyboard, |



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## Assistive Technology Consideration Resource Guide

| Instructional or Access Area | Standard Tools | Modifications and Accommodations of Task and Expectations | Assistive Technology Solutions |
|---|---|---|---|
| *Writing Sample Tasks (Continued)*<br>• Record dictated math calculation problems with correct alignment<br>• Copy diagrams and graphs create and plot linear and quadratic equations on graph | • See previous page | • See previous page | trackball, switch access, voice dictation software, Braille input) and adaptive output solutions (screen enlargement, text or screen reading software) to be used as needed for all computer based writing solutions |
| **Spelling:**<br>Sample Tasks:<br>• Identify correctly spelled word from printed list<br>• Write spelling words from dictation<br>• Spell words orally<br>• Take a written spelling test<br>• Use spelling words appropriately in a sentence<br>• Locate correctly spelled words in a dictionary<br>• Complete writing tasks with correct spelling<br>• Identify/correct incorrectly spelled words in writing sample | • Flashcards<br>• Alphabet strip<br>• Print dictionary<br>• Computer with word processing software with built-in spell checker<br>• Instructional software to remediate and enhance basic phonics and spelling skills | • Peer/adult assistance for difficult to spell words<br>• Personal or custom dictionary<br>• Problem word list<br>• Reduce number of spelling words<br>• Increased time for completing assignments | • Personal dry erase board for practice<br>• Tape recorder with difficult to spell words recorded<br>• Hand-held spellchecker without auditory output (e.g Merriam-Webster Dictionary and Thesaurus)<br>• Hand-held spellchecker with auditory output (e.g. Speaking Merriam-Webster Dictionary and Thesaurus)<br>• Portable word processor with built-in spellchecker (e.g. AlphaSmart NEO, The Writer Fusion)<br>• Computer with word processing program with spell check feature (e.g. Microsoft Word)<br>• Computer with talking word processing software containing speaking spell check (e.g. Write Out:Loud, Classroom Suite, Talking Word Processor)<br>• Computer with word prediction software, (e.g. Co:Writer, WordQ) |
| **Reading:**<br>Sample Tasks:<br>• Identify letters in isolation and in sequence<br>• Recognize/read name<br>• Read basic/primer sight words<br>• Read functional words (community, emergency, grocery, etc.)<br>• Read target/selected words within a sentence<br>• Comprehend age/grade appropriate reading materials<br>• Read print materials from textbooks and supplemental materials with comprehension | • Textbooks<br>• Worksheets<br>• Printed information on board/overhead<br>• Printed test materials<br>• Instructional software to remediate basic reading and/or reading comprehension skills | • Peer/adult reading assistance<br>• High interest, low reading level materials<br>• Increased time for completing reading materials<br>• Decreased length of assignment<br>• Simplify complexity of text<br>• Color coding to emphasize key points (highlighting)<br>• Custom vocabulary list<br>Increase print size of materials through photocopying | • Page fluffers<br>• Slant board and book holders for positioning books<br>• Color Overlays<br>• Tracking strategies (e.g. reading window, bar magnifier)<br>• Speaking spellchecker or dictionary as a word recognition aid(e.g. Speaking Merriam-Webster Dictionary and Thesaurus)<br>• Reading Pen (e.g. Readingpen)<br>• Audio-taped books (e.g.books-on-tape from Recordings for the Blind and Dyslexic)<br>• Electronic books (e.g. disk or CD-ROM)<br>• Computer-based talking word processing |



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| Instructional or Access Area | Standard Tools | Modifications and Accommodations of Task and Expectations | Assistive Technology Solutions |
|---|---|---|---|
| *Reading Sample Tasks (Continued)*<br>• Read material from worksheet with comprehension<br>• Read material from board/overhead with comprehension<br>• Read material from computer display with comprehension<br>• Read longer reading samples with comprehension and without fatigue<br>• Answer literal questions regarding materials read<br>• Answer questions regarding main idea of materials read<br>• Answer inferential questions regarding materials read | • See previous page | • See previous page | program (e.g. Write OutLoud, E-Text Reader, Classroom Suite)<br>• Computer with graphic word processor (e.g. Writing with Symbols)<br>• Computer with text enlargement software (e.g. ZoomText)<br>• Computer with text reading software (e.g. ReadPlease, JAWS, Kurzweil 1000)<br>• Computer-based advanced reading and writing aids (e.g. Kurzweil 3000, WYNN, Read & Write Gold)<br>• Solutions for converting text into alternative format (e.g. scanner with OCR software, Braille translation software, Braille printer/embosser, refreshable Braille displays, and tactile graphic production systems, etc.) |
| **Math:**<br>Sample Tasks:<br>• Identify numbers in isolation and sequence<br>• Comprehend basic math concepts<br>• Complete basic calculations (addition, subtraction, multiplication, and division)<br>• Complete complex math calculations<br>• Complete math word problems<br>• Tell time to the hour, half-hour, etc. using an analog and/or digital clock<br>• Calculate passage of time<br>• Identify coins and bills<br>• Demonstrates understanding of coin and bill value<br>• Utilize money to purchase items<br>• Utilize coins and bills to make appropriate change<br>• Maintain and balance a checkbook | • Manipulatives (beads, etc.)<br>• Abacus<br>• Number line<br>• Math fact sheet (e.g. multiplication facts)<br>• Calculator<br>• Instructional software to remediate and enhance specific math skills | • Change format of assignment (e.g.: write answers only)<br>• Peer/adult reading of problem and recording of answer<br>• Reduce number of problems<br>• Provide additional spacing between problems<br>• Provide additional time to complete tasks<br>• Increase size of print through photocopying<br>• Change complexity of material (e.g. separate problems by operations required)<br>• Teacher/peer support for reading and assistance | • Modified paper (bold line, enlarged, raised line, graph paper, etc.)<br>• Talking calculator with speech output<br>• Calculator with large print display<br>• Calculator with large keypad<br>• Calculator with embossed output (e.g. Braille N Speak)<br>• Computer based on-screen calculator<br>• Computer with word processing program with Equation Editor feature (e.g. Microsoft Word)<br>• Electronic math worksheet software with adaptive input and output as needed (e.g. MathPad, MathPad Plus, Scientific Notebook, and Geometers Sketchpad)<br>• Adapted measuring devices (e.g. devices with speech output, large print display, or tactile output) |



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## Assistive Technology Consideration Resource Guide

| Instructional or Access Area | Standard Tools | Modifications and Accommodations of Task and Expectations | Assistive Technology Solutions |
|---|---|---|---|
| **Study Organizational Skills:**<br>Sample Tasks:<br>• Copy assignments from board<br>• Record assignments from teacher dictation<br>• Complete assigned task within designated timelines<br>• Request teacher/peer assistance when needed<br>• Has appropriate materials/supplies for class activities | • Instructional materials, including software to remediate deficit areas, to teach compensation strategies, and focus on strengths | • Assignment sheet provided by peer and/or adult<br>• Outlines of key points<br>• Student schedule or checklist<br>• Positioning student strategically within classroom environment<br>• Timers<br>• Student self monitoring sheets | • Print or picture schedule<br>• Organizational aids (e.g. Color coding, appointment book, etc.)<br>• Tape recorder<br>• Electronic organizer/personal digital assistant (e.g. Step Pad, PDA,, Dana)<br>• Computer based electronic organizer with adapted input and output provided as needed<br>• Speech prompting device |
| **Listening :**<br>Sample Tasks:<br>• Follow verbal directions<br>• Listen to stories, books, etc. and answer comprehension questions<br>• Listen to classroom discussion and apply information (answer questions, record notes, etc)<br>• Listen to teacher lecture and and apply information (answer questions, record notes, etc)<br>• Listen to verbally presented information and retell with correct sequencing and facts<br>• Listen to videos to gather information about current instructional topics<br>• Respond to environmental stimuli appropriately (someone knocking on classroom door, bell ringing, fire alarm) | • Television<br>• Video player<br>• Cassette recorder/player<br>• Headphones for clarity of sound and blocking of extraneous noises for cassette/ television<br>• Overhead projector to provide visual outline during notetaking<br>• Closed captioning access to caption ready televsion and video presentations | • Preferential seating<br>• Use teacher proximity<br>• Elimination of extraneous noise (air conditioner)<br>• Break directions into smaller steps/segments<br>• Use verbal prompts<br>• Use gestures<br>• Pre-teach vocabulary and/or components of the lesson<br>• Audio-tape verbally presented information for repeated presentation<br>• Use visual aids (picture symbols, diagrams, maps) to illustrate key points<br>• Provide a written outline of lecture<br>• Use a peer note-taker to record notes in class<br>• Provide print copy of script in videotapes<br>• Provide sign language/oral interpreter | • Personal amplification system<br>• Classroom sound field system<br>• Auditory trainer<br>• Personal hearing aids<br>• Tape recorder with indexing capability<br>• Smart Board for transferring teacher written notes to student computer for viewing and printing and viewing<br>• Environmental alert system<br>• Voice to text software application for converting teacher lecture to text<br>• Closed captioning on non-caption ready instructional materials<br>• Real time captioning of class lecture and discussion |



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## Assistive Technology Consideration Resource Guide

| Instructional or Access Area | Standard Tools | Modifications and Accommodations of Task and Expectations | Assistive Technology Solutions |
|---|---|---|---|
| **Oral Communication:**<br>Sample Tasks:<br>• Gain attention of peers/adults within environment<br>• Express basic wants/needs<br>• Request assistance as needed<br>• Provide appropriate greetings<br>• Participate in conversation with peers/teachers<br>• Respond appropriately to teacher/peer questions and/or comments<br>• Provide oral report in class on assigned topic<br>• Inform others of events, topics, etc<br>• Terminate conversation | • Organizing diagram for presentations | • Interpreter<br>• Verbal prompts<br>• Modeling appropriate skills<br>• Repetiton of spoken answers<br>• Additional response time<br>• Provide questions before time<br>• Accepting shortened responses | • Speech enhancing devices (e.g. amplifiers, clarifiers)<br>• Augmentative communication solutions (e.g. object based communication displays, picture communication boards, books, and wallets, talking switches, dedicated augmentative communication devices, and integrated computer based augmentative communication solutions- all with adaptive input as needed)<br>• Sign language |
| **Aids to Daily Living:**<br>Sample Tasks:<br>• Feed self using appropriate utensils<br>• Drink using appropriate utensils<br>• Prepare simple snack<br>• Prepare basic meal<br>• Dress and/or undress self using appropriate tools<br>• Complete personal hygiene and grooming tasks (brushing teeth, hair, etc.)<br>• Toilet self<br>• Perform simple household chores | • Eating utensils (ex. spoon, cup, etc.)<br>• Personal hygiene tools (ex: toothbrush, comb, brush, etc.)<br>• Toileting supplies (ex: tissue)<br>• Bathroom rails and adaptive faucet handles<br>• Cleaning materials and appliances | • Verbal prompts<br>• Modeling appropriate skills<br>• Picture cures and prompts<br>• Additional time to complete tasks<br>• Modification of task length and complexity | • Adapted eating aids (e.g. grips for standard eating utensils, adapted cups/glasses, etc.) Feeding machines<br>• Adapted dressing aids (e.g. button holers, pulls for zippers, Velcro fasteners, etc.)<br>• Adapted cooking and food preparation aids (e.g. blender attached to power control unit, adapted pouring handles, etc.)<br>• See other sections of this document for leisure, vocational, mobility, and learning aids.)<br>• Adapted household cleaning tools and appliances |



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## Assistive Technology Consideration Resource Guide

| Instructional or Access Area | Standard Tools | Modifications and Accommodations of Task and Expectations | Assistive Technology Solutions |
|---|---|---|---|
| **Recreation and Leisure:**<br>Sample Tasks:<br>• Participate in play activities<br>• Participate in leisure activities (ex: look at/read book or magazine, listen to music, etc.) appropriately<br>• Manipulate and/or operate toys, tools, and/or electronic appliances required for participation in leisure activities appropriately | • Puzzles<br>• Games<br>• Toys<br>• Music (e.g. tape player, CD-ROM, etc.) | • Verbal prompts<br>• Adult peer assistance<br>• Modeling appropriate skills<br>• Cooperative participation with<br>• Game modification | • Knobs for puzzles<br>• Adapted crayon holders<br>• Adapted books<br>• Adapted music with symbols<br>• Raised line coloring sheets<br>• Spinners for games<br>• Switch accessible toys (commercially available or switch accessible through switch interface)<br>• Environmental control devices<br>• Power control units and battery adapter devices<br>• Adaptive sports equipment<br>• Computers with adaptive input devices as needed and appropriate software to address leisure skills |
| **Pre-vocational and Vocational:**<br>Sample Tasks:<br>• Complete assigned tasks (ex: filing, sorting, assembly, etc.) within designated timelines<br>• Utilize tools, manipulatives, and/or equipment to complete tasks<br>• Complete single and multiple step tasks | • Sorting and assembling materials<br>• Office equipment<br>• Computer with standard office applications<br>• Timers and watches | • Verbal prompts<br>• Picture and word cues<br>• Modeling appropriate skills<br>• Cooperative participation with peers and adults<br>• Student self-monitoring sheets<br>• Modification of task length and complexity | • Individualized task and material modifications to meet student needs<br>• Computer with adaptive input devices as needed and appropriate software to address pre-vocational or vocational needs<br>• Vibrating and talking watches and timers<br>• Auditory prompting with and without visual display |
| **Seating, Positioning, and Mobility:**<br>Sample Tasks:<br>• Move about/ambulate about the classroom, school, and/or community<br>• Manipulate educational materials as required in assigned activities<br>• Maintain appropriate seating/ position for participation in relevant activities | • Classroom chairs, desks and tables | • Limit mobility requirements through careful scheduling of daily activities (order, location, etc.)<br>• Peer and adult assistance<br>• Modification of requirements based upon student's daily energy level and the task to be completed | • Adaptive classroom equipment (e.g. prone and supine standers, side lyers, adapted chairs with seating modifications and support, etc.)<br>• Adapted tables and desks<br>• Walkers<br>• Crutches/canes<br>• Manual wheelchairs<br>• Power wheelchairs<br>• Laptrays and equipment mounts |

The assistive technology devices referenced in this document are included to provide examples of different types of devices used by students with disabilities to accomplish educationally relevant tasks in instructional and access areas. The document does not include all assistive technology devices within a device category and inclusion of a particular device does not constitute endorsement by the Georgia Department of Education. Additional devices may be added to the document by contacting the Georgia Project for Assistive Technology.



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# ***Appendix H****- Documenting AT in the IEP*

*James is in the sixth grade. While he can read and do math work at a sixth grade level, his fine motor skills are poor and his handwriting looks more like that of a second grade student. He is ashamed of his handwriting and dislikes assignments that require writing more than a few words. Because it is so difficult for him to write, James also has difficulty with spelling. When James uses a portable word processor or word processing software with spell checking on a computer, he is able to complete all of his written work at a level comparable to that of other students in his class.*

*Brandi has severe vision impairments. She is fully included in her junior high school program and receives Braille and mobility instruction from the Vision Specialist. She uses a Closed Circuit TV (CCTV) to enlarge the print in textbooks and other print materials when he reads written work at school. Brandi could do all of her homework independently if she had a CCTV at home.*

*Ceto attends his home school where he is in a self-contained class for students with multiple disabilities. He has been receiving speech/language services from an SLP who has expertise in augmentative communication for two years. She has helped obtain a speech generating devices through Medicaid. Ceto takes the device back and forth from school to home each day and uses it on the playground and in the community. Ceto's parents would implement be able to implement his communication goals at home if they had further training in the use of the device.*

All of these students qualify to receive the assistive technology devices and services they need under the Individuals with Disabilities Education Improvement Act (IDEA), which states:

> (a) Each public agency must ensure that assistive technology devices or assistive technology services, or both, as those terms are defined in §§ 300.5 and 300.6, respectively, are made available to a child with a disability if required as a part of the child's—
>
> (1) Special education under § 300.36;
>
> (2) Related services under § 300.34; or
>
> (3) Supplementary aids and services under §§ 300.38 and 300.114(a)(2)(ii).

IDEA goes on to define an assistive technology device as:

> 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 the functional capabilities of a child with a disability. The term does not include a medical device that is surgically implanted, or the replacement of that device. (Authority 20 U.S.C. 1401(1).

**Writing Assistive Technology in the IEP**

The Individuals with Disabilities Education Improvement Act (IDEA) and its regulations state that assistive technology may be provided as special education, related services, or supplementary aids and services (300.308). Within specially designed instruction it may be included as part of the Present Level

of Educational Achievement and Functional Performance, as a stand-alone goal, as a short term objective for a goal, or as a method and/or material within a goal or objective.

There are also several other ways in which assistive technology may be meaningfully included in the IEP. AT devices and services may be documented in the IEP in:

- Consideration (under Special Factors)
- Present Levels of Educational Achievement and Functional Performance
- Annual Goals
- Related Services
- Supplementary Aids and Services
- Supports for School Personnel
- Participation in State and Local Assessments
- Transition Services

All of these places are equally legal and equally binding. The task is not to get it in the "right " place, but to put it where it will make sense to the individuals implementing the IEP throughout the year. Regardless of where in the IEP AT appears, the IEP document should clearly reflect the AT needed, describe the manner in which it will be used, and the services/supports required for its successful use.

**Consideration**

Every IEP team must consider whether a student needs assistive technology as part of a free appropriate public education (FAPE). The consideration question should be answered in a way that points to why the AT is needed (or not needed) and should be compatible with what is written in other parts of the IEP. For example, if a student uses assistive technology in order to participate in state and local assessments, the answer to the Consideration question, "Does this student require assistive technology?" is "yes". It doesn't' make sense to read that a student doesn't need AT under Consideration and then to see that he uses a calculator and is allowed to keyboard on assessments. This is confusing to the parents and to service providers who are responsible to implement the IEP and demonstrates a lack of understand of what AT is.

**Assistive Technology in the Present Level of Academic Achievement and Functional Performance (PLAAFP)**

In this example, AT in the form of a portable word processor appears as a part of the PLAFP. The goal is for the student to complete assignments with fewer spelling errors. AT here is identified as a tool that the student is already using in his individual education program. It is included so that there is a clear description of the way the student currently completes written assignments.

> **PLAAFP:** Kerry uses a portable word processor with a spell checker to complete written assignments in his classroom. He averages 25 spelling errors per 100 words in written documents.
>
> **Goal:** Kerry will be able to complete 70% of all written assignments in the fourth grade with fewer than 8 spelling errors per 100 words.

**Assistive Technology as a Stand Alone Goal**

As a general rule, AT is not included as a separate goal. However, when a student is learning the operation of a complex tool or the function of a new assistive device it may be necessary. In this example, the student is learning to use refreshable Braille on a lap top computer.

> **PLAAFP:** Amada has just received a laptop computer with refreshable Braille output. She does not know how to operate it.
>
> **Goal:** Amanda will be able to independently operate her lap top computer with refreshable Braille output. She will be able to turn it on, open files, read files, input data, and print work with no assistance from an adult 90% of the time.

Once she has accomplished this goal, she will be able to use the tool to achieve other educational goals. When this happens, the lap top computer will be included only as a condition under reading and writing goals or in some other section of the IEP.

**Assistive Technology in a Short Term Objective**

Although short term objectives are no longer required in all IEP goals, they may be used in functional goals in areas not covered by the school's academic curriculum. When assistive technology is included in short term objectives, the assumption can be made that the student knows how to operate the assistive technology devices but is now learning to use it in a specific situation. In this example, the student is using his power wheelchair to deliver messages as part of a vocational training program. He knows how to drive the chair, but must learn when and where to use it in order to accomplish the goal of working as an office aid.

> **PLAAFP:** Sam has been working as an assistant in the school counseling office. He can complete all school office tasks independently 100% of the time. He has never worked outside of the school building.
>
> **Goal:** Sam will work four hours per day in a work-study placement at the business office of the local hospital. He will complete all duties of an office aide independently with no more than three errors daily using picture cures for his schedule and to complete task with more than three steps.
>
> **STO:** Sam will be able to successfully copy handwritten addresses into a computer database with 90% accuracy using picture cues in his work notebook as a guide.
>
> **STO:** Using his power wheelchair Sam will be able to independently deliver small packages, written messages and other items from the business office to the nursing stations on each floor and to the hospital pharmacy with 100% accuracy.

Note: The use of a computer in the first STO is not AT use. Sam is learning a new skill (e.g. entering data into a database) but he does not require assistive technology to complete this task. Any person doing the task will be using a computer in exactly way as part of this job.

**Assistive Technology as a Condition within a Goal (or Short Term Objective)**

One of the most commonly used ways to include assistive technology is to list it as a condition under which the student will be able to accomplish the goal. In this example Sylvia uses a speech generating device to augment her communication.

> **PLAAFP:** Sylvia uses her speech generating augmentative communication device with dynamic display to communicate anything more than simple yes/no responses. She has become very proficient with it and given sufficient time can produce complex sentences to demonstrate her knowledge and understanding of academic concepts.
>
> **Goal:** When provided access to her speech generating device with appropriate vocabulary items, Sylvia will successfully demonstrate knowledge of concepts taught in 6th grade science and social studies in 90% of the opportunities presented.

**Assistive Technology as a Related Service**

Related services can be broadly defined as those services which are provided to a student which do not require the student's active learning. The examples below describe actions that will be taken by staff in order to help the student benefit from the educational program. When an assistive technology service is provided as a related service it will be listed in the chart of related services that includes the amount of time needed and the duration, length and frequency.

> Mary uses a speech generating augmentative communication devices. She is independent in its use, but is unable to add new vocabulary due to the motor skills needed to do so. The Augmentative Communication Specialist will visit the class every other week for one hour to add new vocabulary as recommended by Mary and the classroom teacher.
>
> Jason is able to use complete written assignments using a computer with adapted input devices. The instructional assistant will visit the classroom twice per week for ½ hour each time to make back-up copies of all of Jason's work and to identify any needs for new software or other materials that may arise.
>
> DiAnne is fully independent with her power wheelchair. The Occupational Therapist will visit the school one month before the beginning of each new semester to determine any needed building modifications or special adaptations that DiAnne may need for her new classes.

**Assistive Technology in Supplemental Aids and Services**

Supplementary aids and services are those tools and services that a student needs in order to be successful in the general education classroom. Statements need to be specific and include the amount of time needed.

> Brandi uses a Braille 'N Speak portable Braille note taker. She cannot take notes without it, so it must be present in all classes.

Frank uses a personal FM amplifier in large lecture classes. The device is provided to the school district by a resource program for hearing impairment. He is to have it available in history, social studies and in any assemblies or special presentations.

**Assistive Technology in Supports for School Personnel**

When training is needed to allow school personnel to carry out their role in AT use, it may be listed as a support that will be provided to the individuals needing it.

**Assistive Technology in Participation in State and Local Assessments**

The IEP team is required to identify the accommodations and modifications needed by a student in order to participate in high stakes state and local assessments. While accommodations such as extended time or a quite setting are not AT, others are. Any time the student is using an accommodation that is a tool that tool is assistive technology.

**Assistive Technology in Transition Services**

The transition planning for a student who uses AT will need to include any services that are needed. These might include the training of the student to learn to use a new device or a different model or brand that will be needed in the new environment. The services will depend on what the student needs to be able to do in the new environment and the characteristics of the new environment.

**Describing versus naming an AT product in the IEP document**

When including the AT in the IEP document, it is considered best practice to describe the features needed rather than state a brand name, because devices change rapidly and most devices and software have multiple features, not all of which may be required by the student to have FAPE. Listing the features provides a more accurate description of the support needed by the student, and may be particularly helpful in providing back-up or temporary replacement for the AT in the event of breakdown.

**Providing the AT to implement the IEP**

It is clear that the school must provide (i.e. make available) the AT that is described in the IEP so that the IEP can be implemented in school. In addition, IDEA states that on a case-by-case basis, the use of school-purchased AT 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 (34 CFR 300.105). This may include providing AT devices or software when needed for homework, or for functional skills that are necessary across environments, such as communication using an augmentative/alternative communication (AAC) device.

**Conclusion**

Clear written descriptions of the functions of assistive technology in the education program serve to clarify for students, parents, and service providers both the benefits and the responsibilities surrounding the use of the assistive technology. When everyone understands the expected role the assistive technology will play in a student's life, decisions about the appropriate assistive technology as well as funding decisions are made easier for the IEP team.

Retrieved from: http://www.natenetwork.org/resources

# ***Appendix I*** *- Law and Policy Guidance*

1. ***Legal Obligations for Assistive Technology under the Individuals with Disabilities Education Act (IDEA), Section 504 of the Rehabilitation Act, and Title II of the Americans with Disabilities Act (ADA)***

2. ***Policy Considerations for Assistive Technology***
    a. Purchasing AT
    b. Take Home Policies
    c. Transfer of AT Devices
    d. Transportation of AT Devices

# Legal Obligations for Assistive Technology under the Individuals with Disabilities Education Act (IDEA), Section 504 of the Rehabilitation Act, and Title II of the Americans with Disabilities Act

## Section 504 of the Rehabilitation Act

Section 504 prohibits discrimination against qualified individuals with disabilities by any entity that receives federal financial assistance. Given that schools receive funding from the federal government, 504 applies to the operations of all public school districts, including public schools within those districts such as charter schools and magnet schools.

Section 504 defines a disability as:

1. A physical or mental impairment that substantially limits a major life activity;
2. A record of such an impairment; and
3. Being regarded as having such an impairment.

As such, public school students with disabilities are covered under Section 504, regardless of whether they are eligible for special education and related services under IDEA. The Office of Civil Rights is the regulatory agency for Section 504, and they require that public school students with disabilities have an equal opportunity to participate in school and receive a free and appropriate public education (FAPE). FAPE for students under Section 504 may consist of special education and related services—as well as supplementary aids and services—that are designed to meet those needs as adequately as the needs of nondisabled students are met. Therefore, when an accommodation plan is developed for a 504-eligible student, AT must be considered and utilized if it would be necessary to access the general education classroom and curriculum in order to provide FAPE and meet the needs of that student as efficiently as the district meets the needs of its nondisabled population.

## Title II of the Americans with Disabilities Act (ADA)

Title II of the ADA prohibits discrimination against qualified individuals with disabilities by state and local governments, whether or not those entities receive any federal funds. Title II defines disability in the same manner as Section 504, protects students with disabilities regardless of eligibility under IDEA, and applies to every public elementary and secondary school in the country. As such, it applies to all programs, activities, and services of public school districts, including charter schools and magnet schools.

The U.S. Department of Justice is responsible for implementing regulations for Title II of the ADA. These regulations require that public schools provide students with disabilities an equal opportunity to participate in all school activities, and that public schools ensure—through the provision of auxiliary aids and services—that communication with students with disabilities is as effective as communication with students without disabilities.

The "effective communication" provisions under Title II ensure that students with vision, hearing, and/or speech disabilities have communication that is as effective as all other students at school. Central to these provisions is giving "primary consideration to students and parents" in the determination of which auxiliary aids and services are necessary to ensure effective communication.

Under Title II, the school "must provide the aid or service requested by the student or parent," unless it can provide an alternative auxiliary aid and service that is as effective in meeting a student's communication needs, or unless the school can justify that the provision of such a service would result in undue financial or administrative burden to the district.

## The Individuals with Disabilities Education Act (IDEA)

IDEA Part B provides funds to states and, through them, to local education agencies (school districts) for the purpose of providing FAPE to eligible students with disabilities through the provision of special education and related services. Each eligible student with a disability must have a written IEP developed by a team that includes a statement of the special education and related services that are to be provided to the student, including any supplementary aids and services that may be necessary to provide FAPE in the least restrictive environment.

Assistive technology is required to be considered for every IDEA-eligible student each time the IEP team meets to develop, amend, or review the IEP document.

***Will the aids and services required be the same under all federal laws?***

It depends on the individual needs of the student. Special education and related services provided to an eligible student with a disability under IDEA will sometimes meet the Title II and/or Section 504 requirements. In other cases, in order to meet Title II requirements, a school may have to provide a student with aids and services that are not required for FAPE under IDEA. Assistive technology may often be at the heart of aids and services that ensure a student has effective communication as defined by Title II as well as FAPE under IDEA.

For more information on these laws, please see the following documents from the U.S. Department of Education:

1. Dear Colleague Letter on Effective Communication, available at: http://www2.ed.gov/policy/speced/guid/idea/memosdcltrs/doe-doj-eff-comm-ltr.pdf
2. Fact Sheet on Meeting the Communication Needs of Students with Hearing, Vision, or Speech Disabilities, available at: http://www2.ed.gov/policy/speced/guid/idea/memosdcltrs/doe-doj-eff-comm-fct-sht.pdf
3. FAQs on Effective Communication for Students with Hearing, Vision, or Speech Disabilities in Public Elementary and Secondary Schools, available at: http://www2.ed.gov/policy/speced/guid/idea/memosdcltrs/doe-doj-eff-comm-faqs.pdf

# Policy Considerations for Assistive Technology (AT)

**Purchasing Considerations**

Prior to purchasing an AT device, there are issues to be considered by the IEP team that may reduce costs at a later date, or may prevent the purchase of an inappropriate device for use by a student. These considerations include:

- **Warranty** – Read carefully to determine the length of the warranty period and the coverage. Service contracts may be available, and it may be advisable to contact others who have purchased the device for their input on repairs, maintenance, and their experience with the warranty. Be aware of recommendations on authorized service centers.
- **Back-up Supports** – Vendors may be locally available for training, troubleshooting, and/or servicing a device. Determine what services are available and included in the purchase price of the device. Find out if there is a toll-free help line where questions about setup, repair, and maintenance can be addressed, and if there is a charge for technical support.
- **Owner's Manual** – Review the owner's manual for device instructions, assistance with troubleshooting, guidance with equipment set-up, and an overview of any special features available.
- **Equipment Return Policy** – Be aware of the vendor's terms for the return of the device. Meeting these terms may save the district funds should the AT not work out for the student. Return policies vary and should be obtained in writing prior to purchase.
- **Loaner Equipment** – Inquire from the vendor whether a device can be available on loan in the event of needed repairs or maintenance. Loaner equipment may be essential should repairs or maintenance take an extended period of time. Be aware of other options for loaner equipment in the event it is needed.

**Take Home Policies**

The provision of AT devices in the home, as well as other environments outside of school, may be necessary for the provision of a free and appropriate public education (FAPE). The IEP team will address this issue by considering all situations in which an AT device or service may be required, and will determine whether the goals of the IEP can be attained if AT devices or services are only available at school. If the attainment of goals is hindered through the lack of availability of a device in a non-school setting, the provision of FAPE is not being met.

The use of school-purchased AT devices in the home or other settings is required if the student's IEP team determines the student needs access to those devices to receive FAPE (34 CFR 300.105). District policies on the loan of equipment to students should address parents' responsibilities for AT devices that are damaged due to negligence or misuse. The IEP team can discuss and document agreements with parents on this issue.

**Transfer of AT Devices**

Local districts will want to consider the status of AT devices when a student transitions either from one district to another or to a post-school program. When the AT device has been purchased by the district and the student is no longer eligible for special education services, the district may opt to have the device returned to the district or enter into an agreement with the receiving district, agency, parent, or the student for the purchase of the AT device. Such agreements will consider the "as is" value of the AT device for determining a fair purchase price for the parties involved.

**Maintenance and Repair of AT Devices**

The school district has the responsibility for the maintenance, repair, and replacement of AT devices that are necessary for the provision of FAPE to the student and are included in the student's IEP. This includes devices purchased by the district or devices made available by the parent for use at school that have been written into the IEP. Absent the family-owned device, a district would be responsible for obtaining the necessary AT for the provision of FAPE—therefore it is reasonable for a district to assume liability for such devices. It is recommended that districts clarify the contingencies on repair, maintenance, replacement, and subsequent ownership of AT devices through agreements with the family. Parents may not be charged for any wear and tear resulting from normal use of the device.

**Transportation of AT Devices**

Should the IEP team determine that a student will utilize an AT device outside of the school building, the safe transport of the device should be included in the student's IEP. Questions to consider may include:

- Will the student be able to carry the AT device without assistance? If not, what kind of assistance will be required?
- Does the device have a carrying case or wheels? If not, are there options for the transportation of the device?
- Does the size or weight of the device make transportation impossible?
- Does the home have the necessary electrical outlets and other requirements to operate the equipment?
- Can the device withstand the jolts and jars associated with transporting?

(This information has been excerpted from *Assistive Technology in Education, Nebraska's Guide for the Delivery of Assistive Technology Services for Students with Disabilities*, 2013.)

# North Dakota AT Resource Guide

## AT Device Access and Support

1. **IPAT-Interagency Program for Assistive Technology-**the state's assistive technology (AT) program, strives to bring AT into the lives of North Dakotans of all ages to help them lead a safe and full life at work, school, or home.

   IPAT, a non-profit organization, provides AT devices and services in the area of augmentative communication, computer access, hearing, vision, daily living aids, learning disabilities, autism, home and work modifications, environmental controls, and recreation.

   IPAT Services include:

   - Equipment Demonstrations at Demo Centers in Fargo and Bismarck. Call to schedule a free demo.
   - Equipment Rentals-Try Before You Buy
   - Used Equipment Program-AT4All
   - AT Trainings-individual and group
   - Informational presentations and in-services
   - AT Assessments and Consultations
   - AT Equipment Set-up
   - AT Funding Programs
   - Information and Assistance
   - ND Telecommunications Equipment Distribution Program for North Dakotans with difficulty using a traditional telephone.
   - iCanConnect- provides support for the distribution of a wide array of communications technology for North Dakotans with a dual hearing-vision impairment.

   http://ndipat.org/ and 1-800-895-4729

2. **Minnesota State University Moorhead Speech-Language & Hearing Clinic Regional Assistive Technology Center (RATC) -** established to provide communication devices and knowledge of augmentative systems to consumers, families, and professionals in Minnesota and North Dakota. The RATC provides:

   - Consultation and direct assessment
   - Support to users of AT
   - Equipment loan center
   - Continuing education on AT

   MSUM-RATC: http://www.mnstate.edu/speechclinic/ratc.aspx

4. **The Anne Carlsen Center**- located in Jamestown, ND, the center includes an assistive technology program among its many services for individuals with disabilities. The Center offers services that include:
    - Computer access and adaptations
    - Specialized mountings for wheelchairs, walkers, and beds
    - Educational and adaptive software for special needs
    - Custom-designed adaptations and switches for toys, electronic equipment like stereos and televisions, office equipment, and household applicances
    - Augmentative communication like picture boards
    - Wheelchair adaptations which include hardware mountings and special switches for maneuvering

    In addition, the Center's website includes a number of resources for learning about AT. For more information on their services, visit: http://annecarlsen.org/ .

## AT Device Funding

1. **IPAT** –http://ndipat.org
    - **IPAT Pedaling for Possibilities**-funds AT that is not funded by any other pay source to people of all ages who qualify financially
    - **IPAT Assistive Technology Financial Loan Program**-provides financial loans to North Dakotans with disabilities and/or their families to enable purchase of AT. These loans have low interest rates and flexible terms.

2. **Great American Bike Race** http://gabr.sanfordhealth.org/ - a fund raising program of the Sanford Health Foundation, the Great American Bike Race serves children in the region diagnosed with cerebral palsy to help with expenses that go beyond insurance coverage.

    For more information, visit: http://gabr.sanfordhealth.org/ .

3. **North Dakota Division of Vocational Rehabilitation-** assists individuals with disabilities to improve employment opportunities, including assistive technology as workforce development and retention tool. Services are provided at no charge, while there may be some costs for AT accommodations.

    ND DVR: http://www.nd.gov/dhs/dvr/index.html

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