monograph

CENTER FOR TECHNOLOGY IN EDUCATION & TECHNOLOGY AND MEDIA DIVISION

# Considering the Need for Assistive Technology Within the Individualized Education Program

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JOHNS HOPKINS UNIVERSITY Center for Technology in Education
*A partnership of the Maryland State Department of Education*

Technology and Media Division
tam

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This product was developed, in part, with grant funds from the Maryland State Department of Education, Division of Special Education and Early Intervention programs. This funding does not constitute or imply endorsement by the State.

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## ACKNOWLEDGMENTS

This monograph was written as part of the Technology for Educators Series by the Center for Technology in Education at Johns Hopkins University funded by the Maryland State Department of Education (Grant No. 400429). The Technology and Media Division of the Council for Exceptional Children and the publications group at the Council for Exceptional Children provided additional support and guidance. The content reflects the experience and interpretation of the authors and reviewers.

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# Introduction

Assistive technology (AT) is an important consideration within the Individualized Education Program (IEP) planning process for students with disabilities. When appropriately considered, AT can play an essential role in ensuring that students with disabilities can access the general education curriculum. While the consideration of AT has been a requirement within the IEP since 1997, and is required under the current Individuals with Disabilities Education Improvement Act of 2004 (IDEA 2004), IEP teams continue to struggle with the process. The IEP team is responsible for planning all aspects of the educational program for a student with disabilities; however, IEP teams vary greatly in their knowledge about AT and in their collective skill in considering a student's possible need for it.

Considering the need for AT can be a challenge for many school systems and their IEP teams. Federal law is clear that a student's possible need for AT devices and services must be considered during the development of the IEP, but it provides no guidance on how this should be accomplished. Consequently, among IEP teams, there is a large gap between understanding what is required and knowing how to effectively and efficiently meet those requirements.

While the regulations for IDEA 2004 are forthcoming, the current law has been reviewed and the authors have formed an interpretation of the current requirements for considering AT. This monograph frames the process by providing a systemic approach to considering a student's possible need for AT devices and services during the development of the IEP. It addresses when and how issues surrounding AT should be raised, examined, and discussed; suggests a range of decisions that can be reached; and offers guidance for documenting effective consideration in the IEP.

This monograph is designed to accomplish three specific goals:

1. To increase awareness of the range of AT devices and services currently available for students with disabilities and explore effective applications and practices related to AT use in educational settings.
2. To demystify the AT consideration process by providing a clear, systematic approach for IEP teams to follow when developing plans for students with disabilities in any grade or setting, regardless of disability type or severity.
3. To increase access to AT for students with disabilities through the consideration process so that they are able to participate successfully in educational activities and achieve curricular goals.

The intent of this monograph is to improve the education of children with disabilities through informed and effective decision making about assistive technology. To this end, it provides a review of the current state of AT as defined by law, policies, and practices by addressing related content and providing scenarios depicting typical issues surrounding the consideration of AT. Questions to consider throughout the process also are provided.

The current law recognizes the need for the consideration of universally designed instruction and universal design for learning (UDL) as well as the need for considering AT. As a result, IEP teams should consider both the needs of individual children for AT and the UDL concepts and strategies being integrated into classrooms that support curriculum access. IEP teams should recognize schoolwide initiatives—such as differentiated and direct instruction, scaffolding, summarizing big ideas, and classroom management—and discuss how both AT and UDL can be integrated in a seamless manner.

IEP teams should be aware of the technology available in classrooms and the efforts both special and general educators are making with respect to UDL. In addition, when thinking about individual students, teams should consider where, when, and how specific low- to high-tech AT strategies are needed to help students access the general education curriculum and use the IEP as a tool for instructional planning. It is the intent of this monograph to focus on the specific need for AT in relation to all of the educational options available within individual schools and classrooms.

Specifically, the monograph:

- Explores the IDEA 2004 provisions related to assistive technology, including provision of AT devices and services, definitions of AT devices and services, and consideration of a student's possible need for AT during the development of the IEP.
- Describes a student-centered, systematic process for considering AT during the IEP development process. It includes the specific steps of an effective AT consideration process, although there is certainly the expectation that the process will be tailored to specific student and district needs.
- Discusses the importance of documentation and describes effective methods for documenting AT consideration.
- Discusses frequently asked questions about AT devices, services, and considerations.
- Provides a selection of resources that provide additional support to IEP teams and districts.

CHAPTER 1

# IDEA 2004 and Assistive Technology

In 1975, the Education for All Handicapped Children Act (EAHA, 1975)—which was later reauthorized as the Individuals with Disabilities Education Act of 1997 (IDEA, 1997) and currently the Individuals with Disabilities Education Improvement Act of 2004 (IDEA, 2004)—ensured the civil right of all students with disabilities to a free and appropriate public education. In 1990, IDEA reaffirmed and strengthened that right and, for the first time, included an explicit mandate that assistive technology devices and services be provided if required. When IDEA was reauthorized in 1997, Congress made several changes that sharpened the focus on:

- Improving the academic progress of all students with disabilities.
- Aligning IEP content to the general curriculum.
- Increasing a state's accountability for the academic performance of students with disabilities by requiring their inclusion in statewide assessments.

IDEA 2004 maintains this focus with an even stronger link to accountability and the No Child Left Behind Act of 2001 (NCLB, 2001).

In IDEA 2004, Congress continued to recognize that many students with disabilities require AT devices and services in order to participate in and benefit from the education process. In order to ensure that necessary AT devices and services are made available and supported, IDEA 2004:

- Provides that the AT devices and services required for a free and appropriate public education be provided to students at no cost to the family and be available for use wherever needed.
- Includes definitions of AT devices and services.
- Requires that IEP teams consider the student's possible need for AT devices and services during the development of the IEP.

CHAPTER 2

# Consideration of Special Factors

The IDEA 2004 law requires the consideration of five special factors. The first four address children with very specific needs, while the fifth applies to all students who are eligible for special education services under the law. According to Part B, Section 614 of the IDEA 2004 reauthorization, the IEP team should:

> *(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 such 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, with the exception of surgically implanted devices.*

As stated above, AT is one of five special considerations in the IEP process. The new language regarding AT consideration changed from considering whether the child “requires” AT (1997 IDEA) to considering whether the child “needs” AT (IDEA, 2004). Also, unlike the previous IDEA (1997), there is an exception to AT with respect to surgically implanted devices. While consideration of these five factors is still for all children and youth with disabilities who qualify for services under IDEA 2004, the first four considerations apply to specific populations of students. The consideration of AT, however, applies to *all* students and, therefore IEP teams should consider the full range of AT devices and services that may be needed by a student for all academic and functional areas of disability.

Although several of the special considerations can be made at any point in the IEP process, educational goals must be established before it is possible to accurately determine whether a student requires AT devices and services. IEP goals should be linked to the state- and/or school system-identified curriculum on an individual basis and grade level. All AT used to accommodate a student in accessing the general education curriculum should be linked to an individualized goal.

IEP teams should consider both the computer access and the instructional software necessary for students with disabilities to participate in the general education curriculum. IEP teams also should consider instructional interventions that require the use of a device, strategy, or tool in the accommodation.

Although assistive technology may be needed as a part of a student’s special education or related services, IEP teams must be aware that it also can be a part of supplementary aids and services—aids, services, and other supports that are provided in regular education classes or other education related settings—that enable children with disabilities to be educated with nondisabled children to the maximum extent appropriate in accordance with Part B, Section 614, D (IV).

Regardless of how AT is identified, IEP teams should follow state and district guidelines for where AT is documented in the IEP. For example, if an IEP team identifies an instructional software program that is needed for a student to access the general education curriculum and this is seen as a supplementary aid or service, the IEP should also identify this needed software as AT. The IEP team also should note that there are typically state-identified accommodations that can be used for statewide testing, and it should ensure that those accommodations are familiar and available to the student at all times during classroom assessments as well as formal testing situations.

CHAPTER 3

# Taking a Closer Look at Assistive Technology Devices

As defined in IDEA 2004, 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 [IDEA 2004, Part B, Section 612, (1)].

Beginning as it does with the words "any item," the definition of an AT device is meant to be inclusive, embracing a wide range of devices, from inexpensive manual items to complex, computer-based technology. The only exception is for those students who require surgically implanted devices. This definition includes devices that were originally developed as assistive technologies, such as mobility and positioning systems, voice output communication devices, and adaptive computer access tools. It also includes a range of other common tools that were not designed to be AT, but are recognized as AT when they have an impact on the functional capability of a student with disabilities. They may include common tools such as a calculator, or instructional software such as a content outlining or mapping software for students who have difficulty organizing ideas, creating outlines, and finding key comprehension points in text.

The range of functional areas for which support may be provided through AT is broad. Examples of functional areas in which students may have difficulties are found in Figure 1. While the scope of the definition of AT may seem confusing, the definition is quite clear that for an item to be AT it must be used to increase, maintain, or improve an academic and/or functional area identified for a student with disabilities.

**Figure 1: Functional Areas That May Be Supported Through the Use of AT**

| | | |
|---|---|---|
| • Activities of daily living<br>• Control of the environment<br>• Mobility<br>• Position and seating<br>• Recreation | • Communication<br>• Motor aspects of writing<br>• Composing written material<br>• Vision<br>• Hearing | • Reading<br>• Study skills<br>• Math<br>• Computer proficiency |

A broad range of devices is available to support students who need them for these functions, as illustrated in Figure 2. While considering the student's functional capabilities, it is helpful to consider AT devices along a continuum that ranges from the most simple low- or no-tech devices (such as pencil grips) to the most complex, high-tech alternatives (such as voice recognition). Each step along the continuum is characterized by the degree of complexity of a device and the amount of training and maintenance required to support its effective use.

It is important to review the AT continuum since many technologies and strategies used by general and special education teachers are actually AT often have not been identified or documented as such. Consider the information in Figure 3.

Consider the italicized lines in Figure 3. Each of these items may be used to support a student's functional need to gain meaning from text. A highlighter is a no-low-tech option that can used to identify and recall vocabulary, main characters, or main concepts in a text passage. A reading pen is a mid-tech option that be used to scan words in text that are not recognized to provide the student with the pronunciation and definition of the word. A computer-based software program that highlights words as it reads them aloud is a high-tech option that enables the student to see highlighted words as the words are read aloud.

**Figure 2: The Assistive Technology Continuum**

*Low-Tech* ▶ ▶ ▶ ▶ *High-Tech*

| | | |
|---|---|---|
| • Simple training<br>• Little maintenance<br>• No electronics | • Minimal training<br>• Basic maintenance<br>• Simple electronics | • Extensive training<br>• Ongoing maintenance<br>• Complex electronics |

Figure 2: Adapted from: Texas Assistive Technology Network (2002). Considering assistive technology in the development of the IEP: A training module in the Assistive Technology in Texas Schools Series.

**Figure 3: Examples of Assistive Technology**

| No-Low-Tech | Mid-Tech | High-Tech |
|---|---|---|
| • Print or picture schedule<br>• Aids to finding materials (i.e., color coding)<br>• *Colored highlighters*<br>• Recorded material | • Voice output reminders<br>• Electronic organizers<br>• *Reading pen*<br>• Single word scanners | • Voice recognition software<br>• Concept development software<br>• *Text reading software*<br>• IDEA organization software |

# Frequently Asked Questions About AT Devices

As IEP team members consider each student's possible need for AT, they often have questions about AT devices. Here are some of the most frequently asked questions and their answers.

**Q.** ***Is it possible for the same device, piece of equipment, or software to be AT for one student and not AT for another student?***

***Yes.*** If a tool or device is required for a student to access the curriculum and achieve in school, or, more globally, to receive the free and appropriate public education that is guaranteed by IDEA 2004, then that device or service functions as AT. For example, a device (a speaking spell checker, for example) may be used by all the students in a fifth grade class, and all may find it helpful. For some students, that application is simply an optional learning tool. It becomes AT if it improves performance on written assignments for other students whose disability interferes with the ability to write.

**Q.** ***Do IEP teams need to think about AT if a district is committed to universal design?***

***Yes.*** When seeking appropriate assistive technology, it is important to remember that many features that are "assistive" in nature are now universally designed into standard technology. Appropriate configurations of these features can sometimes reduce or eliminate the cost of adding additional technology. However, if particular settings of the universal features are necessary for a student to use the technology, those settings and the subsequent software must be considered assistive technology and included in the student's IEP. This will ensure that there is a trail of information that documents the identification, acquisition, use, and configuration of any necessary AT as students move into new environments, work with new teachers, and experience success. For example, the IEP team may determine that when a student with poor vision is working at a computer, the preferences built into the operating system must always be adjusted to create a large cursor and a 20-point type size. Even though every computer has these settings built into its operating system, specific features still need to be configured to support the student. As the student accesses new environments, there must be sufficient information in the IEP to ensure a seamless transition.

**Q.** ***Is it permissible for a school district to seek external funding for an AT device that a student requires?***

***Yes.*** The district may seek funding through a third party (e.g., medical assistance, other

programs for which the student is eligible, or a grant or donation from an organization or foundation). However, the district is obligated to supply the device in a timely fashion so that the IEP can be implemented. A district can choose to borrow or rent a device so that it is available for use by the student until sufficient funding is available.

**Q.** ***Can a person such as a scribe be considered AT?***

***No.*** A person is never AT. A crucial component of the definition of an AT device is the word "item." While an IEP team may recommend an accommodation that involves the services of a person such as a scribe for a student who has difficulty writing, that service is not AT.

**Q.** ***Can a parent be required to use insurance or other private funds to purchase a required AT device?***

***No.*** Once it is determined that a student requires an AT device, the school district must provide it at no cost to the family. The school district may rent, purchase (with special education or general funds), or use a device that is obtained through some other source. If a family already owns the device or chooses to use other funds to acquire it, the parents may give permission for the device to be used at school, but they cannot be required to do so. If a school owns a device, the IEP team needs to consider *all* environments in which a student will use the device to receive a free and appropriate public education, including the home, and make the device available to the student based on his/her needs. IEP teams also should consider the licensing requirements of instructional software to ensure that legal copies are available as needed so that it is available wherever the student needs it.

CHAPTER 4

# Taking a Closer Look at Assistive Technology Services

As defined in IDEA 2004, 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. Such terms include:*
>
> *(A) the evaluation of the needs of such child, including a functional evaluation of the child in the child's customary environment;*
>
> *(B) purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by such child;*
>
> *(C) selecting, designing, fitting, customizing, adapting, applying, maintaining, repairing, or replacing of assistive technology devices;*
>
> *(D) coordinating and using other therapies, interventions, or services with assistive technology devices, such as those associated with existing education and rehabilitation plans and programs;*
>
> *(E) training or technical assistance for such child, or, where appropriate, the family of such child; and*
>
> *(F) training or technical assistance for professionals (including individuals providing education and rehabilitation services), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of such child. [IDEA 2004, Part B, Section 612, (2)]*

These examples illustrate the broad range of AT services that can be considered—all of which relate to supporting a student and those around that student in the selection, acquisition, and use of an AT device. AT services include a functional evaluation in the student's customary environments if the team decides that the evaluation would provide information needed to make decisions about the need for AT. Further, there are services that are related to the acquisition, maintenance, and coordinated support of AT devices as well as necessary training for the student, staff, parents, and others.

## Frequently Asked Questions About AT Services

As IEP team members consider each student's possible need for AT they often have questions about AT services. Here are some of the most frequently asked questions and their answers.

**Q.** ***Must AT services be provided by an AT specialist?***

***No.*** Assistive technology services are broad and often are integrated into other services that the student receives (special education, speech/language, occupational and/or physical therapies, transition, etc.) and delivered by people with knowledge and skills in those areas. While it is important that the IEP team and all involved in the delivery of AT services understand how the technology is to be used to support the student's participation and progress in the general education curriculum, AT services are most effectively integrated into the educational program by many people who have different understanding, knowledge, and skills working together in a coordinated manner. This is why coordination of services is included as an assistive technology service.

**Q.** ***Does every student require an AT evaluation?***

***No.*** Although it is a requirement that every IEP team consider the possible need for AT devices and services in the development of the IEP, an evaluation may be needed only when the IEP team does not have the information necessary to make a decision about the child's need for AT or the nature and extent of the device and service addressed during the consideration process.

**Q.** ***If an AT evaluation is needed, are there guidelines for where should it be conducted?***

***Yes.*** The evaluation of a student's need for AT must be functional, practical, and conducted—at least in part—in each of the environments in which the student's educational activities take place or are expected to take place in the near future. Not only is this required by law, but it also is the primary way in which the specific areas where the student is having difficulty can be pinpointed so that needed supports and services can be identified.

**Q.** ***Is it sufficient if an IEP team has the results of an evaluation that was conducted at a center away from school?***

***No.*** Although recommendations from a center-based evaluation may provide useful information, the school district is still responsible for completing a functional evaluation in the child's customary educational environments. It is important to know specifically what impact the disabilities are having on how the student functions in typical learning environments and activities. The IEP team members need to review data from a variety of sources as they make appropriate decisions.

**Q.** ***If a child receives an evaluation for an AT device at a private clinic, and the clinic recommends a specific device, is the school obligated to provide that device based solely on the clinic's recommendation?***

***No.*** The school district must seek the parents' permission to evaluate and then conduct a functional evaluation to determine whether the student needs the particular device recommended to help increase, maintain, or improve functional capabilities related to participation and progress in education. Such an evaluation may take place over time, and it generally involves trial use of the recommended device in typical settings. It also may include use of other AT devices for comparison. The IEP team must then determine if the recommended device will be effective for the student in the school environment or, perhaps, if another device would be equally as effective and should be considered. Based on the additional data gathered during the functional evaluation, the IEP team may determine that the recommended device is needed, that another device would be more appropriate, or that the student does not need AT.

**Q.** ***When an AT device is provided for a student, does the district have a continuing obligation for the adjustment and care of the device?***

***Yes.*** It is not enough for a district to purchase a device and then hand it to school staff or to the student and the family. The district also must assure that the student can use the device effectively for its intended purpose. This means that ongoing AT services necessary to support use must be provided. Once an AT device has been selected and acquired, the law also requires that, if necessary, the device be designed, fitted, customized, or adapted to the specific needs of the student. The district also is responsible for making sure a device that is required for educational purposes is maintained, repaired, or replaced as needed to ensure it will be available and in good working order when it is needed by the student. This is the legal responsibility of the district, whether the device is owned by the district or by the family.

**Q.** ***Does the school need to provide training to parents and others in addition to the child and school staff?***

***Yes.*** Both training and technical assistance must be provided to the child, the family, and any service provider who requires it. Training may include workshops, one-to-one training from a vendor or specialist, frequent follow up or inquiry from a specialist, or any of a variety of other types of education or technical assistance.

**Q.** ***An AT device is being used in therapy sessions but the student is not yet ready to use the device for educational activities. Is this sufficient?***

***No.*** The IEP team should ensure that a plan exists for instructing the student on how to use the device in every natural environment in which the AT is expected to be used. It is not enough for a student to have the opportunity to use AT occasionally (i.e., during therapy sessions) because that pattern of use is not likely to improve the student's functional capabilities. The student should be encouraged and supported in using AT throughout the day for the tasks for which it is intended. One of the AT services required by IDEA 2004 is the coordination of other services and therapies to ensure that the use of AT does not take place in a vacuum. Coordination and collaboration between all service providers and the family is usually essential to ensure

consistent use and integration of AT into daily activities. Coordination between general and special education teachers and instructional assistants also is crucial, because these people tend to have the most contact with a student throughout the school day and they can provide many opportunities for meaningful use of AT. While you cannot force a student to use the AT in every setting, there must be a plan and sufficient supports whenever and wherever the student may be using it.

**Q.** ***Is training still required if the AT that is required is universally designed into available computers?***

***Yes.*** While AT options built into available computers and other devices—often called accessibility options—may not need to be acquired and may not be difficult to implement, knowledge and understanding is still required to use these features successfully. Many students will be able to make the required adjustments independently, but others will need ongoing support from those around them. Teachers and others working with students must be able to manipulate computer preferences, seek out, download, and install readily available accessibility options such as a large cursor. Including training on how to do these things in general technology training for all teachers provides an excellent opportunity for instructional and AT specialists to work together.

CHAPTER 5

# Taking a Closer Look at Assistive Technology Considerations

The IDEA 2004 law makes it very clear that IEP teams are responsible for considering and making decisions about a student's possible need for AT devices and services. The importance of understanding the definitions of AT devices and services and considering AT wisely is underscored by the provision that AT devices and services, if required, must be provided at no cost to the family. Although IDEA 2004 provisions are clear, it has been much less clear to IEP teams exactly what it means to consider a student's possible need for AT devices and services and how to go about doing it in a way that leads to an appropriate decision.

To consider means to think carefully, examine thoughtfully, and come to an informed conclusion or develop an informed opinion. By requiring the consideration of a student's possible need for AT in IDEA 2004, Congress clearly intended that IEP teams think carefully about whether each student who is eligible for special education might need the use of AT to make educational progress.

During the development of the IEP, team members examine and discuss a student's needs and abilities, the educational environments in which the student must function, the tasks and skills required for active participation in those

settings, the student's educational goals and objectives, and—finally—the supports and services, including AT, that are needed to meet those goals. Consideration of AT must be addressed by the IEP team and, when done at the appropriate time during the development of the IEP, this is not a daunting task.

Consideration of AT addresses devices, services, and other supports that are required for a student to make educational progress. "Other supports" are not clearly defined in IDEA 2004, but might include training for a teacher who must learn how to add new vocabulary to an augmentative communication device or scan new materials into a software program that reads text, or scheduling time to plan for implementation of AT. The AT consideration process requires time, care, and thought, but the results of that process can make all the difference to a student who is working toward educational achievement while managing a disability.

Consideration is intended to be a relatively brief activity that can take place during every IEP meeting. In order to give proper consideration to the possible need for AT by a student with a disability, the members of an IEP team collectively must have enough information and knowledge to make appropriate decisions. While each person on the team has different knowledge, experiences, and observations, the AT consideration process requires that at least one person have some understanding of assistive technology and other strategies for helping students to increase their functional capabilities. If a team has at least one knowledgeable member who can lead the process and discussion, and at least one member who can provide resources and information to the rest of the team when needed, then the IEP team will be able to engage in a meaningful AT consideration process.

Regardless of who has the knowledge and resources, in the end the IEP team itself is responsible for consideration and must decide on a case by case basis when, where, and how to get assistance in making appropriate decisions about AT. Although local school systems may have an AT person, team, and in some cases an AT department, the consideration process is intended to be enacted through the development of the IEP team. IEP teams may wish to contact and use available school system resources (people, forms, protocols, frameworks, etc.) and/or engage the individuals on the team who have training through courses, conferences, or other online resources that can help to guide the consideration process.

## The AT Consideration Process: A Five-Step Approach

In this section, a consideration process that helps teams comply with IDEA 2004 provisions and—more important—make decisions that support student progress is defined. This process will help provide an answer to the question most frequently asked by IEP team members, "How can a team consider whether a student needs AT, think about all of the options, and choose ones that a student might need?" The consideration process also will help IEP team members avoid many of the common pitfalls that can occur during planning. [See Figure 4 for examples of common problems.]

The AT consideration process shown in Figure 5 mirrors the IEP development process, follows the same steps, and takes place at the same time. When facilitated by a knowledgeable IEP team member, AT consideration is likely to be a relatively brief and reasonably easy process completed in five logical steps:

## Figure 4: Avoiding Common Problems

There are a variety of common problems that can occur during the consideration process. Being aware of these issues can help teams avoid them.

**The consideration process is not outlined or limited.**
Teams do not build consideration of AT into the IEP development process for all students, so AT is considered only for some students, often those with more severe needs.

**Team member knowledge is inadequate.**
IEP teams are not knowledgeable enough to make informed decisions about AT.

**The process is inconsistent.**
When making decisions about AT, IEP teams do not use a consistent process based on data about the student, educational environments, and tasks.

**AT options are limited.**
IEP teams limit the AT options they consider for a student to those devices and services that are familiar to team members and/or available in the district.

**Consideration is not related to individualized goals.**
Team members do not consider access to the curriculum and IEP goals in determining whether the student will require AT devices or services to receive a free and appropriate public education.

**Low-tech devices are not considered to be AT.**
Team members do not recognize low-tech devices that can be used for students and document them consistently on the IEP.

**AT is not considered for students with high-incidence disabilities.**
The consideration process does not recommend a typical device.

**Documentation is missing or incomplete.**
IEP teams do not document the rationale for their decisions, especially when the team decides that AT is not needed.

**AT used for standardized or state-mandated testing is not used for instruction.**
Teams do not integrate the technology used during formal testing situations regularly into daily classroom routines.

Teams experiencing any of these problems will find assistance in the five-step process. If there are concerns or barriers to implementing this process, the building principal or special education director should be contacted to discuss ways to address them.

***Step 1. Review present level of performance and other pertinent information.***

The team starts by reviewing what is currently known about the student's general progress in the general education curriculum by looking at prior IEPs and use of AT as well as at current functional and academic levels of performance. In the case of an IEP that is being developed for the first time, the team simply begins with current assessment and achievement data in all academic and functional areas. When discussing present levels of performance, individuals should note the student's prior or current use of AT and how it has enabled the student to reach the present level of performance in any area. As areas of need are discussed, the team thinks about whether AT would help improve the student's functional capability in other areas. Discussion of performance includes available evaluation data that are reviewed before a specific recommendation for AT is made. Data can help the team refine recommendations to meet a student's specific needs.

These academic and functional areas are grouped with some examples in Figure 6.

In many cases, students will need support in multiple areas. IEP teams should review assessment information and identify if the area is typical, a strength, or a need. For example, if a student is reading two grades below current grade level, the IEP team should consider assessment results that might come from criterion- or norm-referenced assessments as well as previous grades to determine which specific area(s) should be targeted.

***Step 2. Develop annual goals, including benchmarks and objectives.***

When developing goals, the team members make sure that they are directly related to the skills and functional capabilities for which the student needs support to be an active participant in school and make educational progress. Goals and objectives are not only related to the student's current abilities; they also reflect what the student will need to know and be able to do as he or she progresses. IDEA 2004 emphasizes high expectations, progress, and achievement in the general education curriculum; a student's IEP goals and objectives should reflect that emphasis. IEP teams should review state curriculum standards, district curriculum, and required assessments that a student will be taking in order to develop appropriate reading, writing, or other functional goals that will move the student forward. After developing specific goals (and objectives where appropriate), the IEP team can begin to consider the technology that might be needed for the student to reach those goals. In the case of a student who requires support for reading, identifying which areas of reading (phonics, mechanics, comprehension, and/or fluency) and developing specific goals will enable the team to identify the tasks necessary for the student to master.

***Step 3. Identify tasks necessary to accomplish goals.***

Once goals are developed, the IEP team determines the specific tasks a student will have to accomplish to achieve those goals. During this step, the team examines the various environments in which the student will be working and identifies the expectations intrinsic to each. Doing that will help the team begin to determine what the student needs to meet the expectations, accomplish necessary learning tasks, and make progress. In the example in Step 2, the area of reading was identified as an issue. The team identifies any environment that requires the student to read, from the current preschool, home, and community environment for very young students, to all academic areas for elementary, middle, and high school students, to vocational placements for older students. The team identifies the reading tasks a student may encounter and discusses potential issues with specific steps in each task. For example, the team may

## Figure 5: The AT Consideration Process

### Before Making a Decision About AT, the IEP Team Must:

1. **REVIEW** the student's skills and functional capability and available evaluation data.
2. **DEVELOP** annual goals, including objectives and benchmarks when appropriate.
3. **EXAMINE** tasks required of the student to participate and progress in educational settings.
4. **EVALUATE** the difficulty of tasks and the student's functional ability to perform them.
5. **IDENTIFY** services and supports, including AT, that enable the student to participate and achieve.

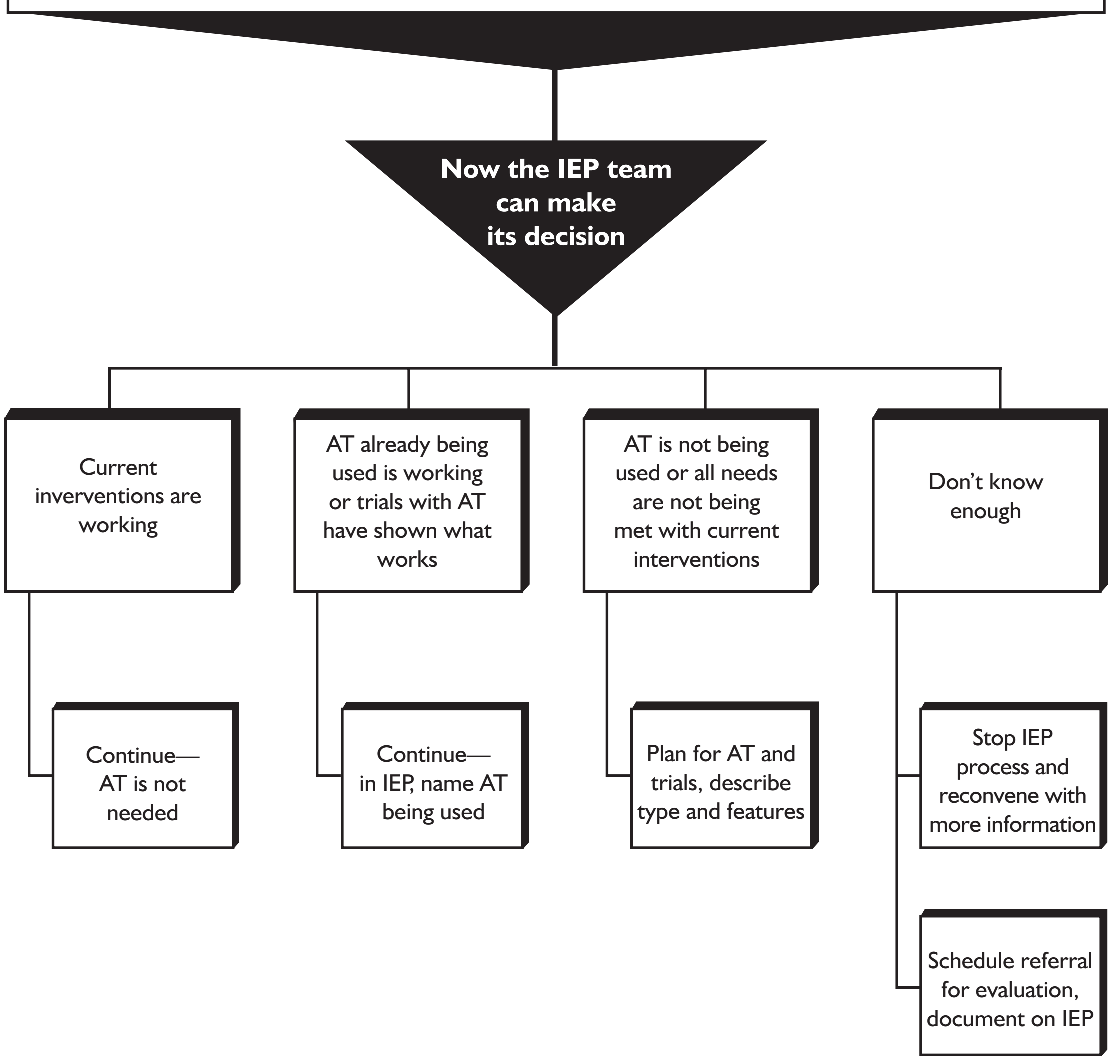

**Figure 6: Functional Areas To Be Considered**

| Early Childhood | Academic | Health | Physical | Behavioral |
|---|---|---|---|---|
| Personal Development | Study/Organizational Skills | Adaptive | Fine Motor | Social Emotional |
| Social Development | General Reading (including specific areas for reading mechanics, fluency, comprehension, etc.) | Hearing | Gross Motor | Behavioral |
| Language and Literacy | General Writing (including specific areas for writing content and mechanics) | Vision | Orientation and Mobility | Social Interaction |
| Mathematical and Scientific Thinking | Speech (general, articulation, and/or fluency) | Sensory | Independent Living (feeding, toileting, grooming, and/or recreation/leisure) | Self-management |
| Social Studies, the Arts, and Physical Development | Math (general, calculation, reasoning, etc.) | | | |

consider reading requirements for self-contained English, directions needed to complete science lab activities, reading necessary for analyzing math problems or understanding directions in gym class so that the dynamic interactions a student might have requiring reading support are addressed as they transition across environments. This type of consideration also encourages the team to consider low-, medium-, and high-tech devices as well as universally designed instructional strategies that will be necessary for a student to progress as much as possible with the identified IEP goals.

***Step 4. Determine the difficulty of the student's tasks.***

For this step, team members must determine whether any of the tasks required during the next year are likely to be difficult or perhaps even impossible for the student to accomplish at an appropriate level of independence. The IEP team should always consider the least complex solution that will remove the barrier. In the previous example, for a student that has difficulty reading, hearing the directions read aloud from a fellow student in gym class may be appropriate. If the

same student is in a class or environment where a great deal of reading is expected, the team may decide that a text reader is needed.

***Step 5. Identify appropriate supports and services, including AT.***
At this point, the team can decide whether the supports and services needed by the student include AT devices and/or services. Any decision should be based clearly on the team's analysis of the student's needs, identified goals, and expected tasks. The team's job is to devise a plan for supporting the student and augmenting efforts to make progress in the educational program that was outlined in the IEP. The team then must document decisions in the student's IEP in such a manner that any educator interacting with the student would be able to implement the plan, including the appropriate use of any needed AT. This does not necessarily mean that a team must name a specific device; however, the team should record the discussion, decision(s), and features of low- to high-tech devices and strategies so there is no confusion about what the AT is supposed to be doing for the student.

## Taking a Closer Look at the Results of AT Consideration

After completing the decision-making process outlined in Figure 4, the team should make a decision and document the rationale for the decision in the IEP. There are four major outcomes that can result from the consideration process. They are:

***1. AT is not required or is no longer needed.***
This decision is generally reached because it is anticipated that the student will be able to access the curriculum and make reasonable progress in the curriculum and/or the educational program without AT devices or services. This is a reasonable decision if the IEP team has completed the five-step process and can provide supporting evidence or data. Documentation explaining this decision will demonstrate compliance with the law and also will help individuals not on the IEP team and future IEP teams understand the rationale for the decision.

***2. AT is needed and specific tools are known.***
The IEP team may determine that AT is needed for the student to access the curriculum and make reasonable progress in the educational program. In this case, in addition to documenting the decision, the team should document the specific devices and/or services they decide are needed. This outcome usually occurs when the student has used the AT in the past (either long-term or for a trial period) and there is evidence that shows what AT device(s) and service(s) are required. Examples include a student who has used a specific augmentative communication device for several years, a student who clearly performs better during classroom discussions and on quizzes and tests after using a text-to-speech software program to support the reading of new material, or a student who produces written assignments that better reflect understanding of material when a speaking spell checker is used. When the specific device is known, the IEP team should communicate that in some way in the IEP so that future IEP teams can easily understand what the student has been using. Whether the AT is specifically named in the IEP depends on district policy or practice, but enough descriptive information is necessary so that the training and experience the student already has is not wasted because a future IEP team cannot figure out what the student used in the past.

***3. AT is needed, but trials are necessary to determine exactly which product should be used.***
If the IEP team determines that AT is needed but is not able to identify the specific tool(s) that would most effectively enable the student to

access the curriculum and make reasonable progress in the educational program, the IEP should document the need for AT and outline a plan for trials. During implementation, comparative trials would be conducted to determine the device and services that will be most effective. For example, team members may decide that a student needs an alternative keyboard for computer access but they are not sure which alternative keyboard would best meet the student's needs. In such a case they should document the need for an alternative keyboard and the need for the trial use of one or more alternative keyboards in order to determine which one is most effective.

***4. More information is needed.***

The team may decide it needs more information before a decision about AT can be made. In this case team members may require additional help from an AT specialist or AT team. They should document the nature of the assistance that is needed and a timeline for getting it. If an AT assessment is needed, a referral should be made and documented in the IEP as an AT service to be provided.

## Frequently Asked Questions About Consideration

AT consideration is not meant to be a complicated process and it generally can be completed within the IEP meeting. However, many teams have questions such as those that follow.

**Q.** ***Is the IEP team required to consider AT for students with mild disabilities such as learning disabilities or behavior disorders?***

***Yes.*** The purpose of AT consideration is to determine when a technology-based instructional strategy is a requirement for a student with disabilities to progress on any designated goals, regardless of the nature and intensity of the disability or the student's educational placement.

**Q.** ***Would a team consider AT rather than a scribe to write for a student who has a great deal of difficulty producing legible hand-written text?***

***Yes.*** While there may be a variety of supports and services that could help a student receive a free and appropriate public education, the ultimate goal is to help the student progress in school while also fostering development of the competence, confidence, and independence the student will need for the long term and to experience success as a lifelong learner. This means that when weighing AT and other options, the IEP team should consider the short- and long-term benefits (and implications) of each option. The ability to produce legible text is a critical functional skill in most educational endeavors. When an IEP team identifies options to help the student produce legible written work, one of the solutions that may come to mind is providing the student with a scribe who can write the student's dictated work. Although this accommodation certainly meets the student's immediate and short-term needs it also has several inherent shortcomings that must be considered:

- If the scribe is not present, the student will not be able to write.
- The student will not learn how to write independently and participate in the same process as other students.
- The student who is dependent on a scribe to produce written work during high

school most likely will not be able to write independently upon graduation.

When considering a student's possible need for AT, how does a team know what tasks will be a problem for the student?

Starting with the first step—reviewing the student's present level of performance—should provide a key to potential problem areas. Another useful source of information comes from observing and analyzing the student's educational settings. It reveals what tasks are required; how much time is allowed to accomplish those tasks; how much noise is present; whether students are working independently, in small groups, in a large group, etc. Observation will help the team identify specific skills needed in each setting and how the student currently performs them. The team can then explore AT and other options that can help to increase, maintain, or improve the functional capabilities that are of concern.

**Q.** ***How can administrators ensure that resources are used efficiently and at the same time ensure that students receive the AT they need?***

Well informed team members—including service providers and family members—understand the importance of using the least complex options that effectively lower barriers to a student's educational achievement. Many of these options are not costly. When administrators provide IEP team members with the opportunity to learn about AT consideration, it is more likely that they will make decisions about AT that provide for the needs of students and make effective use of district funds. IEP teams who understand how to consider a student's need for AT and the continuum of AT devices and services are more likely to avoid the pitfall of considering only high-tech solutions. When more complex—and costly—devices are required, administrators can be confident that well informed IEP teams will have a clear rationale for why those tools are needed and that AT expenditures will yield a high return on investment in terms of increased student achievement.

**Q.** ***Why is it important to consider the least complex tool that lowers identified barriers to student achievement?***

A tool that is more complex than is required may create more barriers than it removes, and it is likely to be abandoned or underutilized. More complex tools typically require more effort by the student, and more training for the student and others is likely to be required to get started. It also is possible that more complex tools may more obtrusive, less readily useful in multiple environments, and more costly. Of course, if what was thought to be the least complex tool does not provide enough support for the student, it will be necessary to identify more complex ones.

**Q.** ***If a student is using a device or low-tech strategy effectively to make educational gains is necessary to upgrade to the latest thing that becomes available?***

***No.*** If the device a student has available is robust enough to address the educational goals and participation requirements in current and near future environments, it generally is sufficient. It is up to the IEP team to reconsider, on an annual basis, the effectiveness of AT and whether or not there are benefits to moving to something more advanced. The issue is to decide whether or not the current AT restricts the ability of the student to continue to progress in the direction of the intended goals or

whether new technology is needed to provide more functionality.

**Q.** ***If an AT solution is provided for one student with particular needs, does the same AT need to be provided to another student with the same or similar needs?***

***No.*** The requirement to provide AT is based on individual, case-by-case consideration of each student's range of needs. Although it is quite possible that IEP teams will find a particular tool useful for more than one student with similar needs, it also is quite possible that different students—even those with the same needs—may require different AT devices and services. The IEP team must consider a range of AT, because one student may be helped by a low-tech solution while another needs a high-tech solution to make acceptable progress. The choice of AT always should be tailored to fit a student's needs as precisely as possible, and the effectiveness of the AT must be monitored carefully to ensure that the AT is helping the student achieve as expected.

**Q.** ***How can we learn more about AT so that we are more knowledgeable when we do the AT consideration during the IEP meeting?***

The resources listed in the summary at the end of this handbook can provide a great deal of help. It can be helpful to attend AT conferences and to participate in online conversations with colleagues. Such online communities include the Maryland Assistive Technology Network Electronic Learning Community at the Johns Hopkins University and the Quality Indicators for Assistive Technology Needs discussion list that can be accessed at http://www.qiat.org. It also can be useful to talk with your local special education director and building principal to explore the possibility of using existing district in-service days to provide opportunities to increase AT knowledge and skills.

CHAPTER 6

# Setting the Stage for AT Consideration

This section presents two scenarios in which AT is considered for students. The purpose of the scenarios is to look at both an individual team as it addresses the need for AT, and to look at ways to address the AT consideration process within the broader context of the school environment where staff members need to address their own expectations and needs related to effective consideration of AT for their students.

## Addressing AT Consideration for Individual Students: AT for Lisa

*This scenario illustrates how one IEP team approached the requirement to consider the need for assistive technology. Lisa's team used the five-step consideration process to successfully complete AT consideration. It helped them know what steps to take and to recognize when they had completed appropriate consideration.*

Mrs. Davis recently received a letter from the principal, Mr. Scott, inviting her to an IEP meeting for her daughter, Lisa. Lisa has a learning disability and is having difficulty in school, particularly with math. She struggled in the fourth grade, but she was able to get by with the help of other students in cooperative learning groups. Lisa told her mother that math is really hard for her this year (fifth grade), especially the word problems.

The IEP team meeting included Ms. Cunningham, a special education teacher who works with Lisa; Mr. Penn, Lisa's fifth grade teacher; Miss Cook, the occupational therapist; Mrs. Young, an assistive technology specialist; and Mrs. Garcia, the school psychologist.

Mr. Penn had all of Lisa's math grades since the beginning of the year. He also had written a report of his observations in class, what he learned from reviewing her records, and notes from discussions with other teachers and with Lisa. He reported that whenever Lisa is required to do independent work in math, she has difficulty attending to the task and frequently puts her head down on the desk as though she were sleeping.

Last year's IEP plan indicated that Lisa was at a second grade reading level, and similar behaviors were noted by her fourth grade teacher. In discussions with her fourth grade teacher, Mr. Penn found out that Lisa had successfully used graph paper to assist with keeping the numbers in columns when she wrote them for computation. Her fourth grade teacher also used partner pairs to support students who benefited from reading math problems aloud. Neither the AT (graph paper) nor the strategy (partner pairs) was included as an accommodation on her IEP.

Mr. Penn had tried the graph paper recommendation and found that it helped with computation by keeping the numerals aligned. However, Lisa still needed additional time to complete the assignments and she continued to struggle with word problems. He raised his concerns about her being able to work independently in preparation for meeting the proficiency standards for state assessments.

The team began the AT consideration process by reviewing Lisa's current skills and functional capabilities. The special education teacher, occupational therapist, and psychologist suggested that they update the assessment information for Lisa to reflect her present levels of performance in all areas—academic, sensory, and psychological. The AT specialist concurred that the results of this battery of assessments could suggest AT accommodations to try with Lisa. She also had some ideas for additional AT that might help and she explained them briefly to the rest of the team.

The team discussed the specific goals that Lisa would be working on in the upcoming year, the tasks required to complete these goals, and the level of difficulty associated with each task. After identifying these, the team discussed how different technologies and strategies have worked in the past year and considered additional ones that might help her to improve her individual achievement. They then decided which strategies might be needed for her to complete the identified goals and documented these on the IEP. They discussed the specific tasks she would need to complete in order to meet the goals. Reading, especially reading text with many new words, was identified as the most problematic task and the probable cause of her difficulties with word problems in math.

Then, they clearly identified the need for AT by checking the appropriate box, and under accommodations included the description of the AT that had been shown to be successful. They also noted the need for trials with text-to-speech software to read the math problems, pre-teaching of key words, and the use of a portable speaking spell checker when reading new math problems to determine if any of them individually or together would make Lisa more independent and successful. Each of these would be tried during the next month. They planned to collect data on Lisa's performance using each form of support and to meet again to determine which of these, if any, would need to be used on an ongoing basis.

Data from the trials will provide information about what works best to help with math problem solving. Once the specific AT for long-term use is identified, it will be added to the IEP and a plan will be developed for training Mr. Penn and Lisa (and, if needed, her mother) to use the technology. The results of the assessment and the AT trials will be shared with Lisa's other teachers so that they can implement the accommodation in their classrooms.

## Addressing AT Consideration in Whole Class Settings: Greenville Elementary

IEP teams should be aware that while AT is to be considered for individual students, the larger school context should be discussed with respect to the tools and supports available schoolwide. Because of No Child Left Behind and adequate yearly progress, all students are participating in statewide general and alternate assessments. Many states also require that any technology used for the statewide assessment be used in the classroom. While different "allowable" accommodations for statewide assessments exist across the country, IEP teams should consider how technology will help a student with a disability participate in the general education curriculum and if the technology identified as needed for participation is also available for the statewide test.

Mr. Scott is the principal of Greenville Elementary in Greenly School District. The school has approximately 700 students. Ten percent of the students have been identified for special education services. The special education services staffing report includes nine special education teachers, one speech/language pathologist, and a part-time occupational therapist, physical therapist, and school psychologist. Five special education teachers are assigned to resource rooms for the core curriculum areas, reading/language arts, math, science, and social studies. The others are assigned to support general education teachers who have students receiving special education services in general education. The state assessment scores for the third and fifth grades show that Greenville Elementary did not meet adequate yearly progress in reading or math.

Mr. Scott called a meeting with both the general education and special education staff and presented the school adequate yearly progress data from the prior year in comparison with state and district data. He showed data for subgroups for special education, students with 504 plans, and those in the Free and Reduced Meals (FARMs) program. The data show that 95 percent of the special education subgroup, 90 percent of students with 504 plans, and 92 percent of the FARMs subgroup have not reached proficiency. He also showed the scores for each of these subgroups by grade level.

The staff discussed their involvement with each subgroup and grade level and brainstormed possible explanations for why these results occurred. Special education teachers shared the assessment information for their students. They reported attendance problems and inconsistent progress for specific students. They discussed various instructional strategies, including cooperative learning, manipulatives, reward systems, instructional and assistive technology, direct instruction, scribing, and differentiated instruction.

Mr. Scott was very encouraged at the level of interaction and creativity for addressing student needs. He assured staff that he would support their efforts in meeting the needs of these students so they would continue to improve. He wrapped up the meeting by asking what additional resources the staff might need. The staff was very enthusiastic in describing the information and professional development they thought they would need in order to meet their students' needs. One of the main areas they felt they needed to explore was more information on AT and how to effectively consider it during IEP meetings. They stated that Mrs. Young, the AT specialist was very knowledgeable and helpful and they would like her to help them learn more about AT.

Mr. Scott set monthly meetings for this group to continue to review new assessment and attendance data and to learn more about AT. He asked that, by the next meeting, everyone review

their students' IEPs to check that the students were being provided the specific accommodations and assistive technology required and to bring a summary so that they could review what technology was being used across the group.

One of the teachers reminded him that some students are using AT that is not documented in the IEP. He added that to the summaries each teacher will bring to the next meeting. He let the staff know that he would take responsibility for locating resources for their professional development in AT if Mrs. Young needed any assistance. He also committed to reviewing the policies and procedures related to AT and to working with Mrs. Young to identify sources of technical assistance. Ms. Cunningham asked about AT as an accommodation and Mr. Scott made a note to consult with the testing coordinator about which accommodations are allowed for the state assessment.

Understanding that he has some questions about acquiring technology within the district, Mr. Scott also will review some of the district's purchasing policies related to assistive and instructional technology in order to support the teachers in his school once devices and services have been identified. While he leaves excited about the potential that exists in his school, he has specific questions about supporting both UDL and AT.

The first thing Mr. Scott does the next day is to contact Mrs. Young and schedule a meeting with her to review the needs identified by his staff. She is enthusiastic about the opportunity to provide professional development on AT for the staff. They quickly outline a proposal to take back to the staff.

One of the resources Mrs. Young suggests is the Quality Indicators for Assistive Technology Needs (QIAT) (see Figure 7). These indicators were developed by the QIAT Consortium with input from thousands of educators across the United States. QIAT currently includes eight sets of quality indicators for different AT responsibilities. They are appropriate for all school districts regardless of size, sophistication, demographics, or funding. She shows Mr. Scott the website (http://www.qiat.org) and they agree that the quality indicators will be very helpful guidelines for the staff. They download them to use at the next meeting.

**Figure 7: Quality Indicators for Assistive Technology Needs**

The following indicators for considering assistive technology can be used as a guide to help teams implement the five-step process and to analyze the needs of students and other IEP team members. The IEP team consults the QIAT to use as a guide for how future decisions about technology should be made.

Consideration of the need for assistive technology devices and services is an integral part of the educational process identified by IDEA 2004 for referral, evaluation, and IEP development. Although assistive technology is considered at all stages of the process, the Quality Indictors for Assistive Technology Needs are specific to the consideration of assistive technology in the development of the IEP as mandated by IDEA 2004.

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 2004 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, etc.).

*(cont'd)*

## Figure 7: Quality Indicators for Assistive Technology Needs (cont'd)

2. During the development of the individualized educational program, the 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 stated clearly. 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.

CHAPTER 7

# References

Education of All Handicapped Children Act of 1975, P.L. 94-142. (1975).

Individuals with Disabilities Education Improvement Act of 2004, H.R. 1350, 108d Cong. (2004).

Individuals with Disabilities in Education Act of 1997, P.L. 105-17. (1997).

Individuals with Disabilities in Education Act of 1991, P.L. 101-476. (1991).

No Child Left Behind Act of 2001, P.L. 107-110. (2001).

## Web-Based Resources for Consideration

**http://cte.jhu.edu**
The Center for Technology in Education supports the Maryland Assistive Technology Network, a group of expert AT coordinators and special education teachers within the state. The Center provides resources to members of the community through an electronic learning community (ELC) as well as their website. These resources include tutorials, research, and practical strategies for considering and implementing AT devices and services as well as general education technology integration.

**http://www.atto.buffalo.edu**
The topics covered on the website of the Assistive Technology Training OnLine Project at the University of Buffalo include AT Basics, AT Decision Making, and AT Tutorials. This site is a good place to start because it provides a general overview of AT.

**http://www.gpat.org**
The Georgia Project for Assistive Technology recently collaborated with Valdosta State University to develop a teacher resource bank that contains more than 100 videos, vignettes, links, and other resources for teachers, parents, and university faculty members. This group also has developed a document that lists samples of functional tasks required in schools—such as writing and reading—and provides examples of common standard classroom tools, modifications, accommodations, and possible AT solutions. This framework is often useful for IEP teams to use as they begin the consideration process.

**http://www.texasat.net**
The Texas AT Network provides training about the AT consideration process and makes a training video and a slide presentation available for other educators to use. While the video must be purchased ($30 for a single copy; reduced rates for multiple copies), the slide presentation can be downloaded for free. The site also has several other resources that can be helpful during the actual consideration process.

**http://www.boston.k12.ma.us/teach/technology/emmanuel.asp**
The Boston Public School System has developed a very useful tool called the Student Access Map. A packet of materials that provides a structure for general, special, or bilingual educators, Student Support Teams, or IEP teams, the map is a guide to both identification of student needs and a wide variety of AT options, including no-low-, mid-, and high-tech support strategies and tools. Of special interest are the Supports Lists: Tools and Strategies to Support Access to Standards-Based Learning for Diverse Learners, which are very useful tools when considering AT options.

**http://www.LDOnLine.com**
The section on AT is very helpful. To get to it, go to "LD In Depth" and then choose "Technology."

**http://prekese.dadeschools.net/primetime.htm**
This website features a wealth of information and useful tools. It was developed by the Miami-Dade County Public Schools in Florida. Click on "Resources" in the navigation menu on the left. Then choose "Pre-K ESE Assistive Technology Implementation Plan." This form will guide your team through an excellent discussion that will help you determine if AT is needed and will facilitate the development of an implementation plan. It is designed for young children with disabilities from pre-kindergarten through grade two, but it also has some application for some students beyond grade two.

**http://www.qiat.org**
The Quality Indicators in Assistive Technology website has a variety of tools in its Resources section. It also offers the opportunity to join the QIAT ListServ, where many AT questions are discussed. To assist districts in using the Quality Indicators, the QIAT Self-Evaluation Matrices have been developed and are available online.

**http://www.otap-oregon.org**
The Oregon Technology Access Project website contains several useful documents that can be downloaded in PDF format, including a consideration guide and sample procedure guidelines for school districts.

**http://www.wati.org**
The Wisconsin Assistive Technology Initiative website has a variety of useful information and forms. The AT Consideration Guide can be downloaded in PDF format as part of a full AT assessment package.

## National Conferences on Assistive Technology

The Closing the Gap Conference (http://www.closingthegap.com) is held each October in Minneapolis, Minnesota.

The ATIA Conference (http://www.atia.org) is sponsored by the Assistive Technology Industry Association and is held each January in Orlando, Florida.

The TAM Conference (http://www.tamcec.org) is sponsored by the Technology and Media Division of the Council for Exceptional Children and is held in conjunction with other conferences in different locations around the country. Information about specific dates and locations can be found on the TAM website.

The CSUN Conference (http://www.csun.edu/cod/conf/index.htm) is sponsored by the Center on Disabilities at California State University at Northridge and is held the third week in March every year in Los Angeles.

## Journals and Newsletters About Assistive Technology

***Closing the Gap***
*Closing the Gap*, P.O. Box 68, Henderson, MN 65044, http://www.closingthegap.com.

***Journal of Special Education Technology***
Free with TAM (a division of CEC) membership, http://jset.unlv.edu. Copies of the past issues are posted on the website.

***Special Education Technology Practice***
Knowledge by Design, 5907 N. Kent Ave., Whitefish Bay, WI 53217-4615, http://www.setp.net.

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