Assistive Technology Manual Update

Updated 5/1/2019

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Introduction

This manual is an update from the 2003 Manual for Consideration of Assistive Technology (AT), provided by the Minnesota Department of Children, Families and Learning. This manual is a resource for a range of stakeholders, including family members, students, educators, policy-makers, school administrators, colleges and universities, and others to help ensure equitable access to AT devices and services for students with disabilities in Minnesota.

Unique to this manual is increased attention to mandates for service provision, including children served through an Individual Family Service Plan (IFSP), additional resources for families of students with disabilities and increased information about Quality Indicators for Assistive Technology (QIAT), accessible educational materials (AEM), universal design for learning (UDL), and the alignment among AT, AEM and UDL. Forms and resource documents have been developed or re-formatted to improve accessibility.

What is Assistive Technology?

Assistive technology is defined as both a "device" and a "service." As outlined in The Individuals with Disabilities Education Improvement Act of 2004 (IDEA 2004):

Assistive Technology Device—The term assistive technology device means "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve 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 such device." (34 C.F.R. § 300.5) See also 34 C.F.R. § 303.13(a)(1)(i)

Assistive Technology Service—The term "Assistive Technology service means any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device. The term include:

1. The evaluation of the needs of a child with a disability, including a functional evaluation of the child in the child's customary environment;
2. Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by children with disabilities;
3. Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing assistive technology devices;
4. Coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;
5. Training or technical assistance for a child with a disability or, if appropriate, that child's family; and
6. 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."

(34 C.F.R. § 300.6) See also 34 C.F.R. § 303.13(a)(1)(i)

As defined above, a **device** refers to a specific type of "product" used to enhance the functional capabilities of students with disabilities. **Services** are the supports necessary to assess the need and to encourage and promote use of the device (see Appendix E: Assistive Technology Glossary of Terms for a list of commonly used AT terms). AT devices range from very "low tech" (e.g., a pencil with a grip) to far more complex technologies (e.g., voice-activated computer and environmental controls). Although such terms as "adaptive technology" or "access technology" appear extensively in special education literature, the definition of AT in the federal law is intended to cover a broad range of devices and services that can be used by students with disabilities to participate in their educational programs. A key part of the definition is that AT enhances the functional capabilities of students with disabilities. The requirements in IDEA are clearly intended to provide students with increased access to general education programs.

References to the use of technology to support the needs of persons with disabilities extends back to Section 504 of the Rehabilitation Act of 1973 (i.e., "Section 504"). With increasing sophistication of various mechanical and digital technologies and national advocacy movement on behalf of persons with disabilities, the federal government responded with Public Law 100-407, the Technology-Related Assistance for Individuals with Disabilities Act (i.e., The Tech Act). The Tech Act was reauthorized in 2004 as the Assistive Technology Act of 2004. (See Appendix B: Assistive Technology Concepts and Definitions as Defined in IDEA 2004 for more detailed information about concepts and definitions specific to the area of AT.)

Why is Assistive Technology Important?

Even though the 1991 authorization of IDEA for Part B included a definition of "assistive technology," IDEA 2004 for Part B—now requires student planning teams (e.g., IEP, ITP) to consider whether AT devices and services are needed for each student who qualifies for special education services (34 C.F.R. §300.324(a)(2)(v)). IDEA 2004 also stipulates that school districts provide devices and services to ensure a free, appropriate public education (FAPE). Given these requirement, it is important that IEP and IFSP team members develop skills and knowledge about AT.

In addition to the federal requirements, (See Appendix A: Minnesota Statutes 125A, also requires that IEP teams address the student's AT needs. Important information about school district obligations, purchasing guidelines, interagency agreements and the role of third-party payers should be included in the planning process. This information is vital for IEP team members who are actively engaged in evaluating, providing and supporting AT.

Quality Indicators for Assistive Technology (QIAT)

As IEP team members collaborate to provide AT devices and services for students, they must know and follow effective practices. Those services must be aligned with federal, state and local mandates, support ongoing improvement in practice, provide a resource to colleges and universities, support individuals with disabilities and their families, and are relevant to policy makers.

Quality indicators were developed by focus groups and validated through research; intent statements that further explain each indicator; and a list of common errors for each indicator. The eight areas are all important to the development and delivery of AT services and include:

- Consideration of AT Needs.
- Assessment of AT Needs.
- AT in the IEP.
- AT Implementation.
- Evaluation of Effectiveness of AT.
- AT in Transition.
- Administrative Support for AT.
- AT Professional development.

Quality Indicators for Assistive Technology support materials have been developed over time by a range of stakeholders with an interest in AT, through participation in conference sessions, intensive summits, and workgroups. The indicators include the indicator area, specific indicators, and intent statement that clarifies the indicator and a set of self-assessment matrices for the Quality Indicators. The matrices are designed to allow individual service providers, IEP teams, AT teams and school districts to assess their current practices and plan for improvement. Local implementation teams are encouraged to use the matrices to develop an action plan that will result in sustainable change in practices in AT. Indicators, matrices, scaffolding forms and other support materials are available on the QIAT website (http://qiat.org). Permission to use these materials has been granted by the QIAT Leadership Team, as long as credit to QIAT is maintained.

When reviewing or using the Quality Indicators for Assistive Technology, it is important to be aware of some basic assumptions that pertain to all areas of QIAT.

- It is essential that all AT services developed and delivered by states or districts are legally correct according to the mandates and expectations of federal and state laws and are aligned to district policies.
- AT efforts, at all stages, involves on-going collaborative work by teams that include families and caregivers, school personnel, service agencies and others.
- Team members involved in AT processes are responsible for following the code of ethics for their specific profession.

Each indicator area is addressed with resources and supports for IEP teams, including family members. The eight indicators includes an intent statement which helps clarify the indicator and common errors for each indicator area, to help teams improve their own practice.

Review the Quality Indicators for Assistive Technology in Appendix D or on the QIAT website (http://qiat.org/indicators.html).

Consideration of Assistive Technology

Guidelines for Consideration of AT

Every IEP Team is required to "consider" the need for AT for every child in special education, as part of the “Special Factors” requirement in IDEA 2004. The federal requirements are clear that IEP teams must “consider whether the child requires AT devices and services” (34 C.F.R. §300.324(a)(2)(v)).

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

It is important to remember that consideration is by nature a brief process, one that can take place within every IEP meeting. Secondly, in order to consider the need for AT, individuals on the IEP team must have some knowledge about AT. Therefore, to facilitate knowledge about AT consideration, a procedure involving a series of steps has been developed to lead teams through the consideration process. Each step is built on a framework that involves team collaboration in determining what devices and services may meet a student’s needs.

What is Consideration of AT

Consideration of the need for AT is not limited to those students with more significant disabilities. Consideration of AT must occur for all students who qualify for special education. What does it mean to consider the need for AT? Since there is no federal definition of “consideration,” IEP teams can conclude the requirement to consider means to think about, and ask important questions about whether the student requires AT for educational access or progress.

The most important question is “How is the student doing in achieving IEP goals and in accessing the general education curriculum?” Some potential discussion points might include:

- Is the student making progress towards goals and achieving grade-level standards without any specialized tools or accommodations?
- In what area(s) of academics does the student need additional support?
- Does the student use specialized tools or accommodations to achieve grade-level standards or make progress towards IEP goals?
- Does the student already use specialized tools or accommodations, but is still not making progress?
- Is the student able to participate in school environments in ways that are equitable, compared to peers?
- Do enough members of the IEP team know enough about AT to effectively think about whether the use of AT devices would support the student in accessing the general education curriculum or achieving IEP goals?
- Are the right services in place to support the student in using AT devices?

Why Consider AT?

IDEA 2004 requires IEP teams to consider the need for five special factors in the development and revision of IEPs. The five special factors are listed in IDEA and read as follows:

1. In the case of a child whose behavior impedes the child's learning or that of others, consider the use of positive behavioral interventions and supports, and other strategies, to address that behavior;
2. In the case of a child with limited English proficiency, consider the language needs of the child as such needs relate to the child's IEP;
3. In the case of a child who is blind or visually impaired, provide for instruction in Braille and the use of Braille unless the IEP Team determines, after an evaluation of the child's reading and writing skills, needs, and appropriate reading and writing media (including an evaluation of the child's future needs for instruction in Braille or the use of Braille), that instruction in Braille or the use of Braille is not appropriate for the child;
4. Consider the communication needs of the child, and in the case of a child who is deaf or hard of hearing, consider the child's language and communication needs, opportunities for direct communications with peers and professional personnel in the child's language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child's language and communication mode; and
5. **Consider whether the child needs assistive technology devices and services.**

While IDEA is clear in the requirement to consider these factors, it is silent on the process or protocols to be followed. The Quality Indicators for Consideration of Assistive Technology provide a structure to the federal mandate, to consider five special factors in the development and revision of an IEP.

Who participates in Consideration?

Consideration requires information from various members of the IEP team. The regular education teacher is aware of tasks and activities in the general education classroom, and brings information about how the student participates. The special education teacher is knowledgeable about accommodations that are available for students with disabilities and strategies to support inclusion. The parent and the student bring knowledge about how the student is able to complete tasks and of successful use of accommodations and supports outside of the school setting. The administrator is aware of how supports can be provided in the education agency, and can ensure the right participants are available to support consideration and subsequent access to AT devices and services. Each of these voices brings an important perspective to the discussion and is essential to the process.

What happens when consideration occurs?

The act of "considering" includes discussion and analysis. Asking open-ended questions about the student can facilitate discussion. For example:

- What difficulties is the student experiencing in the educational environment?
- What strategies, materials, equipment and technology does the student have access to?
- What new or additional accommodations or assistive technology could be tried?

- What will the criteria be for determining whether the student's needs are being met while using additional accommodations or assistive technology?

These questions should generate a discussion, rather than a yes or no response. The Student, Environment, Task and Tool (SETT) Framework developed by Dr. Joy Zabala is a tool to organize and analyze the information shared and discussed during consideration. For additional information about SETT see page 17 for Sett Framework description.

It is important when considering the need for AT to look at the full range of educational settings for the student, and think about what it means to be actively involved in each of those settings. Think about individual classrooms and the typical tasks in those classrooms. How is the student able to complete those tasks? Some of these tasks might include answering questions orally or in writing. Some tasks can include writing longer responses or asking questions. Each of these types of tasks should be considered and if the student is not able to participate with independence or speed, AT should be considered. Also think about other opportunities in the school for social interaction and for movement around the school.

This consideration may result in more than one AT solution, since there may be multiple types of tasks or activities in which the student has the opportunity for participation. Sometimes these might be simple AT solutions (e.g., a pencil grip to circle responses on a test paper) or more complex AT (word processing app on a tablet). It is appropriate to provide a range of AT if that meets the student's needs and abilities. It is also important to consider what supports are needed to ensure that the student will be able to use AT properly. This can include training on the use of the AT for the student, family and educators, as well as other services that support the effective use of the chosen AT.

Protocols for Consideration

It is important for teams to have a consistent process to consider AT in every IEP team meeting. This will help guarantee that there is appropriate support provided to the student and compliance with state and federal law. Since IDEA does not tell IEP teams how to consider, or how to document the outcome of consideration, local schools should have a process in place that is easy to implement and use consistently. The included supporting documents can be adapted to use in local educational entities or schools.

Protocols should be available to all IEP teams, should meet legal requirements, and their use of them should be supported by schools and district administrations. It is important that IEP team members know the questions to ask during consideration, and have the opportunity to reflect on them prior to the meeting.

Components of effective consideration include:

- All members of the IEP team have the opportunity to provide input to the discussion.
- Action is determined because of the discussion.
- Agency administration is supportive of the process for consideration of AT and of taking appropriate action steps to ensure that consideration occurs.
- Agency wide protocols supporting consistent consideration are developed and disseminated.

Resource documents, aligned to the SETT Framework, which can be used by members of the IEP team, including family members, the student, educators and others involved, are included in Appendix G. There is no requirement to use these forms, but both novices and experienced teams may benefit from discussing the questions.

Steps for Considering Assistive Technology

Step 1: Prior to the meeting, to aid in practical consideration of AT, a team should gather data on current activities and supports in place, as well as needs the student may have. This data can be gathered in multiple ways, including observing the student in their customary environments. This observation may assist the team in making an informed decision regarding whether AT is already in place, what is working well, and potentially give some guidance regarding areas where any additional options may be needed. Team members should make a point of reporting both successes and areas of difficulty. The forms are brought to the team meeting by each team member involved with the student.

Step 2: At the team meeting, members conduct a group planning process to review information obtained from the forms. It is recommended that a flip chart or a recording system be used so everyone can see all the topics from the forms that need to be discussed.

Step 3: Indicate any areas in which there are concerns about the student's ability to function as independently as possible because of disabilities. Review the goals and objectives of the IEP to determine if any functional limitations will impede progress. Identify the specific tasks related to progress in that area that this student needs to be able to do or learn to do that currently would be difficult or impossible to do without assistance. Determine how barriers to doing those tasks are currently addressed and if there are any continuing barriers encountered when attempting a task. Consider whether the use of new or additional AT would: (a) enable performance of this task with more ease, efficiency, or in a less restrictive environment, or (b) perform the task successfully with less personal assistance. Also include supports educators will need to evaluate or assist the student in implementation.

Step 4: Summarize the consideration. If the team has determined that a need exists, describe what will be provided:

1. More specific assessment of need for AT
2. Existing tools
3. Adaptation or modification of existing tools
4. Additional tools
5. Technical assistance on device operation or use, training of student, staff, or family, etc.)

Step 5: Develop an implementation plan, which could include extended consideration with any identified devices, products or evaluation.

Role of Family in Consideration

Family members bring a critical role to consideration of AT. The family will be aware of tools and strategies that have been successful outside of the school setting. The family may be able to share

information about cultural attitudes regarding disability and AT use, or other factors which may impact use of AT by the student.

Questions a family member might have about consideration:

Q. Does consideration of AT happen in every IEP meting?

A. Yes, AT consideration should take place every time the IEP team meets to develop, review, or revise the student's IEP.

Q. What does a team decide when they consider AT?

A. The IEP team should review whether the student is making progress on IEP goals. If the student is not making progress, the team should think about additional accommodations or supports, including AT, to help the student make progress.

Q. Is consideration the same as evaluation?

A. Consideration and evaluation (assessment) are not the same. Consideration is a brief process which occurs in every IEP meeting, during which the team considers or thinks about whether the student is making adequate educational progress, and whether supports, including AT, would be of benefit. Consideration may lead to evaluation, which is a formalized process, with timelines dictated by federal and state law.

Q. Should your child participate in the IEP team meeting?

A. If it is possible, it is best to have students participate in their IEP meeting. The student brings information about their preferences and desires and can provide additional information about impacting issues and concerns.

Q. What happens when you request specific technology for your child?

A. When you request specific AT for your child, the educators on the IEP team may ask questions to determine if the tool that you are requesting will meet a specific educational goal. The school should consider the request, but there is no legal obligation to provide a specific tool for a student, unless there is data to show that it will be useful to assist the student in making educational progress.

If the student is using the tool in unique ways at home, it may be helpful to share that information with the rest of the IEP team. Bringing a record of what the student has done with the tool may be helpful in demonstrating why you are advocating for the use of a specific AT device or system.

Q. When is everyday technology AT?

A. Today's classrooms are incorporating more and more technology in teaching and learning. If your child is using the same technology as others in the classroom, the technology becomes AT to him if he requires that technology to access the curriculum. For example, if your student has dyslexia and requires a text-to-speech program to speak the text for him. Although the text-to-

speech is currently available to him on the accessible computers used in his classroom, the need for speech-to-text should be written in his IEP as AT. In the future he might change classes or schools where text-to-speech is not available to everyone. If it is written in his IEP, it ensures that he will receive the accommodations that he requires.

Outcomes of Consideration:

When the IEP team completes consideration of AT, there are four potential outcomes.

- The student is making adequate educational progress without the use of AT devices or services. Nothing additional is needed.
- The student is making adequate educational progress with the use of AT devices and services. Continue to provide access to those tools and services.
- The student may, or may not, be using AT devices or services, but the IEP team agrees that the student needs more supports to achieve IEP goals and access the general education curriculum.
- The IEP team does not know enough to effectively consider AT for the student.

Next Steps

Based on the outcome of consideration, there are different steps that can be taken.

If the student is making adequate educational progress with or without the use of AT devices or services, the team should continue to do what they have been doing. It is important, however, to remember to come back to the consideration of AT for the student whenever the IEP team meets.

If the student is not making adequate educational progress, even with the use of AT devices and services, it is necessary that the team explore whether there are additional AT supports that may be needed. For example, a student in early elementary grades may be successful with the use of a large pencil when generating written work. However, as the educational demands increase, if the student is not able to write with the same fluency or speed as their peers, the IEP team should consider what other writing supports may be available and appropriate.

If the IEP team does not know enough to effectively consider AT for the student, they will need to identify and bring in supports that will help them to complete consideration. This may mean use of district supports, outside supports, and attention to ongoing professional development in the area of AT.

Consideration is a critical step in the development of an IEP, but it cannot stand alone. Consideration by itself will not result in change in the student's access to the general education curriculum or in achievement of IEP goals.

Example:

Cate is an eighth-grader with athetoid cerebral palsy. Completing legible handwritten work is tiring, and reduces her productivity significantly. She is able to complete educational tasks at grade level, with access to appropriate AT. She uses a word processing program with word prediction app on a mobile device, using a Bluetooth external keyboard. She is able to print her work to any printer on the school

network, and is able to take the mobile device and keyboard home to complete homework. In some courses, Cate participates as part of a student assignment team. Cate indicated she wants to sign her name to a collaboratively developed poster board, as other students on the work group have done. Cate's Mom ordered a signature stamp, replicating her handwritten signature. Cate uses the stamp to sign the poster board, and is choosing to use it to stamp her signature on most of her written work.

Example:

Terri is a fourth-grade student with autism. She does well academically, but is challenged by a change in routine. When her school day is changed by activities like a conference or pep rally, Terri becomes distressed. She also has classes she prefers, and is very resistant, for example, to discontinue working on math problems to begin language arts. During her IEP meeting, this was discussed. Terri said she doesn't like surprises and when her schedule is changed, she reports that she feels upset. The teacher suggested that she could put a reminder on the whiteboard announcing any changes in the routine on days when Terri's schedule will change.

Her mother suggested the use of a timer to help Terri know when transitions will be coming up. She said they used this at home and it helps. Terri said she didn't want the other children to think she needed a timer. Her teacher showed them a small, desk top timer that had a visual representation of how much time was left for an activity. Terri thought she would like to try it. The team documented on the IEP that they considered the use of AT to help with transitioning between activities, and included the trials with the timer in her behavioral goal on the IEP.

Student, Environments, Tasks and Tools – SETT Framework

The SETT Framework is a tool to help teams gather and organize information used to guide collaborative decisions about services that foster educational success of students with disabilities. The SETT Framework was developed by Joy Zabala (www.joyzabala.com).

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's customary environments and tasks that are required of the student 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 the student in those environments are fully explored, IEP teams are able to consider the supports that need to be provided to a student that are student-centered, environmentally useful, and tasks focused.

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

Questions in the SETT Framework are expected to guide discussion rather than be complete and comprehensive. 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 are the student's strengths?
- 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)
- Expectations and concerns
- Interests and preferences

The Environments

- 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)

The Tasks

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

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

In the SETT Framework, Tools include devices, services, strategies, training, accommodations, and modifications. These Tools include everything that is needed to help the student succeed. Some parts of the Tool system address the specific needs of the student, while other parts of the Tool system may more specifically address issues in the Environments. Environmental tools may include:

- Access to the classroom.
- Accessibility of instructional materials.
- Support for staff that helps them in developing and sustaining learning environments that are inviting and challenging for all students, including those with the full range of abilities and special needs.

When determining what 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 SETT Framework forms or their district forms to address the following questions and activities.

- Is it expected that the student will be able to make reasonable progress toward educational goals without AT devices and services?

- If no, *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 period (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. Any process used must have the basic elements of an effective process, like those mentioned above, but SETT is a FRAMEWORK, not a process requiring a specific set of implementation practices for validity. Consistent processes are required for effective implementation: Therefore, people are encouraged to imbed the SETT Framework into existing district processes (such as referral, IEP development, implementation planning, evaluation, etc.) or include it in the development of new, more effective processes when required.

Brief guides and forms have been developed to provide an example and a place to begin. The guides and forms are known as SETT Scaffolds and are available in Appendix G. In the building trade, a scaffold is used to support the integrity of a structure while it is being developed and also provide access to parts of the structure that are harder to reach. 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 important components of the SETT Framework?

- **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 believes that they have) but based on an agreed-upon, mutually valid shared knowledge of the student, the environments, and the task.
- **Collaboration***:* The SETT Framework is a 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 be developed only if the opinions, ideas, observations, and suggestions are respectful and respected.
- **Multiple Perspectives***:* Everyone involved brings 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 failure.

- **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 in important, but that line may well be a moving target.
- **Flexibility and Patience***:* When working through the SETT Framework or other means identifying concerns and solutions, there may be a 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. The "perfect" solution might not look quite so perfect when all important factors are discussed.
- **On-going Processes*:*** Decision-making in educational settings is an ongoing process. It is expected that the SETT Framework will be useful during all phases of AT service delivery. With that in mind, it is important to revisit the SETT Framework information periodically to determine if the information guiding decision-making and implementation is accurate, up to date, and clearly reflects the shared knowledge of all involved.

Conclusion of the SETT Framework

The SETT Framework supports a thorough yet simple approach to AT consideration and intervention. Data gathered and organized with simplicity, increases, a team's ability to effectively generate a range of tools that will support student achievement and enhance the student's independence and competency. People supporting the student may also 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 could lead to device abandonment or "under-implementation" of tools. When the environments and tasks are fully explored and considered, students, parents, and professionals should see increased opportunities for success that 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.

What is Feature Matching?

Feature matching is a systematic process by which a person's strengths, abilities and needs are matched to potential tools and strategies. It is important to know about the individual and about tools and the features of those tools to select the tools that will provide appropriate support to the student to complete specific tasks. There are a range of questions to be asked in a feature match discussion and a range of tools which can be used depending on the types of needs for an individual.

Feature Match Considerations:

When a team selects an AT device to support an individual, whether the child is served under Part C, Part B, a youth in transition, or is served under adult services, it is important to select a tool that is useful to the individual, is accepted by the individual, and is able to provide the developmental or functional supports needed by the individual. Teams are encouraged to utilize feature match strategies

to select appropriate AT for an individual. For example, features in tools designed for individuals with vision loss may not benefit an individual with attention issues.

Many school teams find it useful to complete feature matching checklists during a professional development activity. The resource section has a list of feature match tools which can be adapted for a team's use.

Assistive Technology Evaluation

The AT field is broad and includes multiple disciplines. An effective AT evaluation team is made up of representatives of those disciplines who are able to provide services for a student based on their individual needs. An AT evaluation should be conducted to meet a specific need of a student. Specific tasks should be identified for which an AT solution is sought.

What is an AT Evaluation:

An AT evaluation is conducted by a team rather than an individual. Although one person may bring important information regarding AT to the team, other players can provide essential information about how AT will be useful. Additionally, no single person is knowledgeable about all areas in AT. The task can be educational (writing, completing assignments, answering questions), a life-skill (eating, self-care, mobility), or vocational (organizing tasks, telling time). You may have to prioritize tasks or find tools that are appropriate across multiple needs. However, it is essential to prioritize the areas for concentration. Otherwise, the broad spectrum of AT possibilities across all areas can be overwhelming for both the student and the team. An AT evaluation should:

- Be performed in accordance with recognized professional standards.
- Include an analysis of behavior.
- Be conducted within required timelines.
- Be conducted in the student's customary environments.
- Be administered in the student's primary language or mode of communication.
- Be conducted by a multi-disciplinary team including qualified professionals.
- Use information gathered from the student, parents, and others;
- Result in an evaluation summary.
- Present the evaluation team's judgment regarding AT.
- Contain all team members' names, titles and the date of report.

An evaluation report, generated as part of an initial evaluation or re-evaluation; should include information regarding areas where AT should be considered. If a student already uses AT, the AT should be made available to the student during the evaluation to complete required tasks. An evaluation report will not necessarily provide information about specific AT devices or services, as this should be based on goals determined during the IEP meeting. It will, however, provide information to assist the team in better consideration of the need for AT when the IEP meeting is held.

The evaluation report includes strategies or features that a device should have to meet a student's needs. The report may name specific devices used during a trial activity, or, if during evaluation; a particular device becomes obvious as being of benefit to the student. If, however, there are questions

about which of several devices can be of value, the team can choose to employ a period of extended consideration as described above. This extended consideration does not need to be completed within the evaluation timeframe, but there should be a reasonable, documented plan listing timelines with which the team is in agreement.

An independent educational evaluation (IEE) may be provided at the district's expense if the team decides it needs additional experience or skills to complete the evaluation. An independent outside evaluation may also be conducted at the request of the student (if over 18) or the student's family. IEEs must conform to requirements included in IDEA (34 C.F.R. § 300.502).

Whenever an IEE is at public expense, the criteria under which the evaluation is obtained, including the location of the evaluation and the qualifications of the examiner, must be the same as the criteria which the public agency uses when it initiates an evaluation to the extent those criteria are consistent with the parent's right to an independent educational evaluation. (34 C.F.R. § 300.502(e)(1)). The public agency should have criteria for the minimum qualifications of persons who conduct evaluations.

Why conduct an AT Evaluation?

If the team is not able to agree on a particular type of device or strategy that would benefit the student, or requested by the student (if over 18) or family, an evaluation becomes necessary.

Who Participates in an AT Evaluation?

An AT evaluation is best conducted by a team rather than an individual. No single person will have adequate knowledge of a student, his or her unique strengths and abilities, the tasks that need to be performed, and the environments in which the student spends their time. Although one person may bring important information regarding AT to the team, other players can provide essential information about how that AT will be useful.

Additionally, no single person is knowledgeable about all areas in AT. The AT field is broad, and there are multiple disciplines involved. An effective AT team will be made up of representatives of those disciplines who are able to provide services for a student based on his individual needs.

What Happens During an AT Evaluation?

During an AT evaluation, members of the evaluation team will examine the specific tasks that are challenging for a student with a disability, and help identify a tool or tools with features that help the student reduce the impact of the disability. The evaluation team will consider all areas of disability, and may identify a range of tools to benefit the student. For example, tools that support written work can include low tech solutions including a pencil grip for short responses, or can include a mobile device with word prediction and a word processor to use when generating longer responses.

What are Protocols for an AT Evaluation?

Members of the evaluation team can gather information in multiple ways, including:

- direct observation of the student in the educational settings,

- interview of the student, educators and family members,
- review of video footage of the student performing a task with and without access to AT, or
- review products generated by the student.

An AT evaluation must be conducted within the same timelines as any other educational evaluation. It is important, however, to be aware that equipment trials may become necessary to determine which device or devices are most appropriate for the student in the educational settings. Equipment trials may extend outside of the timeline of the educational evaluation, but the evaluation must include information on the types of tools to be explored, and the IEP team must document a plan with reasonable timelines for those trials, the data to be collected and a timeline to review and act on the outcome of the equipment trials.

What is the Role of the Family During an AT Evaluation?

The family provides critical information for the evaluation team, including history of AT use outside of the school setting, information on key motivators for the student, and information on any impact of family culture and values regarding disability and the use of AT.

Questions a family might have about an AT evaluation:

Q. Is an evaluation the same as consideration?

A. Consideration and evaluation (assessment) are not the same. Consideration is typically a brief process which occurs in every IEP meeting, during which the team considers (thinks about) whether the student is making adequate educational progress, and whether supports, including AT, would be of benefit. Consideration may lead to evaluation, which is a formalized process, with timelines dictated by state policy. An evaluation will help determine which, if any, AT devices and services are needed to support the student in achieving IEP goals.

Q: What is my role during an AT evaluation?

A: Parents and family members have important information about AT devices the student uses at home and in other settings. They should have the opportunity to share this information, and to share ideas on ways the student can be more successful or independent through the use of AT devices.

Q: Can I request an independent AT evaluation?

A: A parent can request an independent educational evaluation, including an AT evaluation. The district may or may not need to provide that independent evaluation if they can show that a district provided evaluation has met the student's needs.

Q: What are the obligations of a school to implement the recommendations of an evaluation I have obtained privately?

A: A district will consider the recommendations of a private evaluation or consultation. There is not a legal obligation to implement those recommendations, as the outside, private evaluation or consultation was not conducted in the educational setting.

What are Outcomes of an AT Evaluation?

An evaluation report which is generated as part of an initial evaluation or re-evaluation should include information regarding areas where AT should be considered. If a student already uses a form of AT, this should be made available to them during the evaluation if used to complete a required task.

An evaluation report may not necessarily provide information about specific AT devices or services, as this should be based on goals determined during the IEP meeting. It will, however, provide information to assist the team in better consideration of the need for AT when the IEP meeting is held.

This evaluation report should produce information regarding what strategies or features a device could have to meet a student's needs. It can potentially name specific devices, if during evaluation, a particular device becomes obvious as being of benefit to the student. If, however, there are questions about which of several devices can be of value, the team can choose to employ a period for equipment trials. Equipment trials do not need to be completed within the evaluation timeframe, but there should be a reasonable, documented plan listing timelines for which different tools with identified features will be made available to the student. Data are kept on the results of each item used, so that a decision can be made based on student performance with a range of devices.

Example:

Tim is in middle school. He has a learning disability. He has always struggled with keeping up in class, but is now failing several classes. He reports that he cannot keep up with reading assignments. His father reports that Tim is getting increasingly frustrated at home when he does his homework, and that Tim typically gives up after 35 minutes of reading. He also reports that Tim will stay engaged in his homework for an hour if a parent reads his material to him. Tim's IEP includes additional time for assignments, but the team feels he needs additional supports to help him keep up with reading.

Mrs. D'Antonio, Tim's case manager, reviews alternatives for digital text, using the AEM Navigator. Tim expresses an interest in digital text. Mrs. D'Antonio and Tim's father complete the paperwork for Tim to access books through Bookshare, and a goal is documented in Tim's IEP to determine if access to digital text will improve Tim's academic achievement. Tim already has access to a mobile device, as part of his schoolwide 1:1 initiative, and an app is added to allow books to be read aloud. Classroom materials are downloaded, and data are collected on the time Tim spends independently reading his homework. After a month, the data are analyzed. Tim is able to spend 90 minutes reading digital text. His grades are improving and Tim reports less frustration in completing his work. Access to digital text on a mobile device is added to Tim's IEP in both the present level of academic achievement and functional performance (PLAAFP) and in the accommodations section of his IEP.

Next Steps:

Based on the outcome of the evaluation for AT, the IEP team may be able to document either the tools to trial or necessary AT tools to implement in the IEP and will make those tools available to the student.

Documenting Assistive Technology in the Individualized Education Program (IEP) Plan

AT devices and services must be included on the IEP, if they are identified as being necessary for a student to receive FAPE. The Minnesota Department of Education provides a framework for the development of an IEP. The directions included for Minnesota's Model Due Process Forms contain guidelines for inclusion of AT in the IEP. These guidelines can be found in the following sections:

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

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

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

AT may be included in various places on an IEP, including:

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

The Minnesota Department of Education model forms meet the legal standard of federal and state laws and rules. Districts may add local requirements to the recommended IEP forms. Regulations require only that the outcome of consideration of AT be documented if the team determines that the student needs AT devices and/or services. Best practice would be to show that AT consideration had occurred, a notation or statement be added to the IEP such as "Assistive technology has been considered for this student" followed by: (1) "Considered and found to be not needed," or document that consideration took place for students for whom AT is not needed on the Prior Written Notice (PWN). The PWN may include "a description of other options that the IEP Team considered and the reasons why those options were rejected." (34 C.F.R. § 300.503(b)(6)). For students for whom AT was considered and found necessary to provide FAPE, the IEP might contain a statement such as "AT considered, and need is addressed in the IEP in the following areas...." Statements of this nature may help to demonstrate that AT consideration was afforded to all students with disabilities. It is best practice to document the decision-making process used to consider the student's need for AT. For example, a statement regarding the discussion of AT needs, may be documented in the minutes of the IEP meeting and may be included in other components of the IEP as described below. A statement

such as "An analysis of the required tasks within the relevant instructional areas revealed that Tim can independently accomplish the required tasks; therefore, AT is not required."

AT as Special Education and Related Services

When documenting AT as either special education service or supplemental aids and services, list those supports, services or devices that are provided in education-related sites that allow the student with the disability to be educated in the least restrictive environment. This should include the training necessary for the student and others for effective use of the technology. It is best practice to identify a device by features, instead of listing a device by specific name. The plan should address environments in which AT is available to the student, including, when decided by the team, access to AT outside of school. The plan should also include a procedure for occasions when AT is unavailable.

AT and Present level of Academic Achievement and Functional Performance

In the present level of academic achievement and functional performance (PLAFP), include the necessary devices and services that students use to participate in and benefit from education. Examples include: “Joe uses a wheelchair for mobility with a specialized seating system to maintain his posture” or “Kate uses a portable word processor to complete written work in English and history classes. She averages five spelling errors in a 300-word document.”

AT and Postsecondary Transition Planning

Postsecondary transition planning requires new concerns for students using AT. Students who have used the services from special education professionals to support and maintain AT devices will need to develop new skills and relationships with adult providers to support their use of AT. Students may need to learn new self-advocacy skills in finding supports for their devices, learning skills to explain the need for or use of a device in a new setting, or requesting access to identified AT needs that are not systematically available in a new setting. As teams supporting students in transition identify future activities, it becomes necessary to plan for AT that may be necessary in a new setting.

AT and Annual Instructional goals and Objectives

Goals in the IEP state what the student should be expected to accomplish in the next year. The use of AT should be a strategy to accomplish a goal. Recalling the earlier discussion regarding Tim and his use of a communication device in history class, the goal states, “Tim will answer 35 percent more questions in history class.” An objective for this goal could include “Using his dedicated communication device, Tim will verbally respond to at least one question presented verbally in history class each week.” Notice that the goal does not relate to the use of his device. However, the objective provides a strategy for Tim to perform an academic task. If Tim does not know how to use his communication device, clearly an objective would state that Tim must learn to use the device prior to asking him to use it to answer questions in history. However, the end goal remains the ability to answer questions in history class.

AT and Comprehensive Assessment and Standards Assessment

The assessments area of the IEP should include the tools used to participate in and complete required high-stakes assessments. It is important to consider accommodations that provide the most seamless and consistent experience between instruction and assessment. It is essential to note that use of certain AT devices will impact the ability of a student to complete the assessments on the state level. For example, use of a word prediction package will eliminate the student's ability to demonstrate his or her abilities in spelling, which is considered to be essential to the task of writing. Accommodations which do not impact the validity of a test are allowable. These would include how a test is administered (e.g., over an extended time frame or in quiet room) while a modification is an adjustment of a test that results in changing the standard for a particular student. Educators are cautioned to examine the role an AT device would play in participating in specific assessments, determine if it constitutes an accommodation or a modification and document it appropriately.

Many teams prefer to list the AT used by a student in the adaptations and accommodations section of the IEP. This meets the legal standard of practice. This area should include all the adaptations currently being used with a student, including AT, which may or not have been documented elsewhere. Include all AT devices, including very low-tech tools to reflect what is available to the student.

Why Document AT in the IEP?

Although federal regulations require only that the outcome of consideration of assistive technology be documented if the there is a need for AT, IEP teams are strongly encouraged to document the discussion and outcome regardless of the outcome. It is suggested that to show that AT consideration had occurred, a notation or statement on the IEP be added to the IEP such as "Assistive technology has been considered for this student" followed by: (1) "Considered and found to be not needed," or (2) "Considered, and need is addressed in the IEP in the following areas...." Statements of this nature may help to demonstrate that AT consideration was afforded to all students with disabilities.

Indicating yes or no to the above consideration question (and if yes, including the technology required) is considered minimal compliance to the requirement for considering assistive technology. However, it is best practice to document the decision-making process used to consider the student's need for assistive technology.

What is Documentation of AT in the IEP?

A statement regarding the discussion of assistive technology needs may be documented in the minutes of the IEP meeting and may be included in other components of the IEP as described below. For example, a statement such as "An analysis of the required tasks within the relevant instructional areas revealed that Tim can independently accomplish the tasks; therefore, assistive technology is not required." could be used to document that assistive technology was considered but not required. For a student requiring assistive technology, a statement such as "An analysis of the required tasks within his instructional areas revealed that Joe has difficulty completing math calculations at his grade level. It is recommended that he have access to a hand-held calculator to complete math calculations in all classes." could be used to document the consideration process for a student who requires assistive technology.

There are a number of areas in an IEP where AT can be documented. These include but not limited to:

- Special Education and Related Services.
- Present level of academic achievement and functional performance (PLAAFP).
- Transition (as appropriate).
- Annual Instructional Goals and Objectives.
- Comprehensive Assessment and Standards Assessment.
- Adaptations in General and Special Education.

Documentation in an IFSP will be very similar to an IEP. Areas in which AT can be documented in an IFSP include but are not limited to:

- Periodic Reviews.
- Evaluation and assessment summary.
- Summary of all developmental areas.
- Child and family outcomes.
- Part C Services.
- Needed medical and other services.
- Planning for transition from Part C services.
- Transition Steps and Services.

Who Participates in Documenting AT in the IEP?

The entire IEP team participates in ensuring AT is included in the IEP, but it becomes the responsibility of the team members in the school setting to document the AT in a way that it is identifiable and able to be implemented effectively.

What Happens when AT is Documented in the IEP

When documenting AT as either special education service or supplemental aids and services, list those supports, services or devices which are provided in customary environments that allow the student with the disability to be educated in the least restrictive environment. This should include the training necessary for the student and others for effective use of AT. The plan should address environments in which AT is available to the student, including, when decided by the team, access to AT outside of school. The plan should also include a procedure for occasions when AT is unavailable.

What are Protocols for Documenting AT in the IEP?

In the present level of educational performance, include the necessary devices and services that students use to participate in and benefit from education. Examples include: “(Student) uses a wheelchair for mobility with a specialized seating system to maintain his posture” or “(Student) uses a word processing app on a mobile device, with word prediction capabilities, listing up to eight word choices.”

Teams may list the AT used by a student in the adaptations and accommodations section of the IEP. This area should include all the adaptations currently being used with a student which may or not have

been documented elsewhere. Include all AT devices, including the very low-tech ones used and those which are provided in a 1:1 technology initiative to document what is needed by the student.

What are Outcomes of Documenting AT in the IEP?

Clear documentation of AT in the IEP will help assure the student will have access to the right AT devices and services needed to achieve IEP goals and have access to the general education curriculum.

What is the Role of Family in Documenting AT in the IEP?

The family plays an important role in what AT is included in the IEP. The family will bring knowledge of AT used outside the school setting, including AT devices obtained by the family from sources other than the school. The family will also want to know if, when and how the student will have access to AT outside of the school setting necessary for providing FAPE.

Questions a family might have about documenting AT in the IEP include:

Q: Should the school use the same AT my student uses at home?

A: If the AT used at home helps the student in achieving IEP goals or in having access to FAPE, then it may be helpful to use the same AT. The IEP team should review AT used outside of school to see if it has a positive impact on educational access.

Q: Should the IEP name the specific device my child uses?

A: The IEP needs to identify the features of a device and list those features in the IEP. The IEP team may, or may not name a specific device. There is no requirement in IDEA or Minnesota statute to name a device.

Q: The school wants to use medical assistance dollars to purchase an AT device for my student. Can they do that?

A: Yes. The district has the obligation to provide an AT device for a student. This can include using alternative funding sources, including third-party billing or donations to obtain a device. The district cannot use medical assistance (MA) funds without parent or guardian permission. any device purchased with any MA funds will belong to your child.

Q: If the school provides my student with an AT device, can he have it outside of school?

A: IDEA indicates that IEP Teams, on a case-by-case basis, must determine if a student needs access to an AT device outside of school for access to FAPE. An example of an instance when a student requires access to an AT device outside of school would be to complete homework, or to participate in transition skills identified in the IEP. It is important to note that a student does not necessarily need identical AT devices in school and in settings outside of school, but devices used outside of school must allow the student to complete required activities and tasks.

Example:

Cate is a seventh-grader. Her IEP indicated in the past that she needed access to a word processing program to complete written work. Cate's school recently began a 1:1 technology initiative. Her case manager questioned whether Cate's IEP still needed to contain the need for the device, since all students had access. The administrator in the IEP meeting reminded the team that Cate still had the need for a word processor to receive FAPE, and that the word processor needed to be delivered through a device. The IEP team continued to document the need for the device and the word processing program.

Next Steps:

Implementing AT in the IEP is another QIAT indicator area. A review of those indicators will help ensure IEP teams in providing the devices and services.

Assistive Technology Implementation

AT implementation pertains to the ways that AT 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. AT 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.

Why is implementation of AT in the IEP important?

The inclusion of AT strategies in the IEP show what is supposed to occur. The implementation of those strategies gives the student access to the tools and services determined to support access to FAPE and the general education curriculum. Members of the IEP team need to be aware of the supports to be provided, how they are to be provided, and ensure that the student has access to the supports in appropriate settings.

What is implementation of AT in the IEP?

Simply put, implementation of AT in the IEP is providing the legally required supports that the team has already determined to be required for access to FAPE. Implementation requires planning for the use of AT devices, and includes determining what services are required to support the use of the device, including who will provide support in each environment, who will be responsible for any needed upkeep of a device (including cleaning, charging, programming, transportation, etc.)

The IEP team should consider all the settings in which AT will be required, and ensure that the staff in those settings are aware of, and prepared to support the use of AT. This will vary by setting. For example, for a student who uses a voice output communication device, the staff in the cafeteria will need to know to listen to that device when the student makes a meal choice. A teacher in AP literature will need to know that the student will answer questions using a device, and may need a list of appropriate vocabulary so that the student is able to respond to specific questions.

Who participates in Implementing AT?

The IEP team should be deliberate in documenting who will be responsible in implementing AT in each setting for a student. Implementation partners include the student, educational staff, including paraprofessionals, related service providers, family members, as well as general and special educators.

What Happens when you Implement AT?

Effective implementation of AT requires team members in each setting with the skills and knowledge of the tools and services required in each setting to support the student in using identified AT. Training on the features of a device, and how to maintain and use it to support the student will be necessary. Team members will provide access to the device in those settings and will collect data on usage and changes in student performance. Data should also be collected when a student chooses not to use the AT device.

Protocols for Implementing AT in the IEP

It is important that team members, including the student and family, and all educators involved in the student's academic life, understand their role in providing access to AT, gathering data regarding the use of AT, maintaining a device, providing services related to the use of AT, etc.

Educators should be aware of district policies and practices to support effective implementation of AT. Professional development should be provided on implementation plans should have access to them when there are questions or there is a need for clarification.

Role of Family in Implementing AT in the IEP

In some circumstances, families will be part of implementation of AT in the IEP. This occurs when there are specific tasks or activities students complete outside the school setting. The family needs to be aware of supports a student might need to complete a task, and have adequate training on devices used. This training for family members and for the student are part of AT services identified in IDEA.

Families should also be aware of tools used in school settings, and be aware of the purpose of those tools. If a student reports to the family that the device is not working, family members should encourage the student to self-advocate in reporting problems with using a device, or should communicate with the school that there are issues in use for their student.

Questions a family might have about implementing AT in the IEP:

> Q: My child uses an iPad at school with word prediction software. He does not bring the iPad home with him, and the school has provided us with word prediction software to use on our home computer. Is this appropriate?
>
> A: There is no concrete answer for this question. IDEA states that use of AT outside of the school setting for access to FAPE is determined by the IEP team on a case-by-case basis. The critical question becomes, does the student have the right tools and strategies available to him to complete his tasks? Is his performance with the word prediction software at school and home comparable?

IDEA does not say that identical AT must be provided in home and school settings. The school must ensure that AT tools that provide access to FAPE that are needed outside the school setting are provided.

Q: My child will not use her AT tool in the classroom. Can't the teacher make her use it?

A: There is a regrettably high incidence of AT abandonment (persons choosing to not use an AT device). There are multiple reasons for this. For students, it may include not wanting to look different from other students, finding AT does not work effectively, or other reasons. Educators have the obligation to ensure the AT is available, is in working condition, and the student knows how to use the AT appropriately. If the student refuses to use the AT, an educator cannot force them but should continue to make it available. The educator should work with the student to identify barriers to use and develop strategies to reduce those barriers. The AT should be re-introduced to the student as tasks change in the school setting, to help the student know why this tool will support better educational achievement.

Outcomes of Implementing AT in the IEP

Effective implementation of AT in the IEP should result in the student being able to perform tasks with greater independence, speed, reliability. It is critical to know what it is that should change for the student through use of the AT device and services.

Example: Stefan is a kindergarten student, attending a full-day program. He has cerebral palsy and has limited verbal skills. Stefan has recently begun using a speech-generating device, and it is included in his IEP. His aid has learned to program specific messages that Stefan can use during morning circle time, and his father programs messages so he can tell about his home life. Stefan's general education teacher is very resistant to use of the device, insisting Stefan will never learn to verbalize if he has an artificial voice. Stefan's father wonders if the teacher's concerns are valid. He speaks to the speech and language pathologist (SLP). Together, they request an IEP team meeting to discuss these concerns. The special education administrator reminds all the team members that the IEP is a legally binding document. The SLP shares data on development of language, supported by an augmentative communication device. The teacher acknowledges that she did not realize she was also responsible for implementing the IEP. The team agrees to meet again in six weeks to ensure all team members have the supports they need to implement the IEP.

Next steps:

IEP teams will be able to determine if the AT they have in place is working effectively by evaluation of effectiveness. Measuring changes in performance for a student will support the team in providing appropriate AT.

Evaluation of 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 AT services. Student performance is

reviewed in order to identify if, when, or where modifications and revisions to the implementation are needed.

What is evaluation of effectiveness for AT?

Evaluation of effectiveness helps a team know whether the AT used for a student is producing the outcomes desired. This is why it is vital to know why AT is necessary for a student. The use of AT is not the desired end result. The use of AT results in a student being able to write faster, be more independent in their work, communicate more effectively, complete work at grade level, etc.

The team should agree to what it is that the student needs to do, identify the AT that supports that, and implement it. This is not the final step. The team needs to ensure that the AT device and services are providing the desired result. It is important for the team to determine benchmarks that they identify prior to beginning the use of AT to determine if the AT is useful in the way the team intended.

Who participates in evaluation of effectiveness?

There can be varying and distinct roles in evaluation of effectiveness, including a person or persons, who gather data. Individuals may observe the student in varied settings or a single individual may follow the student through the day. There also needs to be a person who collects and analyzes the data so that decisions can be made about the effectiveness of the AT intervention. If the data points show that the AT is making a positive change, continue to document and implement the effective strategy. If the data show that the AT is not producing the desired outcomes, the team should examine the conditions, in which the AT was used, the student impression of the AT, the services made available to support the use of the AT, and other factors.

What happens in evaluation of effectiveness?

The evaluation of effectiveness of AT is the opportunity to explore whether a device or system is working as intended, or if changes need to be made. It is an opportunity to look at a range of data, both quantitative and qualitative. The data is collected in an organized manner, synthesized, analyzed and used to make a determination of the effectiveness of the AT device. It is important to have determined what systems will be used to collect data, in what settings data will be collected, who will collect the data, and who will analyze the data. There should also be pre-determined timelines when data are being collected during an AT evaluation to review the data and make decisions about next steps.

Protocols for Evaluation of Effectiveness

There is a range of procedures that can be used, depending on what skill is to be supported for the student. The team should plan for the types of data that will be collected, considering what is expected to change. For example, if a student needs support in writing longer narratives, comparing pre- and post-intervention work samples would be appropriate. If the student's goal is increased classroom participation, the data points may be time sampling and direct observation. It is equally important to have timelines that both allow the student the opportunity to learn to operate the chosen device and have the opportunity to develop competency and have adequate time to use it in the chosen environments before determining whether it is the right tool or system for that student.

Role of the Family

There will be times that family members may be able to contribute to evaluating effectiveness of AT for their student. This can include when the student uses AT at home or in the community. Parents cannot be obligated to collect and submit data, but there may be times that it is very useful in determining appropriate strategies for a student.

Questions a family might have in evaluation of effectiveness:

> Q. My child uses AT devices at home willingly to do several tasks. His teachers report that he does not use AT at school. How can we help the school understand how important these tools are for him?
>
> A. There are several considerations to be made here. Does the AT used at home correspond to the tasks he is expected to do at school? In other words, does the tool help the student do what needs to be done? If yes, it may help to show the school staff how the student uses the tool. A video of the student completing tasks using the AT can be helpful to the school team to see how your student is successful when using the tool.
>
> Q. The school wants me to keep count of how many times my daughter talks using her AAC device. Frankly, by the time I get done at work, make dinner, help my other kids do homework, I am too tired to do more work. Do I have to keep track?
>
> A. No. It can be helpful to the team to have data on how often your child is able to use their device, but the team also needs to respect family time. If you cannot collect data, let the school staff know. They also have families, and will most likely understand the importance of family time!
>
> *Example:*
>
> Kai is in the ninth grade. He has difficulties generating legible writing. His class has paper-based organizers to record assignments. Kai's IEP includes the use of a digital device to record assignments. Kai has a history of failure to submit assignments in a timely manner. He is failing several courses as a result of failure to turn in assignments. His parents are concerned, and ask that he have access to a more complex device to help him in documenting his assignments. The team examines how Kai is using his current device to record assignments. The data show that Kai only documents 20 percent of his assignments. When asked for information about why Kai is not documenting his assignments, he indicates that he thinks he can remember what is due and when it is due. Kai is told that he will potentially need to attend summer school if he does not begin to submit assignments. Kai agrees to use his digital device, and a meeting held six weeks later shows a marked improvement in his submitted assignments.

Next Steps:

IEP and IFSP teams help students become ready for a new phase in life. Transition supports for a student are critical to plan for and implement.

Assistive Technology and Transition

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

What is transition planning for assistive technology?

Transitions in education agencies can be from early intervention to early childhood special education (Part C to Part B of IDEA services), early childhood special education to K-12 education, classroom to classroom within the same school, school to school, or school to post-secondary settings or work.

Transitions that include AT involve individuals from both sending and receiving settings working together. Transition plans for students who use AT address the ways in which the students use of AT devices and services are transferred from one setting to another and how the students needs will be met in the new environment.

Self-determination and advocacy become increasingly important as the student approaches the transition to a post secondary setting. In fact, the research about AT use by successful adults shows that in addition to being skilled at operating their AT, success may depend on being able to advocate for themselves and have skills that allow them to be, to the best of their ability, self-determined. (Fried-Oken, Bersani, Anctil, and Bowser, 1998).

There are themes and needs that are consistent across all transitions and planning for these transitions ensures that the student's use of assistive technology (AT) continues uninterrupted.

Who participates in transition planning for AT?

Students who use AT will find that moving from setting to setting requires planning to help guarantee that they have access to the tools and supports they need to ensure their ability to continue to be as independent as possible. It is also necessary to plan for capacity in the new setting— both in what tools need to be available, and in staff ability to implement needed tools and supports. It is beneficial for staff from both the sending and receiving environments, the student and family to meet to plan for access to appropriate technology, and access to appropriate AT and support services.

What are protocols for transition planning for AT

Teams planning for transition should consider and document:

- What tasks need to be completed in the new setting.
- What supports will be available in the new setting.
- What AT is available in the new setting.
- Does AT the student has used in the sending environment work in the new environment.
- What training will be needed in the new setting for both the student and staff.
- Are staff in the new setting prepared to, and invested in supporting the use of AT for the students.

- What funding is available in the new setting.
- Who will provide services in the new setting.

It is helpful for the IEP team to research and have answers to these questions prior to the transition occurring so that the student has the supports and resources in place so that there is a better chance for access from the first day the student is in the new setting.

Transition planning should allow for timely access to needed AT devices and services. This planning needs to include information from the serving team and the receiving team, sharing information on what has worked, why it has worked, and the supports that have made it successful.

As students change settings, it is also important to understand that tasks change. It is necessary to examine if technology that has been used successfully will meet the requirements of a new environment, and of the tasks that are part of being actively involved in that new environment.

Transitioning from Part C to Part B

Transition from Part C to Part B creates a unique opportunity to support a toddler in moving from a more home-based setting to a more traditional educational setting. Many AT supports for infants and toddlers are similar to items used by typically developing children. It is essential to monitor which items are used by the child that may also support their independence in the educational setting. Items to consider include specialized seating and positioning, communication strategies, access strategies so the child can interact with the environment, supports for age-appropriate activities such as circle time, drawing and other pre-literacy supports.

Transitions inside K-12 educational settings

There are transitions that occur in educational settings. Students move from grade to grade, and from school to school. As the student moves to a new setting, it is vital to understand the tasks that will need to be completed, and to determine if existing tools will allow the student to complete the tasks. It is also important to look at the support systems in place to determine if the appropriate resources are in place, including the right professional staff. This will require systemic approaches to communication between and among both the sending and the receiving settings, so that there is adequate information about the student's needs.

Transition to Post Secondary Settings

Transitioning to a postsecondary setting provides unique challenges for the student, school team and the family. A primary concern is that individuals lose access to protections provided under IDEA, and lose access to the services provided in the educational setting. Some issues that might arise include losing access to a device, needing to develop an adult support system to help program, maintain, or repair a device. This requires significant planning on the part of the IEP team prior to the transition occurring to ensure that there is consideration for the use of AT and supports for ongoing support.

Another consideration will be supporting the individual in transition prior to beginning the formal transition process. This requires that the student be supported in developing skills and abilities to address their own needs, including describing their disability, the impact it has on their life, and

strategies and supports (including assistive technology) that are critical to the student. There are concerns to be addressed whether the student is bringing a tool with him, or will use a new tool in the receiving setting.

In both transitioning from K-12 educational settings and postsecondary settings, the following should be asked.

If the student is bringing a tool already in use:

- Is the tool in working condition?
- Are all manuals, charging cords, carrying case being transferred?
- Is there a warranty or repair record that needs to be transferred?
- Is there a plan to support the new tool in the new setting, including activities;
    - Charging the device
    - Transporting the device among classrooms, school, and home.

If the student is obtaining a new device in the receiving setting, (in addition to the questions above), new questions may include:

- Who will program the new device?
- Is the device ready for use the day the student arrives in the new setting?
- Is there a plan to support the student and family in the using of the new tool?

What is the Role of Family in Planning for Transition?

The family and student are indispensable to success in moving from one setting to another. The family and student provide important vision about priorities for the family and for the student. The family is important in being the memory for many strategies that have been used in the past, and is also important in helping determine new tasks and resources for the next setting.

There are considerations for various changes in settings for a student and family. In the transition from Part C to Part B, the focus changes from services frequently delivered in the family home to a school setting. In transitions from school to school, the family and student may provide more personalized information about the use of AT than what is in a student file. And, in transition to postsecondary settings, the parents and student take on far more responsibility in supporting the use of AT. The protections of IDEA, and the support from educators will no longer be available. It will be the responsibility of the student or the family to identify adult service providers, to know what technology is needed and why, and to maintain records of use, repair, maintenance, and replacement. Families may also need to identify advocacy services.

Questions a Family May Have During Transition

> Q: My daughter used a specific device while she was in school. She is very adept at using it. She is graduating soon and will attend college. Can we buy the device from the school?
>
> A: Students nor their families can purchase an AT device from a school. If your daughter receives services through the Department of Employment and Economic Development (DEED),

the device can be purchased for her use by DEED. The district can determine if they will still need the device, and what a fair market value is for it.

Q: My son is moving from Part C services to Part B. We will be in the same district, and he will go to a pre-K program two days a week. He has specialized seating that he uses at home. Will he get the same seating in his pre-K program?

A: As your son moves into pre-K, he will receive services under Part B of IDEA. In his IEP meetings, the team will discuss his need for AT. His need for seating will be part of that discussion. If he needs a seating system so that he can participate in the activities of the pre-K program, the school will need to provide that.

Example:

Joe uses a wheelchair for mobility and a voice output communication aid. While in high school, he helps the office staff by collecting attendance slips from classrooms. Joe enjoys this job, and enjoys the socialization with the office staff teachers across the building. After graduation, Joe gets a job at a technology firm, delivering parts and packages to different departments. While out in the community, Joe sees his former speech pathologist, who was instrumental in his obtaining and using his communication device. She asks him how his new job is going. He tells her he is not happy. She asks why, and Joe uses his device to ask "Do you have any attendance slips for me today?" There has been no language for the new work place programmed into his device. He does not have access to SLP services through his adult service provider. Joe's SLP volunteers to meet with some of his co-workers, who are programmers. She shows them how to add new vocabulary to his device, and shares resources on language and syntax. Joe's co-workers are excited to learn a new way to use technology, and form a group that meets to learn more about assistive technology.

Administrative Support of Assistive Technology Services

This area defines the critical areas of administrative support and leadership for developing and delivering assistive technology services. It involves the development of policies, procedures, and other supports necessary to improve quality of services and sustain effective assistive technology programs.

What is administrative support for AT?

An administrator may be a principal, a special education director or coordinator, or have another administrative title. A school administrator provides a range of supports in their setting. Some of these areas include staffing, budgets, project management, infrastructure maintenance, busing and more. With the expectations that an administrator is responsible for all of this, it is still necessary that they ensure that appropriate AT supports and services are provided to those students who require them for access to FAPE.

An administrator needs to be specifically aware of legislative mandates at the federal and state level and be able to implement them sustainably at the local level. Having appropriately skilled and knowledgeable staff with the authority to lead AT initiatives is important. Administrative staff need an

awareness of the supports and strategies available at the local level in providing AT services, including where there is capacity to provide AT devices and services, who has knowledge and how to develop capacity where it is lacking.

What happens when there is administrative support for AT?

An administrator works with local staff to ensure that there is documentation of practices in place for the educational entity. This includes processes for consideration, evaluation or assessment, documentation in the IEP, implementation of AT and evaluation of its effectiveness. These processes should be widely available, and be the topic of ongoing staff development.

It is typical to see a variety of staffing models emerge in AT in a school setting. In some cases, staff have a specific work assignment in AT. In some cases, staff have AT included in other duties. And in some cases, staff are expected to build and support AT systems without time or resource allocations. Effective AT support requires an allocation of time with a position description that includes AT responsibilities.

When making technology or curriculum purchases for a school, the needs of all children, including students with disabilities, or students with other unique needs, should be considered. If an educational entity chooses either a curriculum or technology that is accessible to all students without the need to retrofit it for students with disabilities, there is a greater opportunity for student achievement, participation and success. The administrator can support consideration for accessible technology in budgeting, selecting, purchasing and maintenance.

Encouraging Effective Technology Use in Schools

An administrator is responsible for managing all technology that is used in a school. There are many times when it is appropriate for a student with a disability to use the technologies available to all other students. But, it is important to point out that when considering AT for an individual student, a wide range of options should be considered in addition to what is available in the district.

An administrator should be aware of the multiple sources for funding for AT. Options include special education funding, general education funding, third-party billing for individual students, and other sources. Opportunities for flexibility in funding, including strategies such as paying for upgrades to student-owned devices to allow for access to FAPE as an alternative to purchasing another device are alternatives that administrators can encourage.

A school leader can encourage appropriate and effective use of technology that includes accessible technology and AT by:

- Involving staff in the creation of a schoolwide technology plan that includes AT.
- Leading staff in becoming familiar with the educational and AT available at their school.
- Encouraging staff to become familiar with resources to support technology use at school, district and statewide levels
- Periodically assessing the technology training needs of staff at your school.
- Planning professional development about teaching with technology.
- Using UDL strategies to support the needs of diverse learners.
- Advocating for technology that supports accessibility for diverse learners

- Promoting the use of technology-based learning activities in line with curriculum objectives
- Recognizing effective technology use (e.g., highlight effective practices at staff meetings, bulletin board postings, peer sharing, and newsletter articles)
- Creating a database of all assistive and educational technology used in the building in order to:

    - Obtain information about what the district has committed to provide to meet individual student needs.
    - Monitor building-wide usage.
    - Plan for future needs.

- Monitoring AT consideration at IEP meetings to ensure that AT is considered for every student receiving special education.
- Keeping a master list of assistive technology included in each IEP. Prior to a teacher observation, check the master list to determine which students should have technology available and operational in that class.
- Ensuring timely technical support and repairs to support continuous student achievement.[1]

Who Participates in Administrative Support for AT?

Administrators document and evaluate the effectiveness of AT initiatives for students. They have knowledge of the scope and range of AT devices and services available to students and how those devices and services impact student outcomes. Information about AT can be shared with school boards, the superintendent's cabinet, the Parent Teacher Organizations (PTOs), and other stakeholders who are interested in successes for all student groups.

The Role of the Family

There are limited expectations for families of individual students with disabilities in assuring administrative support for AT. However, if parents have the time and interest, it may be helpful to have parents participate in Special Education Advisory Panels (SEAP) at the local level, or to become active in the PTOs and represent the voice of parents of children with disabilities in those discussions.

Example:

Mr. DeVaney is the special education director for the Little River District. His district has sent a team to the MDE AT Teams project. The team is completing the QIAT matrices, and asked Mr. DeVaney to participate by completing the administrative support matrices. Mr. DeVaney is surprised to see all the potential areas where AT can be supported in his district. He meets with the AT Team, and with them, brainstorms activities to increase consistent practice in the district. He keeps a copy of the

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[1] References

O'Dwyer, L. M., Russell, M. & Bebell, D. J. (2004, September 14). Identifying teacher, school and district characteristics associated with elementary teachers' use of technology: A multilevel perspective, *Education Policy Analysis Archives,* 12 (48).

administrator's indicators on his desktop as a reminder of ways to continue to support AT services in his district.

Professional Development and Training in Assistive Technology

Assistive technology professional development (PD) and training efforts should arise out of an ongoing, well-defined, sequential and comprehensive plan. Such a plan can develop and maintain the abilities of individuals at all levels of the organization to participate in the creation and provision of quality AT services. The goal of AT PD and training is to increase educators' knowledge and skills in a variety of areas including, but not limited to: collaborative processes; a continuum of tools, strategies, and services; resource; legal issues; action planning; and data collection and analysis. Audiences for PD and training include: students, parents or caregivers, special education teachers, educational assistants, support personnel, general education personnel, administrators, AT specialists, and others involved with students.

What is Professional Development in AT?

Professional development is needed to increase both skills and knowledge in AT and to sustain and improve those skills and knowledge. Assistive technology professional development and training efforts should arise out of an ongoing, well-defined, sequential and comprehensive plan. This plan can develop and maintain the abilities of individuals at all levels of the organization to participate in the creation and provision of quality AT services. The goal of AT PD and training is to increase educators' capacity in collaborative processes; a continuum of tools, strategies, and services; availability of resources; legal issues; action planning; and data collection and analysis.

Professional development is important for all individuals who are involved in the students' environment, including the students themselves, parents or caregivers, special education teachers, educational assistants, support personnel, general education personnel, administrators, AT specialists, and others involved with students.

Why Provide Professional Development?

A plan for PD will support the understanding that AT devices and services enable students to accomplish IEP goals and objectives and make progress in the general curriculum. This understanding helps the team in targeting PD that will be meaningful to participants because it aligns with student needs and the provision of FAPE. Professional development can include basic awareness of a range of technologies and the range of services that allow a student to effectively use AT devices.

A plan for PD also is aligned to an anticipated change in practice. This change in practice identifies the audiences, the purposes, the activities, the expected results, evaluation measures and funding. The plan for PD is designed with a specific purpose in mind, so that specific needs can be addressed and an intended outcome is achieved. The PD plan may vary, depending on the intended audiences, but for all audiences, should align to a specific desired outcome. The change in practice can align to a variety of desired outcomes. A plan can align to improvement in AT fundamental skills, such as consideration or documentation in the IEP. The plan can align to changes in how data is used to select, acquire and use

AT devices, or how to utilize a device for a specific student. It is important to gather data on how the new lessons are used as the PD plan is developed and implemented. If the plan is not resulting in a desired long-term change, the learning opportunities may need to be revised so that the desired outcome is achieved.

As the team begins to consider a plan for PD in AT, it will be helpful if there is a long-term plan for the outcomes that will be achieved through that professional development. A planning team should ask, are we teaching the "right thing" and is what we're teaching making a difference?

While there can be a range of types of PD activities, the intended outcome of all the activities should lead to an improvement in services, access to and implementation of AT for a range of students.

It is important to know who the audience will be, and their level of knowledge. Participants in professional learning are challenged when the foundational content area is somewhat familiar to them, but the skills being taught are at a higher level, providing a "learning stretch" for the participants.

In PD for AT, the participants may learn about strategies for determining what AT devices have features that meet student needs, how local practice determines how to document the process, local expectations for processes, etc. Having a clear vision of the outcome of professional development requires those providing the PD to understand what quality services are in AT, and how to support others in being skilled in those services.

It is important to remember that AT never stands alone, but rather, supports a student's access to the general education curriculum. Professional Development in AT should align to other local, state and national professional development initiatives. As educators support a student in accessing the general education curriculum, adjust the pedagogy or prepare for high-stakes assessment, the impact and the role of AT in allowing students with disabilities to participate is critical.

Professional development in AT is possible through a range of options and opportunities. A PD plan will provide access to ongoing learning opportunities that utilize local, regional, and/or national resources. These PD opportunities can be in a range of formats, including face-to-face, digital, or print learning. AT can be included in a district in-service plan, as part of staff development days, or as a targeted opportunity. Listservs, blogs or wiki pages can support "just in time" learning opportunities, or book study groups or other professional learning groups can form around.

Adult learning is optimized when the goals and objectives are meaningful to participants. Real world application is critical. Because adults approach learning opportunities with a wide range of previous experiences, knowledge, self-direction, interests, and competencies, diversity must be acknowledged and planned for in professional development activities.

What Happens During Professional Development?

Planning for PD that is based on research-based models for adult learning will result in more active engagement by participants. Adult learning strategies will support better investment from participants, and will include follow-up supports such as coaching or mentoring.

Transfer of learning for adults is not automatic, and requires facilitation. Coaching and other kinds of follow-up support are needed to help adult learners transfer learning into daily practice so that it is sustained. Opportunities built into PD activities that allow the learner to practice the learning and then receive structured feedback through coaching will help to ensure that new strategies are implemented in the manner that was intended, and allow for more active feedback from instructors and other faculty. Coaching is an opportunity to check for clarity of understanding, for effective implementation, and to support next-step learning by the participants in the professional development activities. Coaching is on-going, and is available at multiple points after a change strategy is taught in the learning activity. This will help ensure that there is effective follow up to the professional development and that learners are able to use the new skills in the intended way.

The most important aspect of PD, and frequently, the most overlooked aspect, is determining whether there is a change in practice. While there is evaluation for most PD activities, this sometimes focuses on immediate feedback, rather than feedback on implementation of the new strategy. Rather, an evaluation that measures change in practice as a result of the PD is optimal. This evaluation can take on many forms to determine change in practice, surveys of participants after there has been time for implementation of the new skill to occur, observation of implementation occurring, visits with coaches, etc. The evaluation will serve multiple purposes. It will help the participant reflect on the lessons learned, aid in recollection of the learning opportunity and provide an opportunity for feedback and follow-up.

Who Provides AT Professional Development?

It is important to include information on AT at the local, district, state and national level. Districts are encouraged to take advantage of the many resources available through web-based training, face-to-face training, and on-going coaching and mentoring to support effective AT practices.

For the planners of the PD opportunity, evaluation is even more vital. It allows them to see if they have made an impact, and if their strategies are effective. It also provides input on what may need to be augmented or presented in a different way to better impact learners.

It is important prior to providing the PD to determine:

- The desired outcome of the PD activity is.
- What it is that will be measured in the evaluation, so that the learning opportunities align with desired outcomes.
- When evaluation will occur.
- What impact the evaluation will have on subsequent learning opportunities.

Next Steps:

As PD is planned, the scope of everything that is possible in AT may seem overwhelming. Planning teams may benefit from using the Assistive Technology Professional Development and Training Planner. Use of this, or a similar tool, will help the planning team focus on ensuring a match between content and the audience, determining whether there is a need for awareness level training or mastery level work. The form will guide a team in establishing learning objectives so that the content will be aligned to learners' needs.

"One-stop" training opportunities are rarely sufficient. It is important that a vision be established of what the change is that is needed for the activities that move toward that vision. Without a vision, PD will not result in meaningful changes in practice.

Parents Role in Professional Development

Individuals with Disabilities Education Act (IDEA) is (34 C.F.R. § 300.6 (e)) clear that students and family members are to be included in training in the use of an AT device so that there can be effective use of the device for the student. This training can be at the same time as school team members are trained, or can be a separate event, based on need and availability.

Example:

Savanna has been given a Chromebook laptop for use in completing written work. Her teachers attended a workshop on Chrome apps, and developed a list of apps to which Savanna could have access. Her father asked about how to navigate the Chromebook. He and Savanna met after school with the district AT specialist and were shown strategies to help navigate the system.

Accessible Educational Materials

What are AEM?

Accessible educational materials (AEM) are curricular materials presented in alternate formats to traditional print textbooks. Individuals with Disabilities Education Act (IDEA,) as reauthorized in 2004 referred to Accessible Instructional Materials (AIM), but has since begun using the more inclusive term Accessible Educational Materials. MN Department of Education (MDE) will also use this terminology. Accessible educational materials (AEM) are educational materials, including textbooks, worksheets, resource materials, and teacher-developed materials, which can be used by a range of students. However, there are some students for whom the district is required to provide AEM. These are students who, due to disability, require their textbooks to be made available in specialized formats. There are four specialized formats:

1. Braille (Braille is a tactile system of reading and writing made up of raised dot patterns for letters, numbers, and punctuation marks. This format is used almost exclusively by people with visual impairments. Braille may be either embossed (a permanent printed document) or refreshable (electronically generated and accessed via a braille display device).
2. Audio (Audio formats render content as speech to which a student listens. Audio formats include recorded human voice and synthesized electronic speech.)
3. Large-print (type face typically larger than 12 pt. font.) Large-print frequently is thought of as 18 pt. font. There will also be more white space on a page. Large print books may, or may not be printed on larger pages and may or may not look like a corresponding typical print book.
4. Digital text is an electronic format that can be delivered via a computer or another device. Digital text is malleable and can be easily transformed in many different ways depending upon student needs and the technology being used to display the content. To accommodate the needs and preferences of a user, various features of the technology which control how the content is presented can be manipulated such as size, fonts, colors, contrast, highlighting, and

text-to-speech, etc. The digital text format may contain both audio and visual output depending upon the way the content is developed and the technology that is being used.

Each of these formats has unique considerations for use, and use of one format does not exclude the use of another. For example, a student may use braille to read a math assignment, but may also use an audio format to study literature. For more information on working with an evaluation team to select specialized formats for students, see the resources, including the AIM Navigator and the AIM Explorer on the CAST website (http://aem.cast.org).

Who Needs AEM?

Many students can benefit from instructional materials in different formats. For example, a student may want to access a textbook in digital format to reduce carrying textbooks to and from school. Another student might benefit from listening to a dramatic work being performed. Districts are encouraged to consider purchasing accessible learning materials for all students, as part of a universally designed curriculum. This will allow students to get access to their learning materials in multiple formats, depending on the environment, or the task to be completed. Accessible educational materials can be used by any student who needs access to them in order to participate in their education.

When learners have accessible materials and technologies in a timely manner, they are more likely to be independent, to participate, and to make progress in the curriculum. Examples of AEM include printed materials in specialized formats and accessible digital materials and technologies.

Some sources for AEM are only available to a subset of students. These are students who have both an IEP and a determination that they have a print or reading disability. A print or reading disability is a disability that prevents the student from being able to access print material due to a physical or organic disability. Some typical disabilities that are considered to be print or reading disabilities include vision loss, a physical disability that limits the ability to hold or manipulate a text book, or have a learning disability that impacts their ability to make sense of printed material. These students can receive their curricular materials through a specially tagged file which is converted to a specialized format, from the National Instructional Materials Access Center (NIMAC.) The specially tagged file is prepared by the publisher to conform to the NIMAS.

How do files get to the NIMAC?

Districts are responsible for guaranteeing that files are submitted to the NIMAC by publishers. When a district orders textbook or accompanying learning materials (workbooks), the district should attach a statement directing the publisher to submit an appropriately tagged file to the NIMAC. Districts can request that books available for purchase since 2006 have files submitted to the NIMAC. This language is suggested to use when submitting an order to a publisher for print core curricular materials. A sample statement that could be included in a contract or purchase order follows:

"By agreeing to deliver the materials marked with "NIMAS" on this contract or purchase order, the publisher agrees to prepare and submit, on or before ___/___/_____ a NIMAS file set to the NIMAC that complies with the terms and procedures set forth by the NIMAC. The publisher also agrees to mark-up materials eligible for NIMAS submission that contain mathematical and scientific instructional content by using the MathML3 (refer to latest applicable version) module of the DAISY/NIMAS Structure

Guidelines as posted and maintained at the DAISY Consortium web-site. Should the vendor be a distributor of the materials and not the publisher, the distributor agrees to notify the publisher immediately of its obligation to submit NIMAS file sets of the purchased products to the NIMAC. The files will be used for the production of alternate formats as permitted under the law for students with print disabilities.

This is page __ of __ of this contract or purchase order."

In keeping with existing practice, some state and local educational agencies may meet NIMAS-related requirements contained in IDEA by contracting with curriculum publishers directly to purchase accessible, student-ready versions. Some have referred to this approach as the "market model." It is anticipated that at some point accessible educational materials will be ordered directly from publishers at the same time as print textbooks are ordered.

Information on access to AEM is evolving. An excellent source of information on accessible educational materials is the AEM Center at CAST (http://aim.cast.org).

Getting Files from the NIMAC

An authorized user can assign the file from the NIMAC to an accessible media producer (AMP). An authorized user (AU) is an individual allowed by the Minnesota Department of Education to assign files from the NIMAC to an AMP. In Minnesota the AUs are Kursten Dubbels and Kristin Oien at MDE, Bookshare, Learning Ally and Jay Maruska, Braille supervisor at the Communication Center at Minnesota State Services for the Blind.

Accessible media producer convert the file to a usable format for a specific student. Typically, districts work with the AMP to order the appropriately formatted file for a student. This will require the district or a student to follow protocol established by the AMP, including their policies regarding documentation of disability, providing access to the AEM, monitoring the use of AEM, disposal of AEM at the end of the school year, etc.

How Assistive Technology (AT) Complements Accessible Educational Materials

Education technologies are the ones commonly used in the classroom to support students' learning such as the use of SMART Boards, computers to complete projects and digital text players, which are embedded in the universal school experience of students. School districts' Educational Technology Plans support the universal access to educational technology for all students in the K-12 system. In this way, educational technologies meet the definition of Universal Design for Learning (UDL), which is a framework for applying universal design principles to instructional materials, curricula, and educational activities so that they are challenging yet achievable for students with a wide range of abilities and needs. The consistent use of UDL principles promotes the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

Some students with disabilities, who may or may not have IEPs or 504 plans, need technology supports to help them to access the general education curriculum fully beyond the universally implemented educational technology. These students may need supports to improve their ability to access literacy, math and/or science content. If a student is unable to use printed text effectively, he or she may require instructional materials in specialized formats. They may need Accessible Educational Materials (AEM) as a component of their educational technology. Accessible educational materials are specialized formats of fully accessible textbooks and other curriculum materials that can be used by students who are struggling readers or otherwise are unable to access printed text. Determining this need for AEM is the first step toward ensuring that ALL students have the learning materials necessary for participation in activities that lead to educational achievement. Coupled with Assistive Technologies, AEM materials provide a powerful solution in ensuring that struggling readers or children that have difficulty gaining meaning from or using traditional print materials due to physical or other disabilities have equal access to a free, appropriate public education (FAPE) and to fully demonstrate their skill levels.

In addition to the above-mentioned supports, some students require more intensive special education supports and specialized instruction. These students are provided with the most intensive interventions. Some of these students may use and/or benefit from specialized assistive technology to perform basic communication tasks and may depend extensively on assistive technology to access general education content and activities.

Providing accessible materials to an eligible student does not guarantee student achievement. In order to effectively use accessible materials, staff, students, and parents will likely require training. In addition, most electronic forms of these materials will require assistive technology that can add needed supports. This too, will likely require training for staff and students.

What does the term “Fully Accessible” mean?

The AIM Center at CAST says that components of text that is fully accessible includes:

Content should be *perceivable*

- Content is represented in multiple ways so it can be used based on what students might need or prefer (e.g., video captions, alt text, audio, text-to-speech, digital braille).
- Mathematical, scientific, and music symbols, formulas, and notations are represented in multiple ways (e.g., explained with text, MathML).

Content should be *operable*

- Both visual and non-visual forms of navigation are possible (e.g., keyboard shortcuts/mapping, screen gestures, voice).
- Location and progress supports are included (e.g., page numbers, progress bars).
- If writing is required, there are multiple ways to enter text (e.g., word prediction, on-screen keyboards, voice input).
- Timing and pace as the student progresses through content can be controlled.

Content should be *understandable*

- Content is structured in a predictable, coherent, and logical way.
- Content is at an appropriate level for the students.
- Supports and scaffolds for difficult content are available to students (e.g., glossaries, highlighters, sentence starters, spelling checkers, graphic organizers).
- Feedback on errors and progress is provided to students.

Content should be *robust*

- Content can be used on multiple devices and with different assistive technologies.
- There is nothing to prevent access to built-in accessibility features or necessary assistive technologies (e.g., digital rights management [DRM]).
- Products are tested by the publisher/developer to ensure compatibility with assistive technology (AT) (e.g., screen readers, refreshable braille, text-to-speech, human-voice reading software).

AT, AEM, and UDL—A Balanced Partnership

Universal design for learning (UDL) is a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn. 2 A UDL framework guides the design of instructional goals, assessments, methods, and materials that can be customized and adjusted to meet individual needs.

In a traditional classroom, learners are expected to participate in, and respond to learning activities in a set fashion. For example, a student listens to a lecture to gain content and demonstrates mastery through oral responses and a written test. In a classroom based on a UDL Framework, a student can gain content through listening to a lecture, exploration of resource materials, experimentation, etc. The student can demonstrate mastery through project based learning, oral answers, videoed responses, written tests, or other documentation of mastery of goals.

Students who use AT devices are able to access the universally designed classroom with their device. Implementation of a UDL framework does not replace the AT. Use of appropriate AT makes the learning accessible for the student.

If a classroom has a universally designed tool that is available to all students, the IEP team needs to consider whether that tool is AT for a specific student. For example, if a classroom has a 1:1 technology initiative and all students receive a mobile device, the IEP team will need to determine if that mobile device is AT for a specific student. If the student requires that device for access to the curriculum through use of specialized apps or access strategies, it becomes an AT device for that student and should be documented on the IEP. This documentation is critical to show the range of AT the student

[2] Retrieved electronically 3.22.18 http://www.cast.org/our-work/about-udl.html#.WrPS1OaWzIU

needs to access the curriculum. If the student changes educational settings or has a teacher who does not use the 1:1 technology initiative, it is necessary to show the tools in the IEP to help ensure access.

Example:

All students in fourth grade at Sunset Elementary School receive a Chromebook laptop. Classroom texts are available digitally for all students. Due to a print disability, Evan uses a text-to-speech app to hear the text. The Chromebook and the specialized app become part of his system of AT. Evan also has access to his more dense textbooks through files obtained from the NIMAC. He both sees his text on the screen, and listens to it being read aloud. Evan continues to receive services from a reading specialist to support him in developing better decoding skills.

Early Childhood

AT and Early Childhood

Young children with disabilities have the right to participate in everyday activities. The appropriate use of assistive technology (AT) at home, preschool, daycare, in the classroom or playgroup, and in the community, supports natural learning opportunities. Assistive technology assists in the successful inclusion of infants, toddlers and young children with disabilities in the full array of services and settings that are available to all young children. Assistive technology can help infants, toddlers or preschoolers develop important developmental and early learning skills. Early Childhood services in the state of Minnesota include Part C (0-3 years) and Part B (3-5 years) services. Part C services typically take place in the home and/or a childcare.

Early intervention refers to federally supported education and therapy services for children ages birth to 3. Early intervention services help parents support their child's participation and learning in family activities and routines. Part B services for children ages 3-5 are typically provided in a district Early Childhood Program, Community Preschool, or Head Start program. When suggesting AT, with parent consent one or more professionals will observe a child in the child's customary environment. They will help decide if and what AT is right for the child. If they do, their recommendations should identify ways AT could help a child participate in various activities and routines.

The process of identifying assistive technology includes evaluation, selection, acquisition, training and maintenance. This process should be carried out by qualified professionals, with active participation of and input from the family. Part C early childhood special education services are family-centered and directly related to the family's priorities and concerns for their child and include input from the family as members of the IFSP team. Family members are in a position to provide valuable information about the child's strengths, interests and daily routines, which is critical for determining what kinds of AT devices and services will best meet the child's and family's needs. Lack of family involvement could lead to abandonment or non-use of selected assistive technology. Assistive technology is an important part of the IFSP (Part C) and IEP (Part B).

Transition

Students who are transitioning to a post-secondary setting face unique situations in their use of AT. For many students, the supports available through their elementary and secondary educational setting made their use of AT successful. Within the school setting, students received support in selecting appropriate devices and strategies, devices were programmed, and some repairs were possible. When the student leaves the school setting, these services are no longer available.

Students moving to post-secondary settings need to develop new skills for their new life. Skills and strategies appropriate for the use and maintenance of their AT are part of this. These skills may include being able to advocate for the need of a particular device or strategy in a new academic setting, or asking to have new language added to a communication device. It may also include having an emergency plan in place for times when their technology fails.

As students prepare for transition, they should include planning for the use and support of their assistive technology. Forms to both assist in helping a student learn self-advocacy skills related to AT throughout the transition period and to support the use of specific devices are included in Section III of this Manual.

Emerging Technology

The world of emerging technologies continues to offer opportunities and hope for children with disabilities to become more independent and successful. However, it is critical to consider the requirements for practical use before acquiring devices. This can be done by implementing strategies like the SETT Framework to help ensure that devices selected meet the needs of the student. Decisions must be arrived at through a team process, and need to be based on data. An implementation plan must be developed that includes an ongoing evaluation process to determine effectiveness.

Evaluating the effectiveness of emerging technologies can be challenging. Just as with existing technologies, when selecting and evaluating new or emerging technologies for assistive technologies, the following should be considered:

- Ease of Use
- The Ability of the Device to Perform the Desired Functions or Task
- Reliability
- Portability
- Flexibility
- Device Features
- Student Engagement
- Battery Life or Power Requirements
- Cost
- Availability of Technical Support

There will always be new technologies. New may, or may not, be better. The key is finding technology that will best meet the student's needs and that the student is motivated to use on an ongoing basis.

Appendix A: Laws and Regulations

Federal Mandate for Assistive Technology

The legal definition of assistive technology was originally issued in the Technology-Related Assistance Act of 1988 (Tech Act), amended as the Assistive Technology Act of 1998. It continues to be the accepted definition, and as such is used in all related legislation, including the Individuals With Disabilities Education Act (IDEA, 2004), which mandates the special education and related services that school districts must provide to meet students' unique needs.

AT has been defined in the Individuals with Disabilities in Education Act, starting in 1997. Both AT devices and services are defined. These definitions have been updated in IDEA 2004 and now includes:

Assistive technology device

(34 C.F.R. § 300.5) 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 such device.

Assistive technology service

(34 C.F.R. § 300.6) Assistive technology service means any service that directly assists a child with a disability in the selection, acquisition, or use of an assistive technology device. The term includes -

- The evaluation of the needs of a child with a disability, including a functional evaluation of the child in the child's customary environment;
- Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by children with disabilities;
- Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing assistive technology devices;
- Coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;
- Training or technical assistance for a child with a disability or, if appropriate, that child's family; and
- 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.

It is important to note that the definition of an AT devices specifically excludes any item that is surgically implanted. This eliminates the potential for a school district to provide items such as a cochlear implant or a baclofen pump. It does not eliminate the district's obligation to serve a child who has a surgically implanted device, and the district must consider the impact for a student who has an item like a cochlear implant or baclofen pump. The regulation on related services permits the checking of acoustical hearing aids and the external components of surgically implanted devices to see if they are turned on and functioning. (34 C.F.R. § 300.34)

Federal Policy for Provision of Assistive Technology

Individuals with Disabilities Education Act (IDEA) has specific requirements regarding the provision of AT devices and services by educational entities.

34 C.F.R. § 300.105 Assistive technology:

> (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 34 C.F.R. § 300.36;
>
> (2) Related services under 34 C.F.R. § 300.34; or
>
> (3) Supplementary aids and services under 34 C.F.R. §§ 300.42 and 300.114(a)(2)(ii).
>
> (b) On a case-by-case basis, the use of school-purchased assistive technology devices in a child's home or in other settings is required if the child's IEP determines that the child needs access to those devices in order to receive FAPE.

Early Intervention Services

Early intervention is the process of providing services, education and support to young children who are deemed to have an established condition, those who are evaluated and determined to have a diagnosed physical or mental condition (with a high probability of resulting in a developmental delay), an existing delay or a child who is at-risk of developing a delay or special need that may affect their development or impede their education. The purpose of early intervention is to lessen the effects of the disability or delay. Services are designed to identify and meet a child's needs in five developmental areas, including: physical development, cognitive development, communication, social or emotional development, and adaptive development.

Early intervention programs and services may occur in a variety of settings, with an emphasis on natural environments.

Part C of IDEA regulations, 34 C.F.R. § 303.13, identifies AT for young children, including:

> (b)*Types of early intervention services.* Subject to paragraph (d) of this section, early intervention services include the following services defined in this paragraph:
>
> (1)*Assistive technology device and service* are defined as follows:
>
> > (i)*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 an infant or toddler with a disability. The term does not include a medical device that is surgically implanted, including a cochlear implant, or the optimization (*e.g.,* mapping), maintenance, or replacement of that device.

(ii)*Assistive technology service* means any service that directly assists an infant or toddler with a disability in the selection, acquisition, or use of an assistive technology device. The term includes -

(A) The evaluation of the needs of an infant or toddler with a disability, including a functional evaluation of the infant or toddler with a disability in the child's customary environment;

(B) Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by infants or toddlers with disabilities;

(C) Selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing assistive technology devices;

(D) Coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;

(E) Training or technical assistance for an infant or toddler with a disability or, if appropriate, that child's family; and

(F) Training or technical assistance for professionals (including individuals providing education or rehabilitation services) or other individuals who provide services to, or are otherwise substantially involved in the major life functions of, infants and toddlers with disabilities.

IDEA, in Section 1432 also includes, in the definitions of Early Intervention Services for children and their families served under Part C of IDEA:

(4) Early intervention services: The term “early intervention services” means developmental services that—

(E) Include—

(i) family training, counseling, and home visits;

(ii) special instruction;

(iii) speech-language pathology and audiology services, and sign language and cued language services;

(iv) occupational therapy;

(v) physical therapy;

(vi) psychological services;

(vii) service coordination services;

(viii) medical services only for diagnostic or evaluation purposes;

(ix) early identification, screening, and assessment services;

(x) health services necessary to enable the infant or toddler to benefit from the other early intervention services;

(xi) social work services;

(xii) vision services;

(xiii) *assistive technology devices and assistive technology services* (emphasis added by author)

(xiv) transportation and related costs that are necessary to enable an infant or toddler and the infant's or toddler's family to receive another service described in this paragraph;

IDEA requirements make it clear that schools must ensure that children have access to the devices and services that are required by the child as part of their developmental services, and as documented in the IFSP.

Consideration of AT

Individuals with disabilities Education Act (IDEA) includes a provision that AT must be considered for every student with an IEP in the development and revision of every IEP. Consideration is one of the five special factors to be addressed in the development of every IEP. Specifically, IDEA states:

Development, review, and revision of IEP

34 C.F.R. § 300.324(2)—Consideration of special factors.

The IEP Team must -

(i) In the case of a child whose behavior impedes the child's learning or that of others, consider the use of positive behavioral interventions and supports, and other strategies, to address that behavior;

(ii) In the case of a child with limited English proficiency, consider the language needs of the child as those needs relate to the child's IEP;

(iii) In the case of a child who is blind or visually impaired, provide for instruction in Braille and the use of Braille unless the IEP Team determines, after an evaluation of the child's reading and writing skills, needs, and appropriate reading and writing media (including an evaluation of the child's future needs for instruction in Braille or the use of Braille), that instruction in Braille or the use of Braille is not appropriate for the child;

(iv) Consider the communication needs of the child, and in the case of a child who is deaf or hard of hearing, consider the child's language and communication needs, opportunities for direct communications with peers and professional personnel in the child's language and communication mode, academic level, and full range of needs, including opportunities for direct instruction in the child's language and communication mode; and

(v) Consider whether the child needs assistive technology devices and services. (Emphasis added)

State Mandates for Assistive Technology

There is specific Minnesota legislation that relates to AT in education. These statutes have been summarized, but readers are encouraged to read the relevant statutes.

Minnesota Statutes, section 125A.08(a)(1), clarifies that when there are essentially equivalent and effective AT devices that allow a student access to FAPE, cost is a factor that can be considered by the IEP team in choosing an appropriate device. The statute also directs IEP teams to consider and may authorize services covered by medical assistance.

Minnesota Statutes, section 125A.58, subdivision 1(a), allows the sale of an AT device for a student who exits a district and enters a new district. The child's new district may purchase any assistive technology devices that the child's former district has purchased on the child's behalf. The child's new district must notify, in writing, the child's former district of the intent to purchase the device. The child's new district must complete a purchase agreement. The child's former district must respond, in writing, to the request to purchase within 30 days.

Minnesota Statutes, section 125A.59, subdivision 1, similarly allows purchase of AT devices for students transitioning to post-secondary settings. This purchase may not be made earlier than 3 months before the student leaves the educational setting.

Minnesota Statutes, section 126C.10, subdivision 14(19), allows total operating capital revenue to purchase or lease assistive technology or equipment for instructional programs.

Minnesota Statutes, section 125A.21, subdivision 1 Third Party Payment, allows a district to use third party payment for medically necessary services, including some AT devices.

While not specific to AT in educational settings, there is also statutory language protecting consumers of AT devices from when the device has defects.

Minnesota Statutes, section 325G.206, requires that no device returned by a consumer or an assistive device lessor in this state or another state may be sold or leased in this state unless full disclosure of the reason for return is made to a prospective buyer or lessee.

Appendix B: State Resources for Assistive Technology

Minnesota has a wealth of state initiatives in AT. The System of Technology to Achieve Results (STAR) Program (https://mn.gov/admin/star/), a program of the Minnesota Department of Administration, has the mission to help all Minnesotans with disabilities gain access to and acquire the assistive technology they need to live, learn, work and play. The Minnesota STAR Program is federally funded by the Department of Health and Human Services, Administration for Community Living in accordance with the Assistive Technology Act of 1998, as amended (P.L. 108-364). In response to the Minnesota Olmstead

Plan, the STAR Program and other state agencies which have a role in providing AT services to Minnesotans have collaborated on developing an online resource guide outlining resources and supports for Minnesotans needing AT to live, work, play and learn in the most integrated setting. Other services from STAR include device loan and demonstration, a device exchange, training and technical assistance. Links to valuable resources are available on the STAR website, including information on statewide and national projects and funding resources.

Appendix C: Frequently Asked Questions about Assistive Technology

Q: Who must be considered for AT?

A: IDEA 2004 (34 C.F.R. § 300.324(a)(2)(v)) mandates that all students with an IEP must be considered for assistive technology (AT) as one of five special factors in the development or revision of an IEP. To provide a free, appropriate, public education, the IEP team must consider if AT is needed for the student.

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

A: The federal requirements are clear—AT consideration must occur for all students who have an IEP. It is also possible that a student with a disability may need several types of AT to meet their educational needs, based on their IEP goals and objectives.

Q: Do IFSP teams need to consider AT when developing the family service plan?

A: IFSP teams must document the need for AT devices and services as an early intervention service if they are needed for a child served under an IFSP. The IFSP Team will need to think about whether a device and the services supporting that services are needed before they determine whether it is necessary. While there is not a legal mandate as there is for students served under Part B of IDEA to consider the need for AT, IFSP teams are encouraged to think about the developmental needs of the child and how to meet those needs, including with AT.

Q: What is meant by “consideration” when discussing AT?

A: “Consideration” is a process and it should not be confused with an “evaluation.” Simply put, consideration is typically a brief process in which IEP team members use information analysis and critical decision-making to determine student needs for AT. Although IDEA does not have specific language regarding “consideration,” the Minnesota Department of Education suggests that IEP teams use the SETT Framework as a scaffold to support consideration. The SETT Framework helps planning teams collect information about the:

1) Student’s strengths, abilities and skills.

2) Environments in which the student functions.

3) General education curriculum needs (tasks) to meet IEP goals.

4) Information about possible assistive technology services and devices to achieve these goals (tools).

Q: Who provides consideration for AT?

A: The IEP team provides consideration for students with disabilities. Input in this consideration process includes information from educators, family members, and when possible, the student, in helping decide if the student needs AT for access to FAPE. In the event a team concludes they do not have enough information, they are required to seek assistance to ensure that informed consideration had occurred.

Q: What are the outcomes of consideration?

A: There are several potential outcomes when an IEP team considers the need for AT, or any of the other special factors required in IDEA.

- The student is currently making good progress on their individual goals without the use of AT and nothing new is needed. Document this in the IEP.
- The student is currently making good progress on their individual goals with the use of AT. The IEP team should continue to document the need for access to AT in the IEP document.
- The student is not making progress on IEP goals. The student may- or may not- have AT in their IEP, but it is clear that something additional is needed. The IEP team will need to investigate AT strategies that the student could use.
- The IEP team does not have enough knowledge to consider AT needs for the student, and needs to bring in additional team members to assist with this consideration.

Q: Is there a difference between AT and accommodations?

A: AT tools are one of many accommodations that may support a student in receiving FAPE. The accommodations section of the IEP is one place to include AT. There are also accommodations that will require the use of AT. For example, if a student has documented the need for digital text for accessible educational materials (AEM), the student will use AT to access those materials. Both the need for AEM and for the delivery system (the AT) should be included in accommodations.

Q: If a student receives a technology tool as part of a school or classroom 1:1 technology initiative, can that tool be considered AT?

A: The IEP team needs to determine what the student needs for access to FAPE. Not all technology tools used by a student with a disability are AT, if the student does not need them to complete a task. However, if there is a determination that this 1:1 initiative tool is necessary for the student, it becomes AT. This is true regardless of the funding used to acquire the device. If a student is using a device as part of the classroom or school wide 1:1 initiative, and the system has an app or function that is necessary for the student to receive FAPE, the device and the app are both considered to be AT. This should not prevent the student from receiving the device through general education funds if all other students also have the device.

Q: When should AT be included in evaluations and what are timelines for that?

A: If a student is already using AT devices and services, they should be part of the three-year evaluation. This includes the student being able to use relevant AT devices during the re-evaluation. An initial

evaluation will not document the need for AT, as the need for special education services is still being developed, and IEP goals have not been identified. The evaluation team can suggest the need for appropriate AT if the need is apparent. If the result of the evaluation results in the student receiving special education services, the need for AT will be considered during the initial IEP. If the IEP team determines that an evaluation for the use of AT is needed, the timeline for evaluations will be followed in completing the AT evaluation.

Q: Does every IEP team need to have an AT specialist on it?

A: No. There is no requirement to have an AT specialist on a team. But, every IEP team must have someone on it who knows about AT so that consideration can occur. Many teachers, OTs, PTs, SLPs and others have become knowledgeable about AT devices and services and can provide information on the IEP team.

Appendix D: Quality Indicators for Assistive Technology (QIAT)

Quality Indicators for Consideration of Assistive Technology Needs

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.
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 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 results of assistive technology assessments, data from device trials, differences in achievement with and without assistive technology, student preferences for competing devices, and teacher observations, among others.

Consideration of Assistive Technology Needs 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.

Quality Indicators for Assessment (Evaluation)

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

Quality Indicators for Assessment (Evaluation) 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.

Quality Indicators for Including Assistive Technology in the IEP

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.
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.

Including Assistive Technology in the IEP 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.

Quality Indicators for Assistive Technology Implementation

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 and 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.

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.

Assistive Technology Implementation 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.

Quality Indicators for Evaluation of Effectiveness

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. It can be appropriate for different individual team members to conduct these tasks.
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 targeted 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.
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.

Evaluation of Effectiveness 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.

Quality Indicators for Assistive Technology Transition

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 provide 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 the 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.
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.

Assistive Technology Transition 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.

Quality Indicators for Administrative Support of Assistive Technology Services

1. The education agency has *written procedural guidelines* that ensure equitable access to assistive technology devices and services for students with disabilities, if required for a free, appropriate, public education (FAPE).
   Intent: Clearly written procedural guidelines help ensure that students with disabilities have the assistive technology devices and services they require for educational participation and benefit. Access to assistive technology is ensured regardless of severity of disability, educational placement, geographic location, or economic status.
2. The education agency *broadly disseminates* clearly defined procedures for accessing and providing assistive technology services and supports the implementation of those guidelines.
   Intent: Procedures are readily available in multiple formats to families and school personnel in special and general education. All are aware of how to locate the procedures and are expected to follow procedures whenever appropriate.
3. The education agency includes appropriate assistive technology responsibilities in *written descriptions of job requirements* for each position in which activities impact assistive technology services.
   Intent: Appropriate responsibilities and the knowledge, skills, and actions required to fulfill them are specified for positions from the classroom through the central office. These descriptions will vary depending upon the position and may be reflected in a position description, assignment of duty statement, or some other written description.
4. The education agency employs *personnel with the competencies* needed to support quality assistive technology services within their primary areas of responsibility at all levels of the organization.

Intent: Although different knowledge, skills, and levels of understanding are required for various jobs, all understand and are able to fulfill their parts in developing and maintaining a collaborative system of effective assistive technology services to students.

5. The education agency includes assistive technology in the *technology planning and budgeting process*.
   Intent: A comprehensive, collaboratively developed technology plan provides for the technology needs of all students in general education and special education.
6. The education agency provides access to *on-going learning opportunities about assistive technology* for staff, family, and students.
   Intent: Learning opportunities are based on the needs of the student, the family, and the staff and are readily available to all. Training and technical assistance include any topic pertinent to the selection, acquisition, or use of assistive technology or any other aspect of assistive technology service delivery.
7. The education agency uses a *systematic process to evaluate* all components of the agency-wide assistive technology program.
   Intent: The components of the evaluation process include, but are not limited to, planning, budgeting, decision-making, delivering AT services to students, and evaluating the impact of AT services on student achievement. There are clear, systematic evaluation procedures that all administrators know about and use on a regular basis at central office and building levels.

Administrative Support of Assistive Technology Services Common Errors

1. If policies and guidelines are developed, they are not known widely enough to assure equitable application by all IEP teams.
2. It is not clearly understood that the primary purpose of AT in school settings is to support the implementation of the IEP for the provision of a free, appropriate, public education (FAPE).
3. Personnel have been appointed to head AT efforts, but resources to support those efforts have not been allocated. (Time, a budget for devices, professional development, etc.)
4. AT leadership personnel try to or are expected to do all of the AT work and fail to meet expectations.
5. AT services are established but their effectiveness is never evaluated.
6. Quality Indicators for Professional Development and Training in Assistive Technology Indicators:
   a. Comprehensive assistive technology professional development and training support the understanding that assistive technology devices and services enable students to accomplish IEP goals and objectives and make progress in the general curriculum.
      Intent: The Individuals with Disabilities Education Act (IDEA) requires the provision of a free and appropriate public education (FAPE) for all children with disabilities. The Individualized Education Program (IEP) defines FAPE for each student. The use of AT enables students to participate in and benefit from FAPE. The focus of all AT professional development and training activities is to increase the student's ability to make progress in the general curriculum and accomplish IEP goals and objectives.
   b. The education agency has an AT professional development and training plan that identifies the audiences, the purposes, the activities, the expected results, evaluation measures and funding for assistive technology professional development and training.
      Intent: The opportunity to learn the appropriate techniques and strategies is provided for each person involved in the delivery of assistive technology services. Professional development and training are offered at a variety of levels of expertise and are pertinent to individual roles.
   c. The content of comprehensive AT professional development and training addresses all aspects of the selection, acquisition and use of assistive technology.

Intent: AT professional development and training address the development of a wide range of assessment, collaboration and implementation skills that enable educators to provide effective AT interventions for students. The AT professional development and training plan includes, but is not limited to: collaborative processes; the continuum of tools, strategies and services; resources; legal issues; action planning; and data collection.

d. AT professional development and training address and are aligned with other local, state and national professional development initiatives.
Intent: For many students with disabilities, assistive technology is required for active participation in local, state and national educational initiatives. Content of the professional development and training includes information about how the use of assistive technology supports the participation of students with disabilities in these initiatives.

e. Assistive technology professional development and training include ongoing learning opportunities that utilize local, regional, and/or national resources.
Intent: Professional development and training opportunities enable individuals to meet present needs and increase their knowledge of AT for use in future. Training in AT occurs frequently enough to address new and emerging technologies and practices and is available on a repetitive and continuous schedule. A variety of AT professional development and training resources are used.

f. Professional development and Training in assistive technology follow research-based models for adult learning that include multiple formats and are delivered at multiple skill levels.
Intent: The design of professional development and training for AT recognizes adults as diverse learners who bring various levels of prior knowledge and experience to the training and can benefit from differentiated instruction using a variety of formats and diverse timeframes (e.g., workshops, distance learning, follow-up assistance, ongoing technical support).

g. The effectiveness of assistive technology professional development and training is evaluated by measuring changes in practice that result in improved student performance.
Intent: Evidence is collected regarding the results of AT professional development and training. The professional development and training plan is modified based on these data in order to ensure changes in educational practice that result in improved student performance.

Professional Development and Training in Assistive Technology Common Errors

1. The educational agency does not have a comprehensive plan for ongoing AT professional development and training.
2. The educational agency's plan for professional development and training is not based on AT needs assessment and goals.
3. Outcomes for professional development are not clearly defined and effectiveness is not measured in terms of practice and student performance.
4. A continuum of ongoing professional development and training is not available.
5. Professional development and training focuses on the tools and not the process related to determining student needs and integrating technology into the curriculum.
6. Professional development and training is provided for special educators but not for administrators, general educators and instructional technology staff.

Appendix E: Assistive Technology Glossary of Terms

It is important for IEP and IFSP teams to understand the terminology of assistive technology to be better able to collaborate to benefit the student. The following glossary of terms can help team members learn about kinds of AT devices and services.

A

Abbreviation Expansion Software:

Abbreviation Expansion Software is used to help individuals become more efficient writers. This software will automatically expand 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 the user to minimize the number of keystrokes necessary to produce a written piece. It is often combined with word prediction programs or specialized keyboard assistance programs.

Accessibility Features:

Accessibility features are various options that exist within products that allow a user to adjust the settings to their personal needs. Products can come with various accessibility features that can adjust to the individual's visual, mobility, hearing, language, and learning needs. Accessibility features allow individuals with disabilities to use products that may not otherwise be useful. They also serve as a piece of assistive technology because adjustments are being made to help the individual.

Access Utility:

An access utility is a software program that modifies a standard keyboard to simplify operation of the keyboard, replace the mouse, substitute visual cues for sound signals, or add sound cues to keystrokes. Many basic modifications can be made through software that already exists on your computer. Altering font size, color contrast, and adding or modifying audio alerts can all be done without purchasing additional software. "Sticky keys" are another very useful modification tool that can be made using existing software. Sticky keys allow an individual to type one key at a time, sequentially, and experience the same results as holding down multiple keys simultaneously.

Accommodations:

In the context of education, an accommodation is a change in the format or presentation of educational materials so that a student with a disability can complete the same assignment as other students. Accommodations can also include changes in setting, timing, scheduling, and/or response mechanisms. Students who receive accommodations may be allowed to: listen to audio versions of textbooks, record classroom lessons, use calculators, submit a drawn picture of key concepts rather than a written report, and work with a "study buddy" or note taker. There are dozens of accommodations that can change a student's experience from frustration to success if teachers, aides, and parents are creative.

Aids for Daily Living:

Aids for daily living are self-help aids to help people with disabilities eat, bathe, cook and dress. An example would be a fingernail brush with two suction cups attached to the bottom that could stick onto a flat surface in the bathroom. Such an ADL would allow a child with limited mobility to clean her nails without having to grip the brush. There are also "high tech" ADLS, many of which contain computerized components.

Activities of Daily Living:

Frequently used in national surveys as a way to measure self-care activities, ADLs include basic tasks such as eating, bathing, dressing, toileting, getting in and out of a chair or bed, and getting around at home. National surveys also measure another level of self-care – Instrumental Activities of Daily Living (IADLs) – which include household chores, meal preparation, business activities, shopping, telephone use and mobility outside the home.

Alternative Access/Input Device:

An alternative access/input device allows individuals to control their computers using tools other than a standard keyboard or pointing device. Examples include alternative keyboards, electronic pointing devices, sip-and-puff systems, wands and sticks, joysticks and trackballs.

Alternative Format:

Refers to the transcription of books or other content (such as notes, newspapers, or magazines) into a format other than standard print, e.g., large print, braille, audio, talking books.

Alternative Keyboard:

Alternative keyboards may be different from standard keyboards in size, shape, layout, or function. They offer individuals with special needs greater efficiency, control, and comfort. For example, a traditional QWERTY keyboard may be confusing to a child with a developmental disability and can be replaced with a keyboard that lists letters A-Z in big, bold letters and doesn't contain a lot of "extra" keys. This makes focusing on spelling and typing words a lot easier.

Alternative Mouse Systems:

Alternative pointing devices, trackballs and keypads are used to replace the traditional computer's mouse.

Ambulation Aids:

These devices help people walk upright and include canes, crutches, and walkers.

Assistive Listening Device (ALD):

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

Assistive Technology Device:

An assistive technology (AT) device includes any item, piece of equipment, or product system that is used to increase, maintain, or improve the functioning of individuals with disabilities. It may be purchased commercially off the shelf, modified, or customized. The term does not include a medical device that is surgically implanted, or the replacement of such a device. AT devices range from low tech, such as a magnifying glass, to high tech, such as a computer that responds to touch and allows a child to communicate more effectively.

Assistive Technology Evaluation:

This functional evaluation of a child in his/her customary environment focuses specifically on the child's need for assistive technology. While it is conducted by a team of professional evaluators, input from family members and other knowledgeable personnel is sought in order to identify the child's strengths and challenges. Some people use the terms "assessment" and "evaluation" interchangeably, while others use "assessment" to refer to the process that takes place before a child receives an AT device, and "evaluation" to refer to the process (and resulting document) that studies how well the device has worked for the child.

Assistive Technology Service:

An assistive technology service is one that directly assists in the selection, buying, designing, fitting, customizing, maintaining, repairing, replacing, and coordinating of assistive technology devices. It also includes the training of students, teachers, therapists and family members on the use and maintenance of the device.

Augmentative and Alternative Communication (AAC) System:

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

Auxiliary Aids and Services:

Under the Americans with Disabilities Act, professionals and organizations must communicate as effectively with people with disabilities as they do with others. Auxiliary aids and services assist in this effort. Auxiliary aids may include taped texts, interpreters or other effective methods of making materials usually 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 and actions.

B

Battery Interrupter:

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

Bookshare:

Bookshare is an online library of accessible digital textbooks and other content. Eligible individuals can get a free membership.

Braille:

This raised dot printed language is used by many people with visual impairments. Each raised dot arrangement represents a letter or word combination.

Braille Display:

A braille display is a tactile device consisting of a row of special “soft” cells. A soft cell has six or eight pins made of metal or nylon; the pins are controlled electronically and move up and down to display characters as they 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 transfers 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.

C

Captioning:

This is a text transcript of the audio portion of multimedia products, such as movies and television programs. Captioning is synchronized with the visual events taking place on screen. In addition to its usefulness for those with hearing impairments, it has been shown to be helpful to students with a range of visual and auditory processing problems.

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 can be used by other individuals.

D

Descriptive Videos:

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

Digital Recorders:

A device that records video in a digital format to a disk drive or other memory medium within a device, and can also be transferred to a computer via USB cable.

Digital Book Players:

Hardware and software that will play digital books in a variety of formats, including Daisy, Word, and MP3.

Digitized Speech:

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

Durable Medical Equipment (DME):

Durable Medical Equipment (DME) is any piece of equipment that is used to serve a medical purpose, can withstand repeated use, and is appropriate for use in the home. It is expected to last for a substantial period of time. Durable medical equipment can include devices, controls, or appliances specified in an individual's plan for medical care. The equipment is used to help increase the individual's ability to perform various activities of daily living or to communicate with the community in which they live. DME can include items necessary for life support, supplementary supplies and equipment necessary for the proper functioning of such items.

E

Early Intervention Services:

Early intervention services are provided under Part C of the Individuals with Disabilities Education Act (IDEA), which addresses the needs of infants and toddlers with disabilities – from birth to age 3– and

their families. Services are made available based on a federal grant program which directs states to evaluate the needs of both the child and his or her family and to set measurable outcomes for progress in an Individualized Family Service Plan (IFSP).

Electronic Pointing Devices:

These devices allow an individual to control the curser on a computer screen (or other computerized device) using ultrasound, an infrared beam, eye movements, nerve signals, or brain waves. When used with an on-screen keyboard, electronic pointing devices also allow the user to enter text and data.

Embosser:

A Braille Embosser is a hardware device for "printing" a hard copy of electronic text documents in braille.

Environmental Control Unit (ECU):

Environmental Control Units enable individuals to control electronic devices in their environment through a variety of alternative access methods, such as switch or voice access. ECUs can control lights, televisions, telephones, music players, door openers, security systems, and kitchen appliances. These systems are also referred to as Electronic Aids to Daily Living (EADL).

Eye Gaze Board:

An eye gaze board is a clear Plexiglas board that is used as a simple communication device. Pictures are mounted at strategic areas on the board and the user communicates by looking at a selected picture.

Evaluation:

Evaluation is both a product and a process. An evaluation is the result of assessment activities in which a team of professionals (e.g., teachers, counselors, and/or service providers) determine whether a child is eligible for early intervention services (birth to 3), whether the child has a disability, and what special education and other services s/he might need.

F

FAPE:

This abbreviation stands for “free and appropriate public education.” It is the term used in the IDEA law, which states that school systems must provide children with disabilities with special education services and accommodations, including AT, at no cost to the parents. The law does not say what is considered an “appropriate” education, but it does refer to the need for children to be taught in the most typical classroom setting possible, often referred to as the “least restrictive environment.”

FM Systems:

An assistive listening device worn by the speaker to amplify his/her voice and transmit it directly to the listener's ears via an electronic receiver and special earphones or the listener's own hearing aids. The

device reduces the problem of background noise interference and the problem of distance between speaker and listener.

G, H, I

Individualized Education Program (IEP):

Each public school child who receives special education and related services must have an Individualized Education Program (IEP). The IEP should be a truly individualized document and include such information as present levels of functioning, future goals, and services to be provided. By law, the IEP process must consider the need for assistive technology.

Individualized Family Services Plan (IFSP):

Like an IEP, an IFSP is a written statement of an infant's or toddler's (birth to age 3) developmental status, information about his family's needs and abilities to support his learning and development, and a list of outcomes for the child and the family to achieve. The IFSP describes the services the child will receive, how these will be delivered and how the child will transition to his next environment. The document should identify a service coordinator to work with the family to monitor and achieve the goals established.

Individualized Transition Plan (ITP):

The ITP is the portion of a child's IEP that focuses on the issues associated with his or her transition from high school to higher education, employment, or individual living. The ITP should be as specific as possible, identifying the child's interests, goals, current educational status, remaining educational needs (such as credit hours), current and projected assistive technology needs, and the steps that need to be taken to help the child move smoothly to post-high school settings.

Infrared Sender/Receiver:

This is a device 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. These are usually small and portable and vary in size and shape. They can be used in different areas of a room, but the remote must be aimed at the control box, with nothing in its path.

J

Joysticks:

A joystick may be used as an alternate input device. Joysticks that can be plugged into the computer's mouse port can control the cursor on the screen. Other joysticks plug into game ports and depend on software that is designed to accept joystick control.

K

Keyguards:

Keyguards are hard plastic or metal keyboard covers with holes for each key. Someone with an unsteady finger or using a pointing device can avoid striking the wrong key by using a keyguard.

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.

L

Learning Ally:

Learning Ally is a non-profit organization that has human-narrated audiobooks available for individuals who qualify. See the Learning Ally website for membership options and more information.

LRE:

The abbreviation LRE stands for "least restrictive environment." This means that, to the maximum extent possible, children with disabilities are educated with children who do not have disabilities. Removal from a general educational classroom occurs only when a student cannot be successfully taught in that setting even with assistive aids and services.

M

Mobility and Transportation Aids:

This category of AT includes products that help mobility-impaired persons move within their environment and give them independence in personal transportation. 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, strollers, adapted driving controls, vehicle conversions, patient and wheelchair lifts and carriers.

Most Integrated Setting:

The "most integrated setting" is defined as "a setting that enables individuals with disabilities to interact with non-disabled persons to the fullest extent possible." Eleven Integrated settings are those that provide individuals with disabilities opportunities to live, work, and receive services in the greater community, like individuals without disabilities.

O

Online Community Support:

Online communities and online support are websites, listservs, chat rooms, and other electronic ways for people to communicate with each other about a topic of mutual interest.

Onscreen Keyboard:

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 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.

P

Pointing and Typing Aids:

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

Portable Word Processor:

Portable word processors are often lightweight and inexpensive devices that can be easily taken from place to place. The device provides access to word processing without a computer. Some portable word processor products also include various organization features such as those in a personal digital assistant (PDA). Text can also be downloaded from the device to a computer or to a printer for saving and printing.

Postsecondary Accommodations:

Postsecondary accommodations in educational settings typically include: 1) modifications to the curriculum or educational tasks in college-level coursework or vocational training, and 2) tools, devices or services that help a student better access course material, participate in class, and submit assignments. Postsecondary accommodations in the workplace include equipment and services that help an individual get and keep a job. They include modifications to tasks, routines, and the workplace environment.

Postsecondary Activities:

Postsecondary activities are those that a child with disabilities can pursue after leaving high school. They are both formal and informal activities, and may include education, employment, recreation, independent living, and community participation.

Postsecondary Education:

Postsecondary education is formal education that a child with disabilities can pursue after completing high school. Examples are vocational programs, community college, college or university and continuing education. An increasing number of colleges and universities have programs designed to support students with a range of needs – physical, cognitive, and behavioral.

Prosthetic and Orthotics:

Prosthetic and orthotics include replacement, substitution or augmentation of missing or malfunctioning body parts with artificial limbs or other orthotic aids.

R

Receiving Environment:

The receiving environment is the setting to which a child with disabilities is transitioning. For example, if a child is transitioning from high school to assisted living, the assisted living situation would be the receiving environment.

Related Services:

Related services are any additional support services that a child needs in order to benefit from his or her education. Such services include, but are not limited to: school-related transportation, medical evaluation, parent counseling and training, developmental and corrective services such as speech pathology, psychological services, physical and occupational therapy, and recreation. Interpreters, while not specifically on the list, must be provided by the school system if needed for a child to benefit from education services.

S

Screen Enlargement Programs:

Screen enlargement programs magnify a section of a 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 people with limited vision or blindness or with a print disability, such as dyslexia.

Seating and Positioning Aids:

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

Speech Recognition Programs:

These software applications convert words that are spoken aloud to text. Speech recognition is designed to respond to a wide range of voices, without 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 speech and voice recognition programs may be used to create written documents without the use of a keyboard, to control specially adapted equipment, and to operate telephone, cell phone and PDA (personal digital assistant) applications.

Switches and Switch Software:

Switches offer an alternative method of providing input to a computer when it is not possible to use a standard keyboard or mouse. Switches come in various sizes, shapes, methods of activation and placement options. Some software programs have been developed specifically for use with a switch and can employ on-screen scanning. With on-screen scanning, 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. Other programs have built-in options for switch use.

T

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. Many of these inexpensive writing programs also 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 their projects. These programs may offer other 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, webpages, 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 low vision or blindness, text-to-speech technology has improved greatly, with natural sounding voices, greater conversion speed, 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 on the screen.

Transition:

Generally, transition describes a process of major change from one set of circumstances to another. For children with disabilities, transitions occur when they move from early childhood settings (e.g., home or daycare) to school and, later, between school phases (e.g., middle school to high school) or from secondary school to postsecondary education, work and/or community living.

Transition Services:

Transition services are a coordinated, results-oriented set of activities – based on the strengths, interests, and needs of a child with a disability – that help the student move from a K-12 school setting to other postsecondary environments, including postsecondary education, vocational training, integrated employment, adult services, independent living, or community participation. Transition services can include instruction, occupational and speech/language therapy, guided community experience, development of employment and other adult living objectives and, when appropriate, the acquisition of daily living skills and functional vocational evaluation.

TTD or TTY:

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

U

Universal Design (UD):

This is an approach to the design of products and environments that is aimed at making them accessible to all people, both those with and without disabilities. Examples of universally designed environments include buildings with ramps, curb cuts, automatic doors, widened doorways, and door handles (rather than knobs).

Universal Design for Learning (UDL):

Universal Design for Learning is the design of instructional materials and activities that make learning goals achievable by individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, organize, engage, and remember. UDL is achievable via flexible curricular materials and activities that provide alternatives for students with differing abilities. These alternatives are built into the instructional design and operating systems of the educational materials; they are not added on after-the-fact.

V

Video Phone:

A video phone has a screen that permits users to conduct real-time audio and visual conversations. It is useful for those who use sign language to communicate and for individuals who do not have access to medical and diagnostic personnel. Increasingly assessments, including assistive technology assessments, are being conducted at a distance using video phone technology.

Vocal Output Communication Aid (VOCA):

A Vocal Output Communication Aid (VOCA) 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 during a conversation. These devices are intended solely for communication purposes.

Voice Recognition:

Different types of voice recognition systems (also called speech recognition) are available. Voice recognition allows 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 text documents such as letters or email, to browse the Internet, and to navigate among applications and menus.

W

Web Accessibility:

Universal accessibility to the World Wide Web means that all people, regardless of their physical or developmental abilities, have access to web-based information and services. Making webpages accessible is accomplished by designing them to work with adaptive technologies, such as screen readers. It also means making color, font size, and page design decisions that make it possible for the widest range of individuals to access the information.

Word Prediction Programs:

Word prediction 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 letter(s) typed by the user. The word may then be selected from the list and inserted into the text by typing a number, clicking the mouse, or scanning with a switch.

X, Y, Z

X-10 Unit:

X-10 is a communications “language” that allows compatible products to talk to each other using the existing electrical wiring in one’s home.

Appendix F: Resources for Assistive Technology

There are multiple resources available online regarding AT. Many are free. Be aware that URLs will change over time, and resources may need to be made accessible. The resources included here are not endorsed by the Minnesota Department of Education, but may be useful to IEP teams and others in developing their own capacity in providing AT to students.

General AT Information:

Article about levels of assistive technology and other key issues, see the article "Hindsight, Understanding What We Got Wrong, and Changing Directions" (Edyburn, 2009).

Center for Technology and Disability (https://www.ctdinstitute.org/)

Faculty Favorites from University of Colorado Denver
(http://www.ucdenver.edu/academics/AssistiveTechnologyPartners/resources/Faculty-Favorite-Website/Pages/Faculty%20Favorite%20Websites.aspx)

Minnesota Department of Education (https://education.mn.gov/mde/index.html)

Minnesota STAR Program (https://mn.gov/admin/star/)

National Assistive Technology in Education Network (N.A.T.E.) (Manuals/Forms & Tools/AT research and Links) (https://www.natenetwork.org/)

PACER Simon Technology Center (http://www.pacer.org/stc/)

SETT Framework (http://www.joyzabala.com/documents.html)

Early learning:

PACER CENTER Document—AT for Infants, Toddlers and Young Children with Disabilities
(http://www.pacer.org/parent/php/PHP-c212.pdf)

Pennsylvania Early Intervention (http://www.eita-pa.org/assistive-technology/)

Center on Technology and Disability – AT Supports for Early Learning
(https://www.ctdinstitute.org/sites/default/files/file_attachments/AT%20Supports%20for%20Early%20Learning.pdf)

Consideration:

Texas Assistive Technology Network, Considering AT in the IEP (www.texasat.net)

University of Kentucky Assistive Technology Project
UKAT Toolkit (edsrc.uky.edu/www/ukatii/toolkit/index.html)

Wisconsin Assistive Technology Initiative WATI Consideration Guide
(www.wati.org/?pageLoad=content/supports/free/index.php)

SETT Scaffold for consideration of AT needs (www.joyzabala.com)

Georgia AT Resources
(http://www.gpat.org/Georgia-Project-for-Assistive-Technology/Pages/default.aspx)

University of Wyoming Resources
(https://www.uwyo.edu/wind/_files/docs/watr/at_consideration_packet_watr_may_2014.pdf)

Assessment (Evaluation):

Quality Indicators for Assistive Technology (QIAT) — (https://qiat.org)

Tech Matrix; Assistive Technology Tools and Resources for Learning (https://techmatrix.org)

University of Kentucky Assistive Technology Project UKAT Toolkit,
(edsrc.uky.edu/www/ukatii/toolkit/index.html)

The Wisconsin Assistive Technology Initiative—Assessing Students' Need for Assistive Technology,
(http://www.wati.org/free-publications/assessing-students-needs-for-assistive-technology/)

Documentation of AT in the IEP:

Georgia Program for Assistive Technology. Documenting AT in the IEP (www.gpat.org/Georgia-Project-for-Assistive-Technology/Pages/Documenting-Need-for-Assistive-Technology.aspx)

OSEP Ideas that Work; Toolkit on Teaching and Assessing Students with Disabilities
(https://osepideasthatwork.org/federal-resources-stakeholders/tool-kits/tool-kit-teaching-and-assessing-students-disabilities)

Quality Indicators for Assistive Technology (QIAT) (https://qiat.org/)

Understanding Special Education; IEP Collaboration techniques
(www.understandingspecialeducation.com/iep-collaboration.html)

Implementation:

Education Tech Points (https://educationtechpoints.org/?s=Assistive+Technology)

Closing the Gap (https://www.closingthegap.com/)

Georgia Project for Assistive Technology, Assistive Technology Devices (http://www.gpat.org/Georgia-Project-for-Assistive-Technology/Pages/Assistive-Technology-Devices.aspx)

Quick Guides, High Incidence Accessible Technology (HIAT),
(https://www.montgomeryschoolsmd.org/departments/hiat-tech/resources/)

Texas Assistive Technology Network. Training modules. (https://www.texasat.net/training-modules/training-modules-home)

High Incidence Accessible Technology (HIAT) Montgomery County Public Schools (www.montgomeryschoolsmd.org/departments/hiat/)

Georgia Project for Assistive Technology – Implementation and Integration (http://www.gpat.org/Georgia-Project-for-Assistive-Technology/Pages/Implementation-and-Integration.aspx)

Evaluation of Effectiveness:

Georgia Project for Assistive Technology (http://www.gpat.org/Georgia-Project-for-Assistive-Technology/Pages/default.aspx)

University of Wisconsin- Milwaukee. ATOMS Project: Assistive Technology Outcomes Measure Systems Design (http://www.r2d2.uwm.edu/atoms/)

Transition:

Supports from Augsburg (http://www.augsburg.edu/class/groves/assistive-technology/everyone/)

LD Online — (www.ldonline.org)

National Secondary Transition Technical Assistance Center (NSTTAC) (https://transitionta.org/)

Quality Indicators for Assistive Technology (QIAT) (https://qiat.org/)

Texas Assistive Technology Network, Transition Module (https://www.texasat.net/training-modules/transition-module)

Administrative Support:

Neighborhood Legal Services – Funding AT Through State Medicaid Programs (http://www.nls.org/files/Disability%20Law%20Hotlines/National%20AT%20Advocacy/Funding%20Assistive%20Technology%20Through%20State%20Medicaid%20Program%20May%202016.pdf)

Quality Indicators for Assistive Technology (QIAT) (https://qiat.org/)

U.S. Department of Education, Assistive Technology (https://www2.ed.gov/policy/gen/guid/assistivetech.html?exp=0)

Professional Development:

The Iris Center for Training Enhancements, module on AT (https://iris.peabody.vanderbilt.edu/module/at/)

Assistive Technology & Accessible Educational Materials Center (https://ataem.org/)

Modules with a focus on strategies to develop systemic change, using the Quality Indicators, is available at the Texas Assistive Technology Network (https://www.texasat.net/training-modules/leadership-module)

AEM:

AEM Center at CAST (http://aem.cast.org/)

Oklahoma State Department Of Education (https://sde.ok.gov/accessible-educational-materials)

Minnesota Department of Education (https://education.mn.gov/MDE/dse/sped/mat/)

UDL:

CAST UDL at a glance (http://www.cast.org/our-work/about-udl.html#.XKZMzphKiUl)

The UDL Guidelines
(http://udlguidelines.cast.org/?utm_medium=web&utm_campaign=none&utm_source=udlcenter&utm_content=site-banner)

Understood for learning & attention issues – Assistive technology
(https://www.understood.org/en/school-learning/assistive-technology)

Appendix G: Model Forms and Scaffolds

Included are a range of forms that teams can use to support effective assistive technology. Teams are encouraged to use these forms as a resource. There is no obligation to use any of these forms. Teams can choose to use one or all of these forms, or can choose to adapt them to meet their team's needs. Feedback on these forms is welcomed.

- Forms for Consideration
- Family Consideration Guide
- Student Consideration Guide
- Education Consideration
- Outcomes of Consideration (PACER) (Note - Not yet included as I cannot import a PDF form into a word doc)
- Forms for Assessment (Evaluation)
- AT Planning and Equipment Trial
- Equipment Status Log
- Forms for Documentation of AT in the IEP
- AT status Log
- AT in the IEP Planner
- Forms for Implementation
- Implementation of AT Planner
- Forms for Evaluation of Effectiveness
- Plan for Evaluation of Effectiveness
- Forms for Transition
- Forms for Administrative Support
- Forms for Professional Development

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Family Consideration Guide

Family member completing form: Date:

Student Name: Student age: Student grade:

Directions: Please complete this prior to the Team meeting. Bring this, and any examples you would like to share of how your student uses technology at home or in other settings to the meeting.

What are your student's strengths, interests, or motivators? Do you have a “success story” you would like to share?

What task(s) are difficult for your student because of her disability?

Do you have suggestions or ideas for tools or strategies that will help your student?

Describe any assistive technology devices (simple or complex) used successfully by your student in the home or school.

What are your student’s feelings about using these devices?

How successful do you think these devices have been?

What are your student’s long-term goals?

Is there anything else you would like the team to know?

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Student Consideration Guide

Name: Date:

Age: Grade: Case Manager:

Directions: Complete this form before your team meets to discuss assistive technology (AT). You can answer these questions yourself, or have someone help you. You can also bring examples of AT devices you have used, or examples of work you have completed using AT.

1. What do you want to do at school that is difficult or impossible for you to do now?

2. Can you name or describe the strategies, technology devices, or assistance that could help you to complete school requirements or tasks?

3. What are your feelings about using technology at home, at school or in the community?

4. Is there anything you have seen or tried that you would like the team to discuss?

5. What are your long-term dreams for yourself?

6. Is there anything else you would like us to know?

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Educator Consideration Guide

Student Name: Date:

Person completing form: Role on Team:

Directions: Complete this form prior to the team meeting to discuss the student's need for AT. You can bring examples of devices or strategies you think will be useful, or examples of student work to help the discussion.

I. Student

1. What does the student need to do, but is currently unable to do because of their disability?

2. What are the student's strengths, abilities, accomplishments, and/or motivators? Any "success stories" you would like to share.

3. What strategies or accommodations have you used successfully for this student?

4. What are the student's long-range or transition goals?

5. What strengths, learning style, coping strategies or interests should be considered by the team?

II. Environment

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

Environment:

1. What materials are currently available to all students?
2. What materials are currently available for this student?
3. What is the physical arrangement of the classroom?
4. What is the instructional arrangement?
5. What supports or resources are available in this environment?
6. What activities (tasks) are typical for students to do in the classroom?
7. What Are other Ways to Achieve the same learning outcome?
8. What are other important considerations for the IEP Team?

AT Planning and Equipment Trial Summary

Student Name: Grade: Date:

Team members (identify IEP manager):

Directions:

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

I. Planning Summary

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

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

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

4. How long is the trial period expected to last?

5. How will success for a trial period be determined?

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

7. What staff training will be needed / provided?

8. What student and family training will be needed/provided?

9. Who will provide the training?

10. What is the training schedule?

11. Who is responsible for implementation in environment 1?

12. Who is responsible for implementation is environment 2?

13. Who is responsible for implementation in environment 3?

14. Who else is involved other than those listed (names and roles)?

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Equipment Trial Summary

Provide Information for the following questions about the divice(s) used in each environment:

Environment:

Device name:

Who ordered the device?

Who is responsible for set-up, maintenance and troubleshooting for the device?

Where will the device be stored when not in use?

How will the device be transported?

Who will have access to the device?

Who will provide training to the student and family?

Who will provide training to school staff?

Who will collect data on device use?

Who will analyze and report collected data?

Start and end dates of device trial.

Authorized signature of payer of device:

Authorized signature of payor for student/family training:

Authorized signature of payor for staff training:

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Equipment Trial Log

Directions: Use the equipment trial log to document the type of device tried, the environment, timelines, and overall results. The purpose of this log is to help service providers determine whether a device met the student's needs and to assist with future assistive technology planning.

Student Name: Date:

Grade: Team members participating:

Name of device:

In what environment(s) was the device used?

How long was the device used? (include start and end dates)

How many trials were observed?

What was the criteria used to judge success?

Was the criteria met? Yes ☐ No ☐

Will this device be recommended for the student? Yes ☐ No ☐

Other comments:

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Assistive Technology Status Log

Student Name: _____

Date: _____

Person completing form: _____

Directions: Select instructional or access areas in the first column that are appropriate for the student. Ignore the areas that are not relevant to the student. Specify tasks (e.g. copying assignments from the board, completing worksheets, etc.) in each area which this student will need to do.

Indicate the manner in which the student completes these tasks in the appropriate column, specifying if the student completes the tasks using modifications, standard tools or AT tools. If the student is not able to complete the task with accommodations or modifications, standard classroom tools or dedicated AT tools, complete the last column. (Add rows if needed.)

Instructional Area (use only those areas appropriate for this student)	Accommodations or modifications	Standard classroom tools	Dedicated AT tools	Additional tools needed, including AT tools or services
Writing				
Spelling				
Reading				
Math				
Study skills				
Oral communication				

Instructional Area (use only those areas appropriate for this student)	Accommodations or modifications	Standard classroom tools	Dedicated AT tools	Additional tools needed, including AT tools or services
Daily Living				
Transition				
Behavioral support				
Other				

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Assistive Technology in the IEP Planner

The following questions guide IEP team discussion for considering and documenting AT in the IEP.

Section of IEP for documentation–Present levels of academic achievement and functional performance.

Does the student currently us AT devices to participate and make progress in the general education curriculum?
For what tasks is AT used?
In what environments is AT used?
Are AT services currently being provided?
Are there additional tasks for which AT might be effective?
Is AT effective in completing these tasks?

Section of IEP for documentation–measurable annual goals (functional and academic.)

Does the student need AT devices and/or services to accomplish annual goals?
In what environments will AT be used?
How will AT support progress toward annual goals?
Do goals need to be developed that address acquisition of technology related skills?

Section of IEP for documentation–short-term objectives or benchmarks.

Does the student need AT devices and/or services to accomplish benchmarks and/or short-term objectives?
How will AT support progress toward benchmarks and/or short-term objectives?
In what environments will AT be used?
Do benchmarks and/or short-term goals need to be developed that address acquisitions of technology related skills?

Section of IEP for documentation–consideration of special factors.

Does the student need AT devices and/or services to participate and progress in the curriculum or to benefit from specially designed instruction?
Does the student need AT to remove barriers to participation in the general education curriculum?
Does the student need AT to complete educationally relevant tasks?

Section of IEP for documentation–related services.

Does the student need AT devices and/or services as part of related services to enable the student to benefit from special education?
Will the provisions of AT devices or services become part of the services of a current service provider?
Will an additional service provider provide the AT services?

Section of IEP for documentation–supplementary aids and services.

Does the student need AT devices and/or services as part of supplementary aids and services to support participation in general education classes or other education related settings to enable him/her to be educated with children without disabilities?

Section of IEP for documentation–Accommodations for participation in state and districtwide assessments.

Does the student need AT to participate in statewide and district assessments?
Is the identified AT a component of the student's typical instruction and/or classroom assessments?
Is the use of identified AT allowed in the assessment?
Is the identified AT available within or compatible with the assessment?
Can the identified AT be used without invalidating the test construction?

Section of IEP for documentation–Transition services.

Does the student need AT devices and/or services as part of transition to post-school environments?
Does the student need AT devices and/or services to accomplish measurable goals related to:

- Postsecondary education
- Vocational education
- Employment
- Adult services
- Independent living
- Community participation

Have AT service providers been identified for post school environments and invited to participate?

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Implementation of Assistive Technology Planner

Teams may use this form to guide discussion in the development of an implementation plan which is well thought-out with input from all stakeholders (team). Best practices suggest that all components below should be considered when developing the AT implementation plan.

Student name: Date:

Team Members:

Who will collaborate in the development of the implementation plan?

What specific goals and tasks will be addressed in the plan?

What aspects of the student's performance are expected to change, (e.g., reduced time, increased accuracy, quantity, quality, engagement)?

How will AT be integrated into the curriculum and daily activities across environments?

What tools and strategies will be used to accomplish identified task(s)?

What evidence/data will be needed to determine which tools and strategies are most effective for particular environments and tasks?

How will performance evidence/data be measured and collected?

When will the performance evidence/data be reviewed to determine what changes, if any, are needed in the implementation plan?

What do team members need to do for successful implementation to take place?

Which team members will share responsibility for each action that needs to be taken (e.g, staff, family, supporters, student)?

What initial and ongoing learning opportunities will be provided for all team members, including the student?

How will equipment and materials be managed and maintained?

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Plan for Evaluation of Effectiveness

Student name: Date:

Team members present:

This document will guide planning about how the use of an assistive technology device will be evaluated. Completion of this document will help the team plan and implement a process for data collection.

IEP Goal for which AT is being used:

Step 1: What is the present level of performance (baseline data) for this goal?

Step 2: What changes are expected as a result of the use of AT? (e.g. Student will be able to_____)

Step 3: What aspects of student performance are anticipated to change?

Quality: ☐ Quantity /productivity: ☐ Frequency: ☐

Participation: ☐ Independence: ☐ Spontaneity: ☐ Duration: ☐

Other:

Step 4: What obstacles may hinder success?

Physical access: ☐ Opportunity: ☐ Instruction/practice: ☐

Student preference: ☐ Skill: ☐ Attitude: ☐ Medical: ☐

Other:

Step 5: How will occurrence of obstacles listed in Step 4 be recorded in the data?

Step 6: What format will be used to collect the data?

Report (self/other): ☐ Work samples: ☐

Observation: ☐ Video or audio recording: ☐

Other:

Step 7: What is the data collection plan? Environment(s):

Activity:

Frequency:

Persons Responsible:

Data collection:

Data analysis:

Review Dates:

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Assistive Technology Transition Planning Checklist

Student Name: Date:

EARLY STAGE TRANSITION

The youth and family are introduced to the transition process and the youth begins to participate in his/her planning. Skills are supported and practiced at school and at home with the family.

Self-advocacy

Educate the youth in describing their specific use of AT or related strategies to meet IEP goals. ☐

Encourage the youth to explain their use of AT or related strategies to appropriate individuals. ☐

Independent Educational Strategies

Discuss the interventions/strategies/devices youth needs regularly, including problems or barriers to use. ☐

Student is able to identify appropriate times to use pre-selected technology interventions. ☐

Vocational planning

Talk about youth's responsibilities at home (e.g. chores) and potential ways to use AT or related strategies. ☐

Select and implement appropriate technology strategies for home and recreation. ☐

With the student, discuss restrictions (real or imagined) on youth's educational or recreational activities. ☐

With the student, explore additional strategies/interventions based on needs. ☐

With the student, explore and contact appropriate funding streams. ☐

MIDDLE STAGE TRANSITION

The youth and family gain understanding of the transition process and the expectations and resources available in the adult system. The youth practices skills, gathers information and sets goals for participating in his/her adult life.

Self-advocacy

Discuss strategies to access information about useful assistive technology and needs (e.g., support groups, Internet, advocacy and peer groups, library, condition-specific health associations).

Discuss choices for services (specialists/providers/community services). ☐

Begin checklist/record of strategies to independently use and support AT device. ☐

Educational and vocational planning

Focus discussion on school, favorite subjects, plans for post-secondary school, and ideas for careers. ☐

Youth visits school counselors to talk about career prep courses or volunteering. ☐

Continue encouragement/modeling of youth's appropriate discussion of use of AT devices/strategies in visits and futures planning. ☐

Vocational planning

Expand, if possible, youth's responsibilities at home (e.g. chores). ☐

Expand selection and implementation of appropriate technology strategies for home. ☐

Discuss restrictions (real or imagined) on youth's educational or recreational activities. ☐

Explore additional strategies/interventions needed based on needs. ☐

Explore and contact appropriate funding streams. ☐

LATE STAGE TRANSITION

The youth and family prepare to leave the secondary school system with confidence; the youth demonstrates and increases independent behaviors (as able) to effectively use AT.

Self-advocacy

Continue discussion of choices for services (specialists/providers/community services). ☐

Assist in choosing services (post-secondary placement/providers/specialists). ☐

Formalize checklist of AT strategies and interventions for AT support. ☐

Youth maintains AT records to keep track of AT providers, repair and maintenance providers, and vendors, (including names and contact information). ☐

Youth meets with adult providers before graduation to support continuum of services. ☐

Vocational Planning

Student and other team members agree on strategies/interventions needed for transition. ☐

Appropriate service providers are active participants in transition team. ☐

Appropriate funding is secured for needed strategies/interventions. ☐

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Equipment Device Log for Transition

This form can help plan for use of AT devices in your adult life. Not every line needs to be filled out, but there should be planning for everything you will use as an adult.

Keep all forms in one folder or note book so you have a record for all your assistive technology devices.

I have a

Serial number

Purchase Date

Warranty good until this date

Purchased from

Address City State Zip

Telephone number

Customer support phone number

Fax number

Web address

Email address

Was a maintenance contract purchased? Yes ☐ No ☐

It is in effect until

My adult service provider for this device is

Telephone number

Email address

If my device breaks down, my back up plan is:

I will call this person for support

Telephone number or text

Email address

Record maintenance and repair dates here.

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Administrators' Planner for Effective Technology Supervision and Leadership

Research shows that perceived pressure from principals and other administrators to use technology is one of the most powerful factors in increasing technology use for teaching and learning (O'Dwyer, Russell, & Bebell, 2004). This planner can be used to support and guide administrators in their work as they identify effective technology use, including assistive technology (AT), and mentor teachers and staff in the use of technology. Suggestions for use include staff discussion of service quality, goal setting, supervision and continuous improvement efforts, monitoring and progress assessment.

Effective Technology Leadership for Principals and other Administrators	Yes	No
Principals and teachers have clearly defined, shared expectations on the importance of implementing technology, including AT, in teaching and learning.	☐	☐
Administrators' expectations for technology use including AT are communicated across the school year in a variety of ways.	☐	☐
Administrators ensure that teachers have equitable access to current technologies, software, appropriate technical support, and the internet.	☐	☐
Reward structures (e.g., recognition, opportunities to share, credits toward salary advancement) are in place to support technology in teaching and learning.	☐	☐
Administrators ensure that principals and teachers know how to access resources to support students who need additional technology assistance.	☐	☐

Effective Technology Practice for Teachers	Yes	No
Teachers are skilled in the use of technology for preparing and delivering instruction.	☐	☐

Effective Technology Practice for Teachers	Yes	No
Teachers access professional development opportunities to support technology use in teaching and learning.	☐	☐
Teachers ensure that technology is available and operational and seek technical assistance in a timely manner.	☐	☐
Teachers utilize innovative ideas for using technology resources to support standards-based instruction.	☐	☐
Teachers facilitate appropriate student use of technology-based resources using a variety of applications.	☐	☐
Teachers regularly measure the effectiveness of technology for learning.	☐	☐
Teachers proactively incorporate technology into teaching and learning activities to support diverse learners.	☐	☐
Teachers ensure that students have the opportunity to use the technology, including assistive technology, written in their IEPs.	☐	☐
Teachers routinely include specific evidence about technology use when reporting student progress to parents.	☐	☐

Effective Technology Use by Students	Yes	No
Students regularly use technology, including assistive technology, as required to participate in learning activities, complete assignments and interact with peers.	☐	☐
Students who experience difficulty with reading use technology to access information, acquire knowledge and demonstrate skills.	☐	☐

Effective Technology Practice for Students	Yes	No
Students who experience difficulty with physical or sensory access to classroom materials use technology to access the curriculum and demonstrate knowledge and skills.	☐	☐
Students who experience difficulty with math use technology to access information, acquire knowledge and demonstrate skills.	☐	☐
Students who experience difficulty with oral communication use technology to support communication efforts.	☐	☐

Adapted from International Society for Technology in Education (ISTE)(2003). National Educational Technology Standards for Teachers, ISTE, Eugene, OR and from Quality Indicators for Assistive Technology (http://qiat.org).

DEPARTMENT OF EDUCATION

Assistive Technology Professional Development and Training Planner

Topic: Date of Training:

School/agency:

Planning Team Members:

Identify Audience for professional development activity (e.g. teachers, parents, paras, etc.)

What is the evidence of need for PD activity?

What is the purpose of training (e.g., awareness, skill enhancement, etc.)?

Brief overview of content:

Level of training:

Awareness: ☐ Knowledge: ☐ Application: ☐ Mastery: ☐

Training format:

Face-to-Face: ☐ Ongoing class: ☐ Online workshop: ☐ Online course for credit: ☐

Webinar: ☐ Online learning module: ☐ Blog or Wiki: ☐ Podcast: ☐

Video training: ☐ Community of practice: ☐ Other:

Expected results for Students:

Formats for follow-up: Coaching: ☐ Mentoring: ☐ Email or phone support: ☐

Professional Learning Community: ☐ Other:

Evaluation measures:

Evaluation time-lines:

Resources needed:

Training coordination: ☐ Instructor: ☐ Funding source: ☐

Training site: Electronic: ☐ Face-to-face: ☐ Location:

Registration/Enrollment needed: Yes: ☐ No: ☐

Electronic communications: Yes: ☐ No: ☐

Training materials needed (e.g., flip charts, notepaper, electronics, wifi, and other supplies)

Expanded Child-Centered Assistive Technology (AT) Plan (IEP)

Child:_____Parent(s)/Guardian(s): _____

Case Manager:_____ Date: _____

Current Assistive Technology Use

Document what assistive technology is currently being used. Consider if the assistive technology being used is meeting the current needs of the student or if a different AT solution will allow the student to better access his or her environment.

Assistive Technology	What need is being met?	Are needs being met successfully?*	Documented in IEP? (Yes/No)

Areas of Need

Consider the educational activities the student participates in on a daily basis. Is the student able to participate independently or does the student need assistance? Describe what that support looks like. As we identify what educational activities the student may need help with, and the environments these activities occur in, the team can begin to identify and match assistive technology to the need.

Based on the information gathered by considering the student's current needs, think about what you want the student to be able to do (desired outcome). Remember to discuss how you will measure progress toward the desired outcome. Then identify some specific features of assistive technology support you may want to try with the student.

**If current AT options are not meeting the child's needs, use this space to document new/updated AT solutions to try.*

Educational Activity	Environment	Level of Current Support	Desired Outcome	Features of Tool(s) to Try

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Trying Assistive Technology

Document what assistive technology is to be tested or tried with the student. Use the "Features of Tools to Try" on the previous page to guide your decisions. Document the start and end dates. Consider what progress measurement you will use to determine a successful outcome for the AT you are trying. Document the student's performance results for each device tried throughout the process. Also document this in the student's IEP.

Device	Environment	Start Date	End Date	Progress Measurement	Child Performance Results	Documented in IEP? (Yes/No)

Training

If any training is required, document who is responsible for doing or coordinating the training, who needs to attend the training (including parents, related service providers, general education staff, and paraprofessionals), and on what date(s).

Device	Training Plan (topic, attendees, location, etc.)	Trainer	Date for Training(s)

Set-up and Maintenance

Discuss and document the plan for setting up and maintaining the assistive technology, including making copies, charging, or updating.

Device	Initial Set-up Needed	Person Responsible	Regular Maintenance Needed	Person Responsible

Back-up Plan

If the technology breaks down, who will fix it or take responsibility for having it fixed? Identify what the student will use in place of the technology while it is being repaired or replaced.

Device	Back-up Plan for Area of Need	Person Responsible

AT Roles

Use this space to document each team member's role based on the "Training," "Set-up and Maintenance," and "Back-up Plan" sections, as well as any additional roles needed to help identify appropriate assistive technology. Be sure to specify who will be responsible for training, set-up, maintenance, and back-up for each technology you are planning to try.

Name	IEP Team Role	Role for AT Implementation

Documenting the AT Decisions

The team has identified that the child needs assistive technology and now has enough information to make decisions about specific AT.

Write something like the following statement into the IEP, either in the designated section or other appropriate place such as "accomodations and modifications":

- The team has discussed the child's needs and determined that he or she does need assistive technology. He or she will use assistive technology to help him or her reach the following IEP goals and objectives. (Briefly point to the goals and objectives where assistive technology will help.)

Action Items:

Date and check when you have completed the following:

- ❒ Date need for AT was documented in the IEP:_____
- ❒ Information written in the IEP is consistent with our AT decision. (For example, a visual strategy, a common early childhood AT, is appropriately identified as assistive technology throughout document.)

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Child-Centered Assistive Technology (AT) Plan (IEP)

Child:_____Parent(s)/Guardian(s): _____

Case Manager:_____ Date: _____

Consideration of assistive technology (AT) is the process in which the child's Individualized Education Program (IEP) team discusses the need for AT. As the team thinks about the child, his or her strengths, and his or her needs, use this two-page plan to document one of four possible outcomes when discussing assistive technology. **Note: You only need to select one outcome.**

Child's Strengths:

_____

_____

Child's Needs:

_____

_____

1. Including AT — First Possible Outcome: AT was considered and is not needed at this time.

Write below how current accommodations and modifications are meeting the needs of the child.

_____

_____

_____

Write something like the following in the IEP, either in the designated section or other appropriate place such as accommodations and modifications:

- The team has discussed the child's needs and determined that he or she does not need assistive technology because _____(fill in how current accommodations and modifications are meeting his or her needs.)

2. Including AT — Second Possible Outcome: The child is successfully using assistive technology. AT is necessary to meet specific IEP goals.

The child is successfully using AT. Document how the child is currently using AT in his or her educational environment.

_____

_____

_____

Write something like the following statement into the IEP, either in the designated section or other appropriate place such as accommodations and modifications:

- The child is currently using AT. He or she will use assistive technology to help him or her reach the following IEP goals and objectives. (Briefly point to the goals and objectives where assistive technology will help.)

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3. Including AT— Third Possible Outcome: The team has determined that the child needs assistive technology and has enough information to make decisions about specific AT.

The child is not yet using AT and the team has determined that the child needs AT. Write how you have tried or will try different technology to meet the child's needs.

_____

_____

Write something like the following statement into the IEP, either in the designated section or other appropriate place such as "Accommodations and Modifications":

- The team has discussed the child's needs and determined that he or she does need assistive technology. He or she will use assistive technology to help him or her reach the following IEP goals and objectives. (Briefly point to the goals and objectives where assistive technology will help.)

4. Including AT — Fourth Possible Outcome: The child needs assistive technology but the team needs information to determine the type of AT that would meet the needs of the child.

Document the different technology you would like to try or how you will gather the information you need to make an informed decision about assistive technology and how it may help this child.

**For this option you may want to utilize the TIKES' "Expanded Child-Centered AT Plan (IEP)" for more detailed support of the AT consideration process*

Area(s) in which the student is experiencing difficulty completing educational activities or meeting goals:

❒ Activities of Daily Living
❒ Cognitive
❒ Communication
❒ Computer & Tablet Access
❒ Early Literacy
❒ Early Math Concepts
❒ Environmental Control
❒ Focus/Attention
❒ Hearing
❒ Mechanics of Writing
❒ Orientation & Mobility
❒ Play
❒ Recreation/Leisure Functioning
❒ Seating & Positioning
❒ Sensory
❒ Vision
❒ Other Area(s):_____

Environment(s)	Educational Activity	Tools to Consider

Write something like the following statement in the IEP, either in the designated section or other appropriate place such as "accommodations and modifications":

- The team has discussed the child's needs and determined that we need more information. The team will try different technology to determine what will best meet the child's needs. We will try (list the features of the devices you think will benefit the child) and meet again with more information. (Document the amount of time you will need to try the technology and when you will meet to discuss it. Also assign roles so there is clear communication about responsibilities.)

Action Items:

Date and check when you have completed the following:

❒ Date need for AT was documented in the IEP:_____

❒ Information written in the IEP is consistent with our AT decision. (For example, a visual strategy, a common early childhood AT, is appropriately identified as assistive technology throughout document.)

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Assistive Technology (AT) Consideration Flowchart (IEP)

Is the student making adequate progress on annual goals, in the general education curriculum, and participating in the least restrictive environment?

Yes

Is the student currently using AT?

No.
AT was considered and is not needed at this time.

- Document that AT was considered and is not necessary at this time.
- Document by using the "First Possible Outcome of the Child-Centered AT Plan."

Yes.
The student is successfully using AT.

- Document the need for AT in the IEP.
- Document by using the "Second Possible Outcome of the Child-Centered AT Plan."

No

Does the IEP team have enough information to determine appropriate AT based on the student's needs?

Yes.
The team has identified that the student needs assistive technology and has enough information to make decisions about specific AT.

- Document what AT will be used and how you have tried or will try different technology to meet the student's needs.
- Document by using the "Third Possible Outcome of the Child-Centered AT Plan."

No.
The student needs assistive technology but the team needs information to determine the type of AT that would meet the needs of the student.

- Document that more information is needed and explain how the team will gather this information.
- Document by using the "Fourth Possible Outcome of the Child-Centered AT Plan." Teams that are new to AT, or new to working with students with complex needs, may benefit from using the "Expanded Child-Centered AT Plan."

NOTE: AT can and should be revisited annually or as often as necessary because needs may change over time.

Ask your district administrators for specific information about where to document consideration. This is often documented in the modification section of an IEP.

Color Key Orange: Questions to ask. Blue: Possible outcomes. Purple: Action items.

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Expanded Child-Centered Assistive Technology (AT) Plan (IFSP)

Child:_____Parent(s)/Guardian(s): _____

Service Coordinator:_____ Date: _____

Current Assistive Technology Use

Document what assistive technology is currently being used. Consider if the assistive technology being used is meeting the current needs of the child or if a different AT solution will allow the child better access to his or her environment(s).

Assistive Technology	What need is being met?	Are needs being met successfully?*	Documented in IFSP? (Yes/No)

Areas of Need

Consider the routines and activities the child participates in on a daily basis. Is the child able to participate independently or does the child need assistance? Describe what that support looks like. As we identify what routines and activities the child may need help with, and the environments the routines occur in, the team can begin to identify and match assistive technology to the need.

Based on the information gathered by considering the child's current needs, think about what you want the child to be able to do ("Desired Outcome"). Remember to discuss how you will measure progress toward the desired outcome. Then identify some specific features of assistive technology support you may want to try with the child.

**If current AT options are not meeting the child's needs, use this space to document new/updated AT solutions to try.*

Activity	Environment	Level of Current Support	Desired Outcome	Features of Tool(s) to Try

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Trying Assistive Technology

Document what assistive technology is to be tested or tried with the child. Use the "Features of Tools to Try" on the previous page to guide your decisions. Document the start and end dates. Consider what progress measurement you will use to determine a successful outcome for the AT you are trying. Document the child's performance results for each device tried throughout the process. Also document this in the child's IFSP.

Device	Environment	Start Date	End Date	Progress Measurement	Child Performance Results	Documented in IFSP? (Yes/No)

Training

If any training is required, document who is responsible for doing or coordinating the training, who needs to attend the training (including parents, related service providers, general education staff, daycare providers, and paraprofessionals), and on what date(s).

Device	Training Plan (topic, attendees, location, etc.)	Trainer	Date for Training(s)

Set-up and Maintenance

Discuss and document the plan for setting up and maintaining the assistive technology, including making copies, charging, or updating.

Device	Initial Set-up Needed	Person Responsible	Regular Maintenance Needed	Person Responsible

Back-up Plan

If the technology breaks down, who will fix it or take responsibility for having it fixed? Identify what the child will use in place of the technology while it is being repaired or replaced.

Device	Back-up Plan for Area of Need	Person Responsible

AT Roles

Use this space to document each team member's role based on the "Training," "Set-up and Maintenance," and "Back-up Plan" sections, as well as any additional roles needed to help identify appropriate technology. Be sure to specify who will be responsible for training, set-up, maintenance, and back-up for each technology you are planning to try.

Name	IFSP Team Role	Role for AT Implementation

Documenting the AT Decisions

The team has identified that the child needs assistive technology and now has enough information to make decisions about specific AT.

Write something like the following statement into the IFSP, either in the designated section or other appropriate place, such as "What will happen":

- The team has discussed the child's needs and determined that he or she does need assistive technology. He or she will use assistive technology to help him or her reach the following IFSP Child and Family Outcomes. (Briefly point to the goals and objectives where assistive technology will help.)

Action Items:

Date and check when you have completed the following:

❒ Date need for AT was documented in the IFSP:_____

❒ Information written in the IFSP is consistent with our AT decision. (For example, a visual strategy, a common early intervention AT, is appropriately identified as assistive technology throughout document.)

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Child-Centered Assistive Technology (AT) Plan (IFSP)

Child:_____Parent(s)/Guardian(s): _____

Service Coordinator:_____ Date: _____

Consideration of assistive technology (AT) is the process in which the child's Individual Family Service Plan (IFSP) team discusses the need for assistive technology in the context of daily routines and activities. As the team thinks about the child, his or her strengths, and his or her needs, use this two-page plan to document one of four possible outcomes when discussing assistive technology. **Note: You only need to select one outcome.**

Child's Strengths:

_____

_____

Child's Needs:

_____

_____

1. Including AT — First Possible Outcome: AT was considered and is not needed at this time.

Write below how current supports or adaptations are meeting the needs of the child in his or her family's everyday routines, activities, and locations.

_____

_____

Write something like the following in the IFSP, either in the designated section or other appropriate place such as "What is already happening":

- The team has discussed the child's needs and determined that he or she does not need assistive technology because _____ (fill in how current supports or adaptations are meeting the needs of the child in his or her family's everyday routines, activities, and places.)

2. Including AT — Second Possible Outcome: The child is successfully using assistive technology. AT is necessary to meet specific IFSP goals.

The child is successfully using AT. Document how the child is currently using AT in the home or early intervention setting.

_____

_____

Write something like the following statement into the IFSP, either in the designated section or other appropriate place such as "What is already happening":

- The child is currently using AT. He or she will use assistive technology to help him or her reach the following IFSP Child and Family Outcomes. (Briefly point to the Child and Family Outcomes where AT will help.)

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3. Including AT — Third Possible Outcome: The team has determined that the child needs assistive technology and has enough information to make decisions about specific AT.

The child is not yet using AT and the team has determined that the child needs AT. Write how you have tried or will try different technology to meet the child's needs.

_____

_____

Write something like the following statement into the IFSP, either in the designated section or other appropriate place such as "What will happen":

- The team has discussed the child's needs and determined that he or she does need assistive technology. He or she will use assistive technology to help him or her reach the following IFSP Child and Family Outcomes. (Briefly point to the Child and Family Outcomes where AT will help.)

4. Including AT — Fourth Possible Outcome: The child needs assistive technology but the team needs information to determine the type of AT that would meet the needs of the child.

Document the different technology you would like to try, or how you will gather the information you need to make an informed decision about assistive technology and how it may help this child.

**For this option you may want to utilize the TIKES' "Expanded Child-Centered AT Plan (IFSP)" for more detailed support of the AT Consideration Process.*

Routines or activities in which the child is experiencing difficulty completing or meeting IFSP outcomes:

❒ Bathtime	❒ Diapering/Toileting	❒ Mealtime	❒ Sleeping Routines
❒ Bedtime	❒ Dressing/Undressing	❒ Orientation & Mobility	❒ Vision
❒ Communication	❒ Early Literacy	❒ Play	❒ Other Area(s):_____
❒ Community Activities	❒ Environmental Control	❒ Seating & Positioning	
❒ Computer & Tablet Access	❒ Hearing	❒ Sensory	

Environment(s)	Daily Routine or Activity	Tools to Consider

Write something like the following statement into the IFSP, either in the designated section or other appropriate place such as "What will happen":

- The team has discussed the child's needs and determined that we need more information. The team will try different technology to determine what will best meet the child's needs. We will try (list the features of the AT you think will benefit the child) and meet again with more information. (Document the amount of time you will need to try the technology and when you will meet to discuss it. Also assign roles so there is clear communication about responsibilities.)

Action Items:

Date and check when you have completed the following:

❒ Date need for AT was documented in the IFSP:_____

❒ Information written in the IFSP is consistent with our AT decision. (For example, a visual strategy, a common early intervention AT, is appropriately identified as assistive technology throughout document.)

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Assistive Technology (AT) Consideration Flowchart (IFSP)

Is the child making adequate progress on annual family outcomes?

Yes

Is the child currently using AT?

No.
AT was considered and is not needed at this time.

- Document that AT was considered and is not necessary at this time.
- Document by using the "First Possible Outcome of the Child-Centered AT Plan."

Yes.
The child is successfully using AT. AT is necessary to meet specific IFSP goals.

- Document the need for AT in the IFSP.
- Document by using the "Second Possible Outcome of the Child-Centered AT Plan."

No

Does the IFSP team have enough information to determine appropriate AT based on the child's needs?

Yes.
The team has identified that the child needs assistive technology and has enough information to make decisions about specific AT.

- Document what AT will be used and how you have tried or will try different technology to meet the child's needs.
- Document by using the "Third Possible Outcome of the Child-Centered AT Plan."

No.
The child needs assistive technology but the team needs information to determine the type of AT that would meet the needs of the child.

- Document that more information is needed and explain how the team will gather this information.
- Document by using the "Fourth Possible Outcome of the Child-Centered AT Plan." Teams that are new to AT, or new to working with children with complex needs, may benefit from using the "Expanded Child-Centered AT Plan."

NOTE: AT can and should be revisited annually or as often as necessary because needs may change over time. Ask your district administrators for specific information about where to document consideration.

Color Key Orange: Questions to ask. Blue: Possible outcomes. Purple: Action items.

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