# Illinois Assistive Technology Guidance Manual

2020 Edition

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# Setting the Vision for Assistive Technology in Schools

The U.S. Department of Education's National Educational Technology Plan of 2017 recognizes that, in general, schools have more access to technologies now than at any other point in history. The plan challenges schools to leverage technologies to provide greater equity and accessibility for every student.

Many technologies can increase equity and accessibility for students. Technologies that meet the criteria for *assistive technologies* (AT) can empower students with disabilities by creating increased independence along with greater academic, social and functional performance. AT enables students with disabilities to increase or maintain their performance on a variety of tasks within school settings. The technologies constantly evolve as new AT tools are introduced and new applications of existing tools are developed.

For students to use AT effectively, it is essential to understand AT use as a *process*, not just a set of tools. School systems are required to engage in *processes* for considering the need for AT, what AT to provide students, how to provide and implement it, and how to monitor the effects on students' performance while using AT. School systems need to ensure that those who work with students have the knowledge and skills necessary to engage in these processes and establish infrastructure to support them.

This manual is designed to help school systems adopt processes and practices that enable students with disabilities to use AT effectively. It is intended as a reference for school administrators, teachers and related service personnel, as well as students and parents of students with disabilities.

While the manual describes recommended practices for providing AT and AT services to students with disabilities receiving special education services, agencies may need to pursue specific policy guidance for individual cases.

# Chapter 1
# Understanding Assistive Technology

Assistive technology (AT) is a classification of technologies specific to individuals with disabilities. In schools, classifying technology as AT is important. It allows that technology to be documented as part of an Individualized Education Program (IEP), 504 plan or other accommodations for a student with a disability. This section covers basic AT information school teams need to understand, and how it applies in school settings.

## What is the legal definition of AT?

The Individuals with Disabilities Education Improvement Act (IDEA) provides a legal definition of AT. The definition at 34 C.F.R. § 300.5 reads:

> *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. (Authority: 20 U.S.C. 1401[1])*

"*Any item*" can be interpreted broadly. AT ranges from more complex items such as computer-based technology and software to everyday items like small balls that can be used to modify pencils for alternative grasps.

"*Product system*" refers to the idea that an AT solution often requires multiple technologies working together to benefit a student with a disability. The concept of a product system is analogous to a computer and software. Software alone cannot run without a computer, and a computer is unable to provide much benefit without the software. An example of this concept in application is a student who requires an augmentative or alternative communication (AAC) device mounted to his or her wheelchair, as well as a switch to activate the device. All the technologies must work in concert for the student to benefit from the AT system.

"*Whether acquired commercially off the shelf, modified, or customized*" means that commonly available technology may be used as AT tools or AT systems purchased and used as AT to increase functional capabilities. Often, however, they need to be adapted to a student's individual needs. This idea is similar to buying a car. Before driving it, the buyer will most likely adjust the seat positions, mirrors, tilt of the steering wheel and so forth. The buyer may even add a wrap to keep the steering wheel from getting hot in the summer. All those changes make the car better for the driver who bought it. The same is true of AT. Once out of the box, AT may need to be modified or customized for the individual student. Support personnel may need to adjust the device or system programming or alter the way the student physically interacts with it.

"*That is used to increase, maintain, or improve the functional capabilities of a child with a disability*" relates to the reason the AT tool or system is provided to the student. Functional capabilities are the

skills and activities students must perform effectively to succeed in school. Among them are eating, drinking, toileting, seeing, hearing, communicating, reading, writing, paying attention and getting to and around school.

The paragraph of  IDEA that defines AT also limits its definition with this statement:

> The term [assistive technology] does not include a medical device that is surgically implanted, or the replacement of such device. (Authority: 20 U.S.C. 1401(1))

In effect, AT considered for students with disabilities in school settings should not include items inserted below the skin by a medical doctor. A cochlear implant, for example, would not be considered AT.

## What is the goal of AT?

The goal of AT is to enhance students' performance on specific tasks (Edyburn, 2005) or to allow students to maintain performance levels that allow them to succeed in their instructional programs. Lewis (1993) noted that AT can:

- augment strengths that counterbalance the effects of any disabilities; and
- allow for performing a task in a way that compensates for or bypasses disabilities.

Edyburn (2000) further suggested that AT can act as a *cognitive prosthesis*, replacing an ability that is missing or impaired, or as a cognitive scaffold, providing the support needed to accomplish a task.

## What does it mean that AT is a *compensatory intervention*?

Two primary types of interventions are used in school settings. *Instructional interventions* are procedures or strategies educators use to teach academic or social skills.  Instructional interventions help students learn new skills.

*Compensatory interventions* are procedures, tools and strategies that allow students to perform better on a task without necessarily improving the underlying skills associated with it.

AT provides a *compensatory* benefit to a student with a disability, according to Edyburn (2000), Lewis (1993), Parette, Peterson-Karlan, Wojcik and Bardi (2007), and Wojcik (2005). All proposed that AT is any tool (or system of tools) allowing a person to complete a task at an expected performance level when that would not otherwise be possible. In short, AT helps students show what they know and compensate for a barrier posed by their disability.

## What are the categories of AT?

No categories of assistive technologies are defined in legislation; however, the AT field has developed a number of taxonomies to help classify assistive technologies.

The AbleData ( http://www.abledata.com) database resource sponsored by the National Institute on Disability and Rehabilitation Research has developed 20 different categories to classify AT by function.

These categories are:

| | | | |
|---|---|---|---|
| Aids for Daily Living | Deaf and Hard of Hearing | Orthotics | Therapeutic Aids |
| Blind and Low Vision | Deaf Blind | Prosthetics | Transportation |
| Communication | Education | Recreation | Walking |
| Computers | Environmental Adaptations | Safety and Security | Wheeled Mobility |
| Controls | Housekeeping | Seating | Workplace |
| | | | (AbleData, n.d.) |

Categories aside, it is important to note that AT provides compensatory benefit to improve or maintain functional performance (e.g., reading, communicating, or mobility). An AT tool is not tied to a specific disability type but rather to an area of functional performance. Any item, unless surgically implanted, may qualify as AT if it provides compensatory benefit to a student with a disability, resulting in enhanced performance on educational and functional tasks.

## What is the AT continuum?

AT ranges on a continuum from low tech to high tech. *Low-tech* AT tools are typically more widely available, lower in cost and easier to use (e.g., slant boards, tactile rulers, colored paper and name stamps). They may be used by a wider variety of students and are easier to replace if lost or damaged.

*High-tech* AT tools tend to be more specialized, less widely available, higher in cost and more complex to operate and use (e.g., alternative keyboards, speech recognition software and electronic eye-gaze systems). These tools are often used to meet more challenging or specialized needs of students with disabilities.

Wojcik (2011) noted that practitioners argued IEP teams should first consider *low-tech* AT tools and systems before progressing to *high-tech*. Once an IEP team determines a student needs AT, however, the IDEA mandates that the AT chosen, high tech or low, must allow the child to increase functional capabilities and benefit from a free appropriate public education (FAPE).

## How is AT different from other technologies used in schools?

One role of an IEP team is to differentiate AT from other technologies used in school settings. IDEA mandates that IEP teams "consider whether the child needs AT devices and services" (20 U.S.C. 614(d)(3)(B)(v)). The key term here is *need*. Does the child need the AT to perform tasks required to have access to and participate in the school's curriculum or other school-related functions?

Many technologies may be classified as AT in some situations and as *instructional technology* in others, e.g., when the technology simply allows teachers to share knowledge or help students build skills. For example, Chromebooks® have become a popular tool within schools; they are often the tool of choice when schools decide to issue a device for every student. A Chromebook may give teachers several ways to present information. It may give students different ways to engage in activities that develop their knowledge and skills. In this scenario, the use of the Chromebook is only one means of providing instruction, and students may still benefit from other tools and strategies to learn the content. A Chromebook, used in this way, would be considered instructional technology.

For some students, however, a Chromebook may be classified as AT. For instance, a Chromebook may offer students with reading and writing disabilities alternative ways to encode and decode printed text. Enlarged text, text-to-speech, different contrasts and alternative readability levels are all available. A Chromebook can even produce printed text through speech recognition. Having access to such technologies provides a compensatory benefit, minimizing the impact of a learning disability . A Chromebook can allow a student to perform tasks in ways he or she could not otherwise. The fact that the Chromebook and associated applications provide such compensatory benefits for an individual student would support the designation of AT for that student and should be documented in the student's IEP.

Any student, with or without disabilities, may use readily available technologies that have accessibility features such as text enlargement or text to speech. These technologies are identified as AT for a student with a disability if they are used as a compensatory intervention and an IEP team determines that a student needs them to receive FAPE. Additional AT may be needed to help a student with disabilities access readily available technologies used by all students. Once such a need is determined, it must be documented in the student's IEP.

## What are schools' responsibilities to provide medically necessary AT?

Surgically implanted medical devices—including those used for breathing, nutrition and other bodily functions—are excluded from the definition of an assistive technology device in section 602(1)(B) of the IDEA. The exclusion applies to the implanted component of the device as well as its external components (71 *Federal Register*, 46,547 (August 14, 2006)).

Under IDEA, therefore, schools are not responsible for purchasing surgically implanted devices, optimizing their function (e.g., mapping cochlear implants), or maintaining or replacing them. (See also: Letter to Gregg, 48 IDELR 17 (ED 2006); *Petit v. U.S. Department of Education*, 58 IDELR 241 (D.C. Cir. 2012); A.*U. v. Roane County Board of Education*, 48 IDELR 3 (E.D.Tenn. 2007); 71 *Federal Register*, 46, 570–71 (August 2006).)

Nevertheless, schools must conduct routine checks to ensure that the external components of students' surgically implanted medical devices are functioning properly. The 2006 IDEA regulations state that schools must "appropriately monitor and maintain medical devices that are needed to maintain the health and safety of the child, including breathing, nutrition, or operation of other bodily functions, while the child is transported to and from school or is at school." (34 C.F.R. §300.34(b)(2) (ii)).Education agencies are not responsible for providing personal medical devices such as eyeglasses or hearing aids that a child with a disability requires, regardless of whether the child is attending school. If a child's IEP team determines that such a non-implanted device is required for a student to receive FAPE, the public agency must ensure that it is provided at no cost to the parents, according to 71 *Federal Register*, 46, 581 (August 14, 2006).

If an IEP merely refers to a medical device, hearing aid or eyeglasses, it does not mean that the school has assumed responsibility for the device. The IEP has to incorporate the device as necessary

for implementation of the IEP and receipt of FAPE for the school to take responsibility for the personal device .

## What are AT services?

IDEA 2004 provides a definition of AT services at 34 C.F.R. § 300.6. It states:

> *Assistive technology service means any service that directly assists a child with a disability in the selection, acquisition, and use of an assistive technology device. The term includes—*
>
> > *(a) The evaluation of the needs of a child with a disability, including a functional evaluation of the child in the child's customary environment;*
> >
> > *(b) Purchasing, leasing, or otherwise providing for the acquisition of assistive technology devices by children with disabilities;*
> >
> > *(c) Selecting, designing, fitting, customizing, adapting, applying, retaining, 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 a child 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), employers, or other individuals who provide services to, employ, or are otherwise substantially involved in the major life functions of that child. (Authority: 20 U.S.C. 1401(2))*

### Summary

AT service delivery involves more than simply providing AT. It is a *process*, recorded in a student's IEP, by which AT is considered, selected, provided, supported and periodically evaluated to determine its effectiveness for a student.

# Chapter 2
# Understanding AT requirements within IDEA

Assistive technology and AT services are both defined and addressed within IDEA. Specifically, IDEA establishes AT as a special consideration in the IEP process. The act states that IEP teams must "Consider whether the child needs assistive technology devices and services" (34 C.F.R. § 300.324(2)(v)). In doing so, IDEA also uses this language:

> *§ 300.308 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 § 300.39;*
> > *(2) Related services under § 300.34; or*
> > *(3) Supplementary aids and services under §§ 300.42*

IDEA defines each of these areas as follows.

> *§ 300.39 Special education.*
> *(a) General.*
> > *(1) Special education means specially designed instruction, at no cost to the parents, to meet the unique needs of a child with a disability, including—*
> > > *(i) Instruction conducted in the classroom, in the home, in hospitals and institutions, and in other settings; and*
> > > *(ii) Instruction in physical education.*
>
> *§ 300.34 Related services.*
> > *(a) General. Related services means transportation and such developmental, corrective, and other supportive services as are required to assist a child with a disability to benefit from special education, and includes speech-language pathology and audiology services, interpreting services, psychological services, physical and occupational therapy, recreation, including therapeutic recreation, early identification and assessment of disabilities in children, counseling services, including rehabilitation counseling, orientation and mobility services, and medical services for diagnostic or evaluation purposes. Related services also include school health services and school nurse services, social work services in schools, and parent counseling and training.*

> *(b) Exception; services that apply to children with surgically implanted devices, including cochlear implants.*
>> *(1) Related services do not include a medical device that is surgically implanted, the optimization of that device's functioning (e.g., mapping), maintenance of that device, or the replacement of that device.*

> *§ 300.42 Supplementary aids and services.*
> *Supplementary aids and services means aids, services, and other supports that are provided in regular education classes, other education-related settings, and in extracurricular and nonacademic settings, to enable children with disabilities to be educated with nondisabled children to the maximum extent appropriate in accordance with §§ 300.114 through 300.116.*

For a more complete IDEA definitions with additional explanations, visit the IDEA Website, https://sites.ed.gov/idea/regs/b/b.

## What are examples of AT special education, related services, and supplementary aids and services?

AT and AT services may be provided as part of *special education* to a student if the IEP team deems it necessary and develops related goals within the IEP. In this context, specially designed instruction may be provided to help a student understand how to use AT. For example, a special education teacher may provide instruction on how to use speech recognition effectively when composing print. The instructional goals would define key performance outcomes in using speech recognition for writing.

Alternatively, AT may be provided along with specially designed instruction to meet a student's individual needs and to ensure free appropriate public education (FAPE). As an example, a student may use speech recognition while receiving instruction on specific writing strategies. Using speech recognition helps the student generate printed text. This AT compensates for the impact of a disability that affects how the student applies the writing strategy being taught through individualized and specially designed instruction. The IEP team would generate goals for using specific writing strategies and may identify goals for learning how to use speech recognition.

AT and AT services also may be provided as part of a *related service*. For example, a student who has difficulty communicating may receive AT services to learn to use an alternative and augmentative communication (AAC) system from a Speech-Language Pathologist (SLP).

Finally, AT and AT services may be provided as a *supplementary aid or service*. In this scenario, AT and AT services are provided in regular education classes and other education-related settings, as well as in extracurricular and nonacademic school settings. The intent is to enable students with disabilities to be educated with nondisabled students to the maximum extent appropriate. For example, a slant board may be provided as *AT* to help a student with motor difficulties more effectively engage in handwriting in a general education classroom. The general education teacher may provide *AT services* to ensure that the slant board is available when the student needs to use it. The teacher also may help the student set up the slant board so that it may be used effectively.

## What is the relationship between AT and FAPE?

IDEA requires that students who are aged 3–21 and receiving special education services be guaranteed free appropriate public education (FAPE). According to IDEA 2004 (34 C.F.R. § 300.17):

> *Free appropriate public education or FAPE means special education and related services that—*
>
> (a) Are provided at public expense, under public supervision and direction, and without charge;
> (b) Meet the standards of the SEA, including the requirements of this part;
> (c) Include an appropriate preschool, elementary school, or secondary school education in the State involved; and
> (d) Are provided in conformity with an individualized education program (IEP) that meets the requirements of §§ 300.320 through 300.324.
> *(Authority: 20 U.S.C. 1401(9))*

Providing AT may serve as an element of a school's obligation to provide FAPE to students. The "*free*" in FAPE means that all special education and related services (including necessary AT tools and services) should be provided to students with disabilities at no cost to the parents. This rule prohibits schools from refusing to provide AT or AT services in a student's IEP because of expense. The only time schools may consider cost of AT in making a consideration determination is when two equally effective alternatives cost different amounts.

The "*appropriate*" portion of FAPE refers to the degree of impact the equipment and services provided may have on students' progress in school settings. In the landmark case of *Board of Education v. Rowley*, the Supreme Court established a two-pronged test (458 U.S. 176 (1982)) that an appropriate education:

1. complies with the procedural requirements set out in IDEA; and
2. provides students with a substantive education.

The Supreme Court emphasized that, to be substantively appropriate, students' education *programs* should be "reasonably calculated" to ensure students' educational *progress*. The goal of FAPE, according to the Supreme Court, is not to maximize students' potential but to guarantee that schools offer them a "basic floor of opportunity." Day and Huefner (2003) pointed out that the *Rowley* decision regarding FAPE applies to the consideration of AT. AT should be provided to students with disabilities to confer an equitable opportunity in educational settings and to ensure that their educational program is "reasonably calculated" to ensure educational progress.

Recently, in *Endrew F. v. Douglas County School District*, the Supreme Court further defined the concept of "appropriate" with regard to the education of students with disabilities under IDEA. In the *Endrew F.* case, the court stated that each child's educational program must be appropriately ambitious in light of his or her circumstances, and every child should have the chance to meet challenging objectives (U.S. DOE, 2017); therefore, when AT is considered for a student with a disability, the IEP team should "be able to offer a cogent and responsive explanation for its decision that shows the IEP is reasonably calculated to enable the child to make progress appropriate in light of his circumstances." (Moore, 2019)

## What is the relationship between AT and LRE?

IDEA regulations provide that each student with a disability must be educated with nondisabled peers to the maximum extent appropriate. (34 C.F.R. 300.114(a)(2)). This requirement is better known as the obligation to educate students in the least restrictive environment (LRE). The regulations also provide that students with disabilities should only be removed from the general education environment if the nature of the student's disability "is such that education in the [general] classes with the use of supplementary aids and services cannot be achieved satisfactorily." (34 C.F.R. 300.114(a)(2)(ii)).

The role of AT is to enhance students' performance in their LRE. If students are unable to demonstrate performance on tasks and activities at an acceptable level, despite instruction on the necessary skills, then AT may be warranted. By providing needed compensatory benefits, AT may allow students to perform closer to the expected performance level and, ultimately, access the curriculum. Consequently, students may receive instruction in less restrictive environments when AT is provided than when it is not.

## What is the LEA's responsibility to develop performance measures when the IEP team determines AT is needed?

When services are being directly provided to help a student learn how to use AT, or use it effectively as part of an IEP goal (e.g., access to the curriculum, learning, participation, assessment, etc.), then the recommended practice is to identify outcome measures for the student's performance related to those services. For example, if a student is being taught how to use AT, then outcome measures and criteria would need to be specified to determine the degree to which the student could successfully operate the AT. On the other hand, assume a student has already learned how to use AT that is needed for a particular task within an IEP, student performance measures and performance criteria on the task would need to be developed. In this case, AT is a condition of target behavior used to measure task performance.

## When should parents be notified about the IEP team's requirement to consider AT for their child?

In 2018, the Illinois School Code (105 ILCS 5/14-8.02 Identification, evaluation and placement of children) was amended with these requirements.

At a child's initial IEP meeting, and at each subsequent annual review meeting, the IEP team shall provide the child's parent/guardian with a written notification that informs them that the IEP team is required to consider whether the child requires assistive technology in order to receive FAPE.

The amended Illinois School Code also requires that the notification from the LEA must include a toll-free telephone number and internet address for the State's assistive technology program. In response to these changes, the Illinois State Board of Education revised the Parent/Guardian Notification of Conference form (34-57D) and the Educational Accommodations and Supports form (34-54N).

IDEA requirements are designed to ensure free appropriate public education for students with disabilities, as part of their IEP. This education should be provided in the least restrictive environment as

much as appropriate. Local Education Agencies are responsible for developing ways to measure how well students perform with AT. Parents are to be notified in writing about their child's requirement for AT at the first and each annual IEP meeting.

# Chapter 3
# Understanding How AT Relates to Other Educational Mandates and Initiatives

IDEA and Illinois statutes mention additional legal and educational mandates that may influence whether a team decides to provide assistive technology for a student. It is important to understand how the provision of assistive technology devices and services relates to each of the following mandates.

## How does AT relate to the Illinois Learning Standards?

The Illinois Learning Standards provide guidance about the content students are expected to learn. The standards shape the development of curricula and associated experiences. AT provides a means for individual students with disabilities to access and engage in curricula when they could not otherwise perform the curricular tasks.

## How does AT relate to Accessible Instructional Materials (AIM)?

IDEA requires school systems to ensure that textbooks and related printed materials are provided in specialized formats to students with print disabilities in a timely manner (34 C.F.R. § 300.172). The Illinois State Board of Education has provided guidance on this matter, which can be referenced at https://www.isbe.net/Pages/Special-Education-NIMAS-NIMAC-Information.aspx. While students with print-related disabilities may be provided with specialized formats (e.g., Braille, electronic text, enlarged text or audio), students may need to use AT tools in conjunction with these specialized formats to effectively access the materials. For example, if a textbook were provided as electronic text, a student may still need to use a text-to-speech program or a refreshable braille display to access the digital textbook file. In this instance, it would be insufficient to provide only the electronic text.

## How does AT relate to Universal Design?

The Disability Act 2005 defines Universal Design (UD) as:

1. *The design and composition of an environment so that it may be accessed, understood and used*
   1. *To the greatest possible extent*
   2. *In the most independent and natural manner possible*
   3. *In the widest possible range of situations*
   4. *Without the need for adaptation, modification, assistive devices or specialised solutions, by any persons of any age or size or having any particular physical, sensory, mental health or intellectual ability or disability, and*
2. *Means, in relation to electronic systems, any electronics-based process of creating products, services or systems so that they may be used by any person.*

Universal Design for Learning (UDL) is a set of principles guiding curriculum development that results in equal opportunities for learning (CAST, n.d.). UDL focuses on instructional goals, methods, materials and assessments that can be effectively accessed and used by all students, regardless of ability or background. UDL is a flexible approach that may be adjusted to meet individual needs.

Both UDL and AT address learner variability. They both address the individual learning needs of students; however, the method in which they address these needs is different. UDL is a proactive strategy (Male, 2003) that addresses multiple areas of curriculum development. It seeks to ensure that students:

- receive multiple representations of curricular content best suited for individual access and comprehension;
- are engaged in curricular activities in ways that allow students to best "key into" the content being taught; and
- are allowed to present evidence of their learning, using strategies that are most effective for them.

UDL, as Edyburn (2010) noted, should not be devoid of technologies and, indeed, could not be realized without their use. The point of UDL is to *reduce barriers* that prohibit student learning. AT, on the other hand, allows individual students to *overcome barriers* presented by curricular tasks (Rose, Hasselbring, Stahl and Zabala, 2005). The consideration and use of AT responds to issues a student with a disability may face when engaging in curricular tasks. To differentiate between UDL and AT, Edyburn (2010) stated:

> *Assistive technology devices and services are delivered reactively after a referral and evaluation of an individual student. UDL is given to everyone with the understanding that those who need specialized support will use the tools when they need them (i.e., embedded, just-in-time supports).*

A tool, therefore, may realize UDL when it is used broadly to reduce barriers to curricular tasks and allow students to access the tasks more meaningfully. The very same tool, however, may be used as AT when an individual student with a disability needs it to overcome barriers to curricular tasks he or she would not otherwise be able to perform.

## How does AT relate to differentiated instruction?

Differentiated instruction is responsive rather than one size fits all (Tomlinson, 2003). Teachers using differentiated instruction proactively plan varied approaches to what groups of students will learn, based on their readiness, interests and learning profile. Instructional content, process and products are modified to increase the likelihood that each student will learn as much as possible, as efficiently as possible (Tomlinson, 2003). When differentiated instruction is used to design classroom learning environments, students who use AT are more easily included and provided with better access to curricular content and activities.

## How does AT relate to Multi-Tiered Systems of Support?

Multi-Tiered Systems of Support (MTSS) is a general education initiative with the goal of increasing individual students' rates of progress in school settings. Students receiving services within an MTSS framework may use AT tools at any tier to gain access to core instruction, and to receive evidence-based interventions matched to their needs.

If, however, using AT tools significantly alters how an intervention is implemented, the effectiveness and fidelity of the intervention may be altered as well. Take the example of a student receiving an intervention to improve oral reading fluency. The use of a text-to-speech program that reads text passages for the student may reduce the overall effectiveness and fidelity of the intervention. In this case, the school team should determine whether the student will use the AT device while receiving the intervention.

This does not mean that school teams should avoid using AT tools to allow students with disabilities on curricular tasks. Interventions and supports provided in the context of an MTSS framework can and should be used along with AT tools to increase students' successes.

## How is AT addressed under Section 504 of the Rehabilitation Act of 1973?

Section 504 of the Rehabilitation Act of 1973 is a U.S. civil rights statute prohibiting agencies and programs that receive federal funds from discriminating against individuals with disabilities. Because public schools receive federal funds, they are subject to the provisions of Section 504. The law states:

> *No otherwise qualified individual with handicaps in the United States ... shall, solely by reason of his handicap, be excluded from participation in, be denied the benefit of, or be subject to discrimination under any program or activity receiving Federal financial assistance. (34 C.F.R. §104.4(a))*

Note that the definition of disability is different under Section 504 than it is in IDEA. Section 504 defines an "individual with handicaps" as a person who:

> *(i) has a physical or mental impairment which substantially limits one or more major life activities, (ii) has a record of such an impairment, or (iii) is regarded as having such an impairment. (34 C.F.R. §104.3(j)(1))*

Among "major life activities" are walking, sleeping, seeing, hearing, learning, caring for oneself, performing manual tasks, speaking, breathing and working. Thus, the definition of "individuals with handicaps" under Section 504 is broader than the definition of children with disabilities under the IDEA. Some children who are not eligible for special education services may be able to receive them under the protections of Section 504. For example, some students who have a physical disability, are able to benefit from the curriculum provided to students in general education classes. For these students, AT my be provided to help them write or read the same material other students use. They do not need specially designed instruction, but do need AT to have access to their educational program.

Section 504 applies to preschool, elementary and secondary schools that receive or benefit from federal financial assistance. These programs are required to provide a free appropriate public education to

students with disabilities . Section 504 defines "appropriate" as providing regular or special education, and related aids and services, designed to meet the individual educational needs of persons with disabilities as adequately as the needs of persons without disabilities. Programs subject to Section 504 must ensure that students with disabilities are afforded an equal opportunity to participate in all academic and extracurricular school programs. Benefits and services provided to students with disabilities must be equal to, and as effective as, the benefits and services afforded to other students.

Schools may have to make special accommodations, such as providing AT devices and/or services, so that students with disabilities can access the full range of programs and activities. The key here is the equal opportunity to participate required under Section 504. More information about Section 504 and AT is available from:

Chicago Office
U.S. Department of Education
John C. Kluczynski Federal Building
230 S. Dearborn Street, 37th Floor
Chicago, IL 60604
Telephone: (312) 730-1560
Facsimile: (312) 730-1576
Email: OCR.Chicago@ed.gov

### How can an IEP team judge its Section 504 processes for including AT?
A list of 10 quality indicators for AT devices and services, as applied to students served under Section 504, is available in Appendix A and at https://www.natenetwork.org/forms-and-tools. These indicators can serve as overarching guidelines for quality AT services required outside the special education process. They are used to help schools and districts develop systems ensuring that students with disabilities who do not qualify for specially designed instruction have full access to the general education curriculum and other school-related activities.

### Summary
State and federal mandates speak to a variety of educational tools and approaches. These mandates may shape the decision to use AT. It is important that educators and parents understand how each of these requirements is related to an educational agency's responsibility to provide AT.

# Chapter 4
# Understanding the AT Process

It is important to think of AT services in the school setting not as a *thing* but as a *process.* This graphic shows the iterative, cyclical nature of the process an IEP team might use.
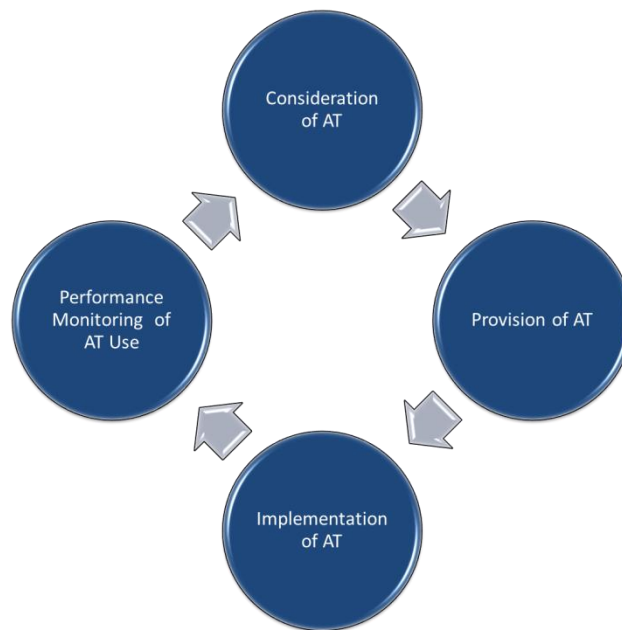
Figure 1. The AT Services Process

## Consideration of AT

The IEP team's starting point is consideration of AT. At this point, the IEP team determines whether a student needs AT to receive FAPE. Sometimes the IEP team may already have the knowledge, skills and information to make a decision. At other times, the team may need to access other resources or gather additional information to make a decision.

Once it has sufficient knowledge, skills and information, the IEP team decides whether a student needs AT to receive FAPE. The decision is then documented in the student's IEP. Any AT to be provided is integrated into the student's educational program.

## Provision of AT

If the team decides that a student needs AT, the next step in the cycle is the provision of AT. The IEP team determines how the AT it identified will be acquired and provided to the student. The team could identify and access funding sources during this step. The time between deciding what AT to provide and actually providing it to the student should be as short as possible.

## Implementation of AT

After a student receives the AT determined necessary for FAPE, the school initiates a plan for successful implementation. IEP teams identify who may need training for the AT to be used effectively by a student. Training may involve the student, teachers, therapists, paraprofessionals, family members and others who work with the student. An action plan identifies where, when and how a student will use the AT, along with any supports needed for its effective use. This plan ensures that everyone knows their role in helping the student use AT effectively.

AT might not be ready to use out of the box. It may have to be customized to meet a student's individual needs. Over time, the student may become more adept at using the AT, or the needs or skills of the student may change. The AT plan or device may then be further customized to better meet the demands of the tasks for which the student uses AT. During this step, the school also may determine what to do if the AT becomes damaged or unavailable, and plan for routine maintenance of the AT.

## Performance monitoring of AT use

As with other interventions, a school carefully monitors the student's use of AT and the associated impact on performance. Schools select specific data-collection strategies, monitor the compensatory benefit to a student over time and assess the continued need for the AT. Through reliable and valid data, the school demonstrates whether the student's performance is increased, improved or maintained by use of the AT; whether FAPE is achieved; and whether the student continues to need the AT. If data show that the AT is no longer effective or that the student no longer needs the AT, the IEP team returns to step 1 to consider additional AT or determine that no AT is needed. Conversely, if data indicate that the current AT is both beneficial and needed, the team also returns to step 1 to consider that the existing AT remains in place.

### Summary

Educators use a four-step process to consider, provide, implement and monitor a student's use of AT. The process repeats, ensuring that AT continues to result in FAPE over time. The next chapters take a closer look at these four steps.

# Chapter 5
# AT Process: Understanding AT Consideration

The Individuals with IDEA mandates that IEP teams consider several "special factors" for every student receiving special education services. Section 300.324(a)(2)(v) of the IDEA regulations states that IEP teams must "consider whether the child needs AT devices and services" when developing a student's IEP.

Consideration of assistive technology is a purposeful, collaborative decision-making process. The IEP team reviews existing information and potentially collects additional information about a student before deciding whether he or she needs AT. If the answer is yes, the IEP team identifies the AT needed for the student to receive FAPE. The responsibility for AT consideration falls upon the entire IEP team and is not relegated to an individual or an outside evaluator. While schools may engage in ongoing and recurring AT consideration, discussion of the need for AT is required to, at every IEP meeting.

The Center on Technology in Education at Johns Hopkins University and the Technology and Media Division of the Council for Exceptional Children (2005, p. 19) proposed five tasks an IEP team should undertake before making a decision regarding AT for a student:

1. Review the student's academic skills, 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 the 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.

## A model for AT consideration

Beginning in 1997, Chambers provided a model, still current, to guide AT consideration (Chambers, 1997). A key point in this model is establishing whether the team has the necessary knowledge and skills to determine the student's need for AT. More recently, OCALI (Ohio Center for Autism and Low Incidence) published an assistive technology guide that states:

> When addressing "AT consideration" within the IEP process, it is important to realize that "consideration" is by nature a brief process that must be conducted during the development of every student's annual IEP. At least one person on the IEP team should have some knowledge about AT. AT consideration requires that the team participate in a consistent decision-making process in relation to the student's goals and objectives that facilitate access and progress in the general curriculum. (OCALI 2013)

Teams that do not feel they have the necessary knowledge and skills can either collect more information or seek assistance from a person or team that has the knowledge and skills. This flowchart may help IEP teams engage in the consideration of AT.
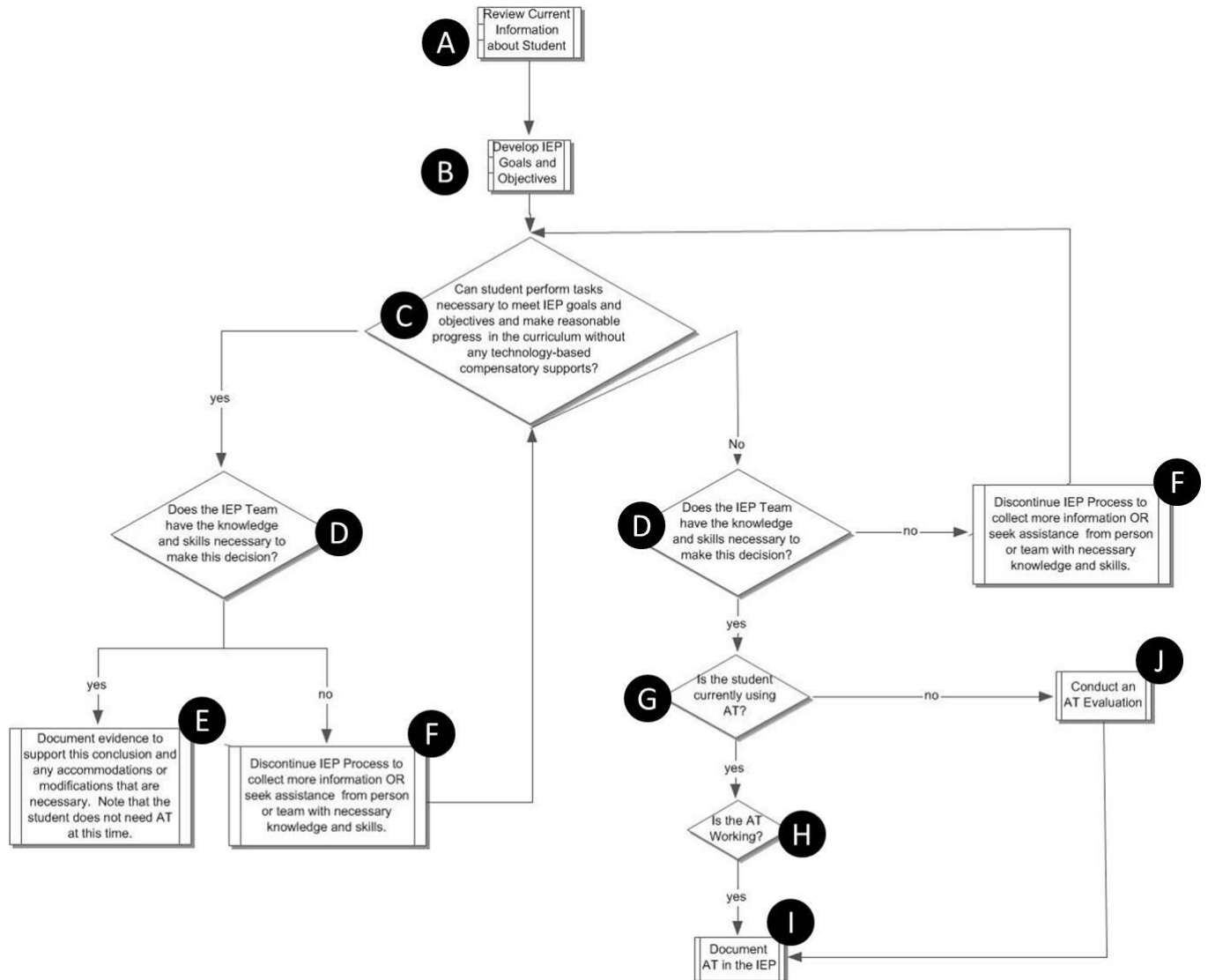


Figure 2: Flow Chart of the AT Consideration Process

Each of the critical points of the flow chart is explained as follows.

### Review current information about student
The first point in the consideration of AT process focuses on reviewing all information currently known about the student. During this point in the process, the IEP team looks at information about the student's performance on academic and functional tasks, assessment data, modifications and accommodations currently used, any AT currently used and any other information available about the student. The IEP team uses the information to identify areas of strength and areas for specially designed instruction over the next academic year.

**(B) Develop IEP goals and objectives.**

After reviewing current information about the student, the team develops IEP goals and objectives based on the student's current performance levels. These goals and objectives should address how the student will progress toward meeting curricular milestones and Illinois Learning Standards. IDEA emphasizes high expectations, progress and achievement in the general education curriculum. The student's IEP goals and objectives should reflect that emphasis. To develop appropriate reading, writing, mathematics or functional goals, the IEP team should be familiar with and consider state and district curriculum standards, as well as assessments the student will be taking. After developing the goals, an IEP team can begin to consider any associated accommodations, modifications or compensatory technology supports, such as AT, that may be needed for the student to make reasonable progress.

**(C) Can the student meet IEP goals and objectives and make reasonable progress in the curriculum without any technology-based compensatory supports?**

The IEP team should next ask whether the student needs AT to make reasonable progress in his or her educational program. Factors to examine include current knowledge about the student, the goals and objectives of the student's IEP and those of the curriculum in which he or she is participating, and the goals and indicators of the Illinois Learning Standards. With those factors in mind, the IEP team considers whether the student will make reasonable progress with instruction alone or will need AT to provide compensatory support to enhance performance.

**(D) Does the IEP team have the knowledge and skills necessary to make this decision?**

It is important to determine whether an IEP team has an understanding of the current or potential AT and AT services that may benefit a student. IEP teams are comprised of individuals with a variety of backgrounds, skills and knowledge. Each member of the team provides a different but complementary perspective when developing an IEP for a student; however, not all IEP teams have members who are knowledgeable about AT and AT services. The Center for Technology in Education at Johns Hopkins University and the Technology and Media Division of the Council for Exceptional Children (2005) suggested that an IEP team needs to have at least one person who is knowledgeable about AT and AT services, and how AT could potentially be used to enhance a student's performance. Wojcik (2011) found that individuals serving in this capacity need to:

- link IEP teams to the information about potential tools that are being considered for a student;
- keep abreast on emerging technologies, understand the technologies currently available and maintain an understanding of the technologies already possessed by the school system;
- develop an understanding of the differences among similar tools or different versions of the same tool and the operating requirements to use the tool successfully; and
- develop an understanding of what a tool is incapable of doing and convey to the IEP team the limitations of the tool.

If an IEP team has at least one person who is knowledgeable about potential AT and AT services that may benefit a student, then the team can proceed with the AT consideration process. If not, then the team should seek more information or add a team member who has that knowledge.

**(E) Document evidence to support this conclusion and any accommodations or modifications that are necessary or whether the student does not need AT at the time of this IEP meeting.**

Assume a team determines it has the necessary knowledge and skills to make an AT decision and that a student does require AT to make progress. Then the team must document in the IEP any accommodations or modifications the student will use to progress toward his or her IEP goals and objectives, curricular goals and Illinois Learning Standards. Conversely, the team must document the determination that AT has been considered but is not necessary at this time. This determination must be documented under the *Consideration of Special Factors* portion of a student's IEP (see ISBE form 34-54N). Table 1 lists the internet links for the ISBE forms IEP teams will use during their consideration discussions.

| ISBE Form Title | Form Number | Internet Link to ISBE Form |
|---|---|---|
| Educational Accommodations and Supports | 34-54N | https://www.isbe.net/Documents/34-54N-Educational-Accommodations%20Supports.pdf |
| Parent/Guardians Notification of Conference | 34-57D | https://www.isbe.net/Documents/nc_conf_34-57d.pdf |
| Notification of Conference Translations | | https://www.isbe.net/Pages/Special-Education-Required-Notice-and-Consent-Forms.aspx |

*Table 1: ISBE Forms References*

**(F) Collect more information *or* seek assistance from person or team with necessary knowledge and skills.**

If the IEP team determines it does not have enough knowledge to make a decision about AT or AT services, then the team needs to discontinue or suspend *the AT portion* of the IEP process. At this point, the team has several options. It can:

- gather additional information to help proceed with developing the student's IEP before the legally required timeline
- seek assistance from a person or a team with the requisite knowledge to move forward in the AT consideration process before the legally required timeline or;
- determine that the student does need assistive technology but that the team does not have enough information to identify the specific devices or system of tools that are needed

In the last case, the team can complete the Consideration of Special Factors section of the IEP by stating the assistive technology devices and services are needed and specifying that further AT assessment is required to identify an effective AT system. A date for completing the AT assessment should be included in the Special Factors description.

IEP teams must continue to review IEPs annually as required by IDEA. The decision to discontinue or suspend the *AT portion* of the IEP process does not change legally required timelines.

### Is the student currently using AT?

If the student is currently using AT, the IEP team needs to determine whether the AT provides sufficient compensatory benefit for the student to make reasonable progress based on his or her assessment data. From this information the team can determine whether to keep the current AT or investigate a change in the AT component of the IEP.

**H**

### Is the AT working?

If the AT is working, the IEP team should document the AT within the IEP. If the AT is not working (i.e., if the student is not making reasonable progress), then the IEP team should move toward conducting an AT evaluation.

**I**

### Document AT in the IEP

Once an IEP team determines the AT a student needs, it is important to document the AT and the associated AT services within the IEP. For AT and AT services to be truly effective, they need to be integrated throughout the student's IEP. Sections of the IEP that may contain information related to AT and AT services are explained under "How is AT documented in a student's IEP?"

**J**

### Conduct an AT evaluation

If an IEP team determines that a student needs AT and the current AT is not effective or if the student is not currently using AT, then the school may need to conduct an AT evaluation. An AT evaluation during the AT consideration process allows the IEP team to collect information to determine what AT and AT services will be provided to the student. For more information on AT evaluation, see the sections on *What are the differences between AT consideration, AT assessment and AT evaluation?* and *What activities may be conducted as part of an AT evaluation?*

## Who is involved in an AT consideration?

Every member of the IEP team is involved in the AT consideration process. AT consideration is a team-based decision where all members have an equal opportunity to provide input. A team approach to AT consideration is critical since no single individual will have all the necessary information to make decisions regarding appropriate AT (Smith, Benge and Hall, 1994). Individuals on decision-making teams should have knowledge of the potential user of the AT, the user's family and a range of AT devices that may be appropriate (Inge and Shepard, 1995). Brennan (1998) suggested that, in addition to a student's special education teachers and parents, a team may include:

- a general education teacher who can help the team identify curricular demands and what AT may be helpful to students with disabilities spending all or part of their time in a general education classroom
- a speech-language pathologist who can assess communication needs and discuss possible devices and interventions
- a physical therapist and an occupational therapist who can address the motor requirements of using the potential devices and suggest solutions for positioning them
- the school's technology coordinator who can provide information about the district's hardware and software resources and how they may be adapted

- an AT specialist who can present information on AT to the team for consideration

## What are the differences between AT consideration, AT assessment and AT evaluation?

AT consideration is the process that occurs during an IEP meeting where an IEP team determines whether or not a student needs AT to receive FAPE and documents the decision within the student's IEP. As part of the AT consideration process, IEP team members present all available data regarding student performance, as well as any data collected regarding AT that has been used by the student or has been tried with the student.

In certain situations, tools that may prove beneficial to a student are readily available in the student's educational environment. In much the same way that a teacher or service provider may introduce additional strategies or adjust interventions to facilitate a student's progress toward his or her IEP goals and in the curriculum, these readily available tools may also be introduced. Data collected regarding a student's performance while using these tools is collected and shared with the IEP team to inform the AT consideration process.

Sometimes during the course of the AT consideration process, an IEP team identifies that a student may need AT, but the team needs to gather additional information about the potential AT and AT services that would provide the student with sufficient compensatory benefit to make reasonable progress in his or her educational program. When an IEP team embarks on the process of collecting this targeted information, then they have begun an AT evaluation. The findings of the AT evaluation inform the AT consideration process that takes place during an IEP meeting.

AT evaluation is the process by which an IEP team collects information to determine a student's individual needs for AT and AT services. A request for an AT evaluation may be initiated by any member of the IEP team, including the student, parents or guardians, teachers, therapists or administrators. An AT evaluation may be conducted by members of the IEP team who have knowledge about the student and the AT and AT services that could be beneficial to the student, and does not have to be conducted by a *specialist*.

When an IEP team finds that an AT evaluation is necessary as a result of the AT consideration discussion during an IEP meeting and the data gathered as part of the AT assessment, the team should suspend the consideration of AT until the AT evaluation is complete. Thus, the findings from the AT evaluation can be fully considered by the IEP team and integrated into a student's IEP; however, suspending an IEP process regarding AT does not absolve an IEP team from meeting legal timelines noted in the law. Because an AT evaluation is an *evaluation process,* certain procedural safeguards and legal timelines will apply (e.g., the requirement to obtain parental consent for the AT evaluation, and the 60-school day timeline to conduct the AT evaluation and make a determination of a student's need for AT). For example, during an initial evaluation or reevaluation for determining eligibility for special education services, should a team decide to evaluate AT tools and services as part of an evaluation domain area, the IEP team must obtain parental consent and abide by procedural timelines.

Teams may also want to consider conducting a formal reevaluation for students to obtain substantive data for the consideration of AT tools and services. For example, should an IEP team identify the need for a complex communication system (i.e., AAC) for a student, the team must collect data from multiple individuals on the student's IEP team.

An AT assessment is a tool used to gather information on a student's performance in relation to any AT services and devices. Like all good teaching practices, this can include integration of a variety of instructional practices, review of delivery, trial of different instructional practices, or change in instructional methodologies to improve student outcomes. all of which can be inclusive to AT. An assistive technology assessment could include ongoing assessment of student performance in relation to any AT needs, review of AT instructional supports, or the need for specialized instruction using an AT device. An AT assessment may be conducted by those instructional staff who work with the student most often and are most appropriate to assess a student's skills.

## Who may conduct or be involved in an AT assessment or AT evaluation?

AT assessment and AT evaluation are processes conducted to gather information to help an IEP team determine the need for AT and, potentially, the nature of AT needed by a student. While there is no legal guidance regarding the qualifications of people involved in these processes, the individual or individuals should have an understanding of:

- the student (including current performance, interests, disability
- impact of the student's disability on performance)
- the curriculum/tasks in which the student is expected to perform
- the scope of potential AT tools and services the student may need to be successful

The IEP team is responsible for ensuring that this assessment is completed.. In some cases, a member of the IEP team will have the requisite knowledge and skills for the AT assessment. In other cases, the team may need assistance from other individuals with specific knowledge and skills relevant to the process.

## What activities are part of an AT assessment and an AT evaluation?

An AT assessment is a set of activities conducted to identify the need for AT and AT services for a student. The activities associated with conducting an AT assessment vary widely, but these are among the most common.

### Task-demand analysis

IEP teams analyze the tasks necessary for the student to make reasonable progress. Tasks are defined as processes that the student must undertake to demonstrate an expected level of performance. Parette and Peterson-Karlan (2010) offered the following examples to illustrate tasks:

> For example, to participate in free play, the preschool child may have to complete tasks such as (1) scanning the available activities and choosing an activity in which to engage, (2) engaging in the activity in a meaningful way, and (3) terminating the activity, often by putting materials away. To participate in language arts at the elementary level, a student might (1) read a text passage and then write a story about his/her own similar

*experience, (2) engage in writing to include completing tasks of planning the topic and making a content outline, (3) transcribe an initial draft, (4) edit and revise the composition, and (5) finally submit it to the teacher. At the high school level, to participate in history class, a student might (1) participate in class discussions, (2) listen to a presentation or view a video, (3) take notes, (4) read a text assignment, (5) write assignments in a planner, (6) complete and/or submit homework, and (7) take exams. Thus, participation may be viewed as a series of related tasks that culminate in successful completion of a specific activity by the student with a disability*. (pp. 539–540)

Each task places demands on the student. Understanding the degree to which a student is able to meet each of the demands provides a foundation for determining if the student needs compensatory support from AT. King (1999) identified these areas of demands that tasks place on students—*physical*, *cognitive* and *linguistic*—and described them as follows.

*Physical demands* involve the amount of muscle strength and movement "required to initiate, pursue, and complete a task" (p. 60). For example, if a student reads a book, the student needs to:

- maintain a sitting position
- turn pages in the book
- visually focus, fixate and track the words on the page, and so forth

*Cognitive demands*, generally speaking, involve the amount of thinking required to complete a task. Such demands may consist of:

- sensing (i.e., visual, auditory and tactile–kinesthetic experiences)
- remembering (i.e., factual memory)
- discriminating (i.e., differentiating)
- analyzing (i.e., problem-solving)
- sequencing actions (i.e., sequential memory)

*Linguistic demands* are those that require the interpretation and understanding of symbols. In thinking about the student who is reading a book, the student must process letters, words, pictures, white space, columns, headers, numbers and many other symbols presented as part of the reading task. IEP teams must first identify those tasks and the associated task demands required for a student to progress toward his or her IEP goals and objectives, curricular goals, and Illinois Learning Standards. Once that identification is in place, the team may make decisions regarding the need for AT.

*Environmental variables* also may influence the demands placed on a user to conduct certain tasks. For example, if a student who is easily distracted by noise is in a classroom across from the school's gymnasium, that student may experience difficulty concentrating or attending to a task. If a student's desk is not at a height that allows for effective use, that student may struggle to complete classroom tasks. Understanding the environmental conditions under which a task is performed will inform the team during the AT evaluation process.

To understand the barriers that prevent a student from achieving success, schools must first understand the difficulties a student experiences when performing tasks, the reasons for these difficulties and the environmental conditions under which these tasks are performed. The team can use this information to identify features of potential AT tools or systems that may be beneficial to a student.

## Feature-match analysis

A feature-match analysis focuses on identifying appropriate AT tools or systems to help a student overcome barriers and enhance his or her performance on educational tasks. Features are the abilities or characteristics of a potential tool or system needs for a student to successfully operate it and use it to complete a task.

A feature-match analysis starts with reviewing the barriers a student experiences on a particular task. The barriers can be used to formulate feature statements. For example, if a student demonstrates difficulty decoding grade-level text because of phonographic issues, a corresponding feature statement might read, "Provides student auditory access to the printed text."

The Global Priority Research Agenda of the World Health Organization (WHO) identifies two underlying principles essential to examining specific interventions such as AT. First is user involvement in all aspects of research, policy development, system design and service provision. Second is an environmental approach to functioning. (Scherer, MacLachlan & Khasnabis, 2018).

An effective feature analysis therefore conveys preferences identified by the student. For instance, a student who is concerned with how much a potential AT tool or system will make him or her stand out from peers may require a feature to address that concern. Feature analysis also identifies the conditions under which the task needs to be performed. As an example, if a student needs to perform the task in three different environments, then the team may identify portability as a feature.

Once a list of features is identified, personnel can evaluate the potential tools to determine the most appropriate match for those features, as shown in the following form.

## TOOL COMPARISON CHART

STUDENT: _____  Date: _____  Area of Concern: _____

STEP 1: Based on information related to the student, environment, and tasks, enter features needed by the student across the shaded top row – 1 feature per column.
STEP 2: List potential tools in the shaded left column – 1 tool per row.
STEP 3: Look at each tool listed. Place an X to indicate which feature(s) it has.
USE ADDITIONAL SHEETS IF NECESSARY

| Features ⇨ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Tools ⇩ | | | | | | | | | |
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Adapted from Joy Zabala (2008)                    Coordinators of AT Services (CATS), 4/2008

**Figure 3. Feature Match Chart**

The form allows for documentation of the features identified (listed in the top row) and the evaluation of potential AT tools or systems (listed in the left-hand column). Personnel may then evaluate each tool or system against the identified features, allowing the most appropriate match to be observed. The full version of this form can be found in Appendix B of this guide.

### Tool-demand analysis

In addition to understanding the features of potential AT tools or systems, an AT assessment must consider the demands the introduction of the AT tools or systems may place on the student. King (1999) stated that four human factors should be considered when matching a person to AT:

1. the *physical load* placed on an individual to operate the given tool (i.e., what are the physical demands—motor and sensory—necessary to operate the tool or system?)
2. the *cognitive load* placed on an individual to operate the given tool (i.e., what must the student remember to effectively operate the tool?)

3. the *linguistic load* placed on an individual to operate the given tool (i.e., what symbols must be interpreted to operate the tool effectively?)
4. the *time factors* related to using the tool (i.e., can the student operate the tool effectively within the time parameter of the given task?).

An AT evaluation must ensure that a student can reasonably operate the potential AT tool or system for it to be successful.

### AT trials and data collection

IDEA lists "functional assessment in the student's customary environment" as one of the AT services that may be provided. Usually referred to as a trial period, this functional assessment allows students to try AT tools in order to determine their relative match for student needs and their overall effectiveness (Parette, Peterson-Karlan, Wojcik, & Bardi, 2007). AT trials should be completed in a reasonable time period (QIAT, 2015) yet be long enough to evaluate the potential match (Wojcik, 2011). Data collection allows IEP teams to determine the relative effectiveness of one tool compared to other potential tools.

## What are cultural and linguistic factors that may be considered in an AT assessment?

IDEA regulations released in 2006 draw specific attention to working with and supporting culturally and linguistically diverse students. Specific attention is drawn to these factors:

- Assessment and other evaluation materials should not be racially or culturally discriminatory.
- Assessment and other evaluation materials are to be provided in the child's native language or other mode of communication unless it is clearly not feasible to do so.
- A child must not be determined to be a child with a disability if the determinant factor is lack of appropriate instruction in reading or math, or limited English proficiency.
- Parents are entitled to an interpreter at the IEP meeting if needed to ensure they understand the proceedings.
- When developing an IEP for a child with limited English proficiency, the language needs of the child as they relate to his or her IEP must be considered (para 2).

Evaluation procedures (34 CFR §300.304) require that assessment and other evaluation materials should be administered "in the form most likely to yield accurate information on what the child knows and can do academically, developmentally, and functionally." For culturally and linguistically diverse children, the "form" in which evaluation procedures are conducted will likely differ from student to student.

Specific cultural areas regarding AT take into consideration the ways AT may be viewed from the student's and the family's perspective. Key questions to ask are:

- Do I understand the family's values, beliefs, customs and traditions?
- Do I understand the family's attitude regarding disability?
- Does the family accept the idea of assistive technology as a tool to help the child?

- Have I determined important social influences that might affect the child's or family's perception and use of AT device?

## How is AT documented in a student's IEP?

To ensure clear understanding, the AT and AT services that the IEP team has identified for a student are documented in the student's IEP. Several sections within an IEP may contain information related to AT and AT services. These sections include:

***Present Levels of Academic and Functional Performance.*** If the student is already using AT or receiving AT services, this is the section where IEP teams describe what AT is being used, how, for what reason and the impact the AT has on the student's performance.

According to Wojcik (2011), AT specialists reported different perspectives on whether to label AT by name or to use general descriptive terms within the IEP. Neither IDEA nor Illinois' special education rules address this issue directly, but the prevailing thinking, noted by both Wojcik (2011) and the focus groups used in developing this manual, is to give the specific name in the *Present Levels of Academic and Functional Performance* section of the IEP and general descriptive terms in all other areas of the IEP. This practice documents sufficient information about the AT and AT services used by a student while affording the schools flexibility in providing the AT and AT services identified by the IEP team for the student to receive FAPE.

***IEP Goals and Objectives.*** Before addressing IEP goals and objectives directly, it is important to note that students do not become competent with all forms of AT overnight. Instead, students progress through a series of stages of competence. Zabala, Bowser and Korsten (2004/2005) adapted Light and Buekleman and Reichle's (2003) stages of communication competence for alternative and augmentative communication users, then applied the concept to users of different varieties of AT. These stages include *operational competence*, *functional competence*, *strategic competence* and *social competence*.

*Operational competence* refers to attaining the knowledge and skills needed to use a particular piece of AT. As the authors noted, there is a difference between understanding how to use an AT tool and using it to complete a task effectively.

*Functional competence* is attained when an individual can use a particular AT tool or system to complete the task for which it was chosen.

*Strategic competence* refers to using the AT device in real-world settings on real-world tasks. A student who has developed strategic competence can identify the situations and conditions in which the AT tool could be used and how to apply it appropriately.

*Social competence* refers to attaining skills and strategies that allow the student to explain to others the purpose of the AT tool or system and how it will be used in various contexts. Social competence also may include developing the necessary self-advocacy skills to use an AT tool or system in multiple situations.

AT use ties directly to a student's IEP goals and objectives. There are three ways in which this may be done.

1. When the student is learning how to use the AT (i.e., developing *operational competence)*, goals and objectives may be written to address the necessary special education services that may be provided to help the student become a competent user of the AT. In other words, if part of the student's educational programming will focus on teaching the student how to use the AT, then specific goals and objectives may be created to strategically plan for and guide the services that will help the student become successful in operating the AT. If special education services or related services are provided to help a student learn to use the provided AT, then outcomes of those services (e.g., operational competence) could be indicated within the IEP goals. Specific training activities may be noted elsewhere in the IEP (e.g., under *Special Education and Related Services*, *Additional Information* and *Notes*).

2. If a student has already developed operational competence in using the AT, schools may consider the use of the AT within an objective or benchmark the student must reach to perform a task according to specific criteria or within certain contexts. For example, a student who is working on reading comprehension may require the use of a text-to-speech software program to demonstrate successful performance in answering comprehension-based questions about the text (i.e., functional competence). A student may also need to determine when to use the text-to-speech software program based on the task or the context (i.e., strategic competence).

3. Finally, a student may need to learn how to explain the reason he or she is using the text-to-speech program on reading tasks and advocate for the right to use the AT (i.e., social competence).

If appropriate, each of these areas may be written within the student's goals and objectives in his or her IEP.

***Consideration of Special Factors.*** In accordance with Section 300.324(a)(2)(v) of the IDEA regulations, an IEP team must consider whether AT is needed for a student. In Illinois, the IEP team must include a statement determining whether AT is needed by the student and, if AT is needed, what AT tools will be provided to the student.

Below are some *examples* of possible responses that could be included in the IEP.

*These statements are provided as examples only. They should **not** be copied into all IEPs. Doing so would mean a failure to make the IEP individualized for a student.*

| If "Yes" Is Checked | Based on teacher observation data, Sarah requires a specially designed device(s) to access instruction. The following AT services and/or devices will be provided: [list of AT services the student needs] |
|---|---|
| If "No" Is Checked | Sarah can complete the required instructional tasks and can access the school environment using standard classroom adaptions and the accommodations/ modifications that are in place. Based on the student's present levels of academic and functional performance, Sarah does not need AT services to receive FAPE. |

Table 2: Examples of Completed ISBE IEP Form 34-54D

**Related Services.** IDEA recognizes that AT and AT services may function as *related services*. For example, a speech-language pathologist may provide a student with training on how to use an augmentative or alternative communication device. Similarly, a physical or occupational therapist may be involved in mounting and positioning the communication device on a student's wheelchair as well as determining methods for the student to access the device. When AT or AT services are provided by *related service providers*, the minutes they spend are documented within the IEP as part of their anticipated time. AT minutes should be included in the IEP in the *Related Services* section if instruction is taking place specific to the AT, for example if a related service provider is providing instruction on how to use a new AT device.

Note that the district is required to maintain related service logs. These logs record the type and duration of the related service that was administered under the student's IEP. The logs must be available at any time to the child's parent or guardian, as well as at the student's annual review. If services are not provided, the district must provide written notification within three school days of the district's non-compliance with the student's IEP and include information about requesting compensatory services.

**Accommodations and Modifications.** IDEA recognizes that AT also may be included under *Accommodations and Modifications*. For example, a student may be allowed to use an electronic organizer instead of the school-provided assignment notebook for recording assignments, school events and other tasks. In another example, a student may be allowed to use a word processor with speech-to-text features when composing his or her own work for assignments and assessments.

It is important to note that, for a student to use AT in permitted sections of statewide tests, AT must be documented in the accommodations and modifications section of the student's IEP. A description of the need for the accommodation or the use of AT during statewide tests describes which accommodations will be needed for each state assessment and when the accommodations are needed. -A description of the conditions under which an accommodation will be used should be specific. For instance, the use of keyboarding for written assignments may be needed for any assignment more than two sentences in length. In another example, the use of audio files for reading comprehension may be needed when the grade level of the passage is above the student's instructional level. It is not acceptable to say simply that an accommodation is used "as needed."

*Additional Information.* This section of the IEP can be used to document other aspects of the AT and AT services provided to a student. It may include describing when, where and how the student will use a particular piece of AT.

*Support for School Personnel.* Here, information may be included regarding potential training and other supports educational team members may need in order to effectively help the student use AT tools. For example, teachers, paraprofessionals and staff may need training to help them work with a student on how to use an AT device. Support also includes professional learning opportunities that help the staff understand how to maximize the use of the device within the instructional environment.

## Should cost be a factor when considering AT?

With only one exception, cost should not be a factor when considering a potential AT tool or system. The purpose of AT is to provide FAPE. There is, however, wisdom in considering *low-tech* AT tools and systems before *high-tech* AT tools and systems. Low-tech AT tools and systems tend to be easier to use, maintain and replace than their high-tech counterparts. The only time cost may be a factor in an AT consideration is when two equally beneficial AT tools or systems are being considered (i.e., both options provide equivalent compensatory benefit), but one costs more than the other.

## Can parents or guardians request an independent AT evaluation?

Parents always have the right to obtain evaluations, including AT evaluations, of their children at their own expense (34 C.F.R. § 300.502). In addition, under the IDEA Part B procedural safeguards (see 34 C.F.R. § 300.502(b)(1)), "A parent has the right to an independent educational evaluation at public expense if the parent disagrees with an evaluation conducted by the public agency…." (Authority: 20 U.S.C. §1415(b)(1) and (d)(2)(A)). This section of the IDEA implementing regulations applies to AT evaluations as well as to initial evaluations and reevaluations. If a parent requests an independent AT evaluation, a school must either provide the AT evaluation at public expense or request a due process hearing to defend its own evaluation and show that its evaluation was appropriate (34 C.F.R. 300.502(b)). A parent is entitled to only one independent AT evaluation at public expense each time a school conducts an evaluation with which the parent disagrees (34 C.F.R. 300.502(b)(5)).

### What components might be included in an independent AT evaluation?

There is no legal guidance for the content of AT evaluations, nor are there required components. AT evaluations should be highly individualized based on the information sought by the IEP team about the student, the tasks in which the student experiences difficulty and the context in which those tasks are occurring.

Possible components may include:

- *Basic Information* — student name, date of birth, parent or guardian name(s), school, grade and date of assessment

- *Referral Question(s)* — questions that drove the evaluation and answers that were sought

- *Background Related to AT* — summary of previous assessment and performance data, including student's interests

- *Tools and Accommodations Currently in Place* — summary of AT presently used by the student, along with any accommodations

- *Environments and Curriculum Requirements* — summary of environmental variables and curricular tasks in which the student is expected to perform, as well as analysis of environmental variables that serve as potential barriers and curricular tasks in which the student is successful or experiencing difficulty

- *Evaluation of Current Skills* — information on assessments of current relevant functional (e.g., communication, motor, self-care, mobility, vision, hearing) and academic (e.g., reading, writing, math, executive function) skills, along with associated results

- *Assistive Technology Considered* — summary of the processes (e.g., feature match) and trial use data used to match AT tool(s) to the student's compensatory intervention needs

- *Recommendations* — recommended AT and rationale, along with recommendations for moving toward implementation

### Must schools consider parents' AT evaluations?

If parents obtain an AT evaluation at their own expense, or obtain an independent AT evaluation at public expense, schools must consider the results in determining students' FAPE (34 C.F.R. 300.502(c)); however, the IEP team is not required to accept all recommendations of parentally obtained evaluations if they conflict with other factors in the consideration of AT need. For example, a team may decide that a recommendation for daily, one-on-one AAC instruction from a speech-language pathologist would not meet the student's need for use of the AAC system in customary environments. Instead the IEP team may offer a plan to integrate use of the AAC system daily in the classroom.

## How can a team judge the quality of its AT processes?

The processes education agencies use vary widely because of factors such as resources, staff knowledge, geographic makeup and population. The Quality Indicators for Assistive Technology (QIAT) Consortium has developed a set of research-based quality indicators for assistive technology services. QIAT has focused its efforts on defining descriptors that serve as overarching guidelines for quality AT services. These descriptors apply regardless of service delivery models. Indicators related to topics discussed in this chapter—assistive technology consideration, AT assessment and inclusion of AT in the IEP—can be found in Appendix A.

### Summary

Consideration of AT is a collaborative process completed during every IEP. The model for AT consideration addresses many activities from developing IEP goals and objectives to documenting AT in the IEP. It is important for IEP teams to understand the differences between AT consideration, AT assessment and AT evaluation, along with the roles of the parties involved in each. Resources are available to help teams put AT consideration processes in place and to judge the quality of their efforts.

# Chapter 6
# AT Process: Understanding the Educational Agency's Requirement to Provide AT

The IEP team is responsible for determining whether a student needs AT to receive FAPE. Should the team determine that AT is needed, then—in accordance with the "free" provision in FAPE—AT must be provided at no cost to the student or his or her parents. It is important to note, however, that IDEA does not mandate the funding source for the provision of AT, so schools have flexibility in how to meet the mandate.

## Who owns the AT when it is purchased by the school?

AT purchased by a school system is owned by that school system. If a student moves out of the school system that purchased the AT, the AT does not travel with the student to the new school system. Depending on local policies and legislation, the school system that originally purchased the AT may choose to enter into arrangements with the receiving district to purchase the AT.

## Can school-owned AT be used in home settings?

The degree to which the AT is used beyond the school environment is based on a student's IEP and what the IEP team determines is needed for a student to receive FAPE. IDEA 2004 specifically addresses school-owned AT use in home settings:

> *On a case-by-case basis, the use of school-purchased assistive technology devices in a child's home or in other settings is required if the child's IEP Team determines that the child needs access to those devices in order to receive FAPE.* (34 C.F.R. § 300.105(b))

Consequently, school-owned AT should be used in home settings if the IEP team determines such use is required for the student to accomplish IEP goals. The school may set up specific arrangements with the family to address issues of liability and care of the AT, as well as responsibilities of the family (e.g., charging the AT at home so that it is ready for school use). Any home-use agreements or arrangements are specific to individual school systems. These may be vetted by legal counsel to ensure protections for both families and schools.

## Can family insurance be used to pay for AT?

Family insurance policies can be used to pay for AT that the IEP team has identified as necessary for a student to receive FAPE; however, this method of funding must be voluntary and cannot be required by the school. There is some benefit if the family is willing to use its insurance policy for certain kinds of AT. AT that is personal in nature, such as devices for communication devices or mobility, will probably be used in multiple aspects of a student's life, including home and school. If parents use their insurance

policy to fund the AT, then the parents own the AT. As a result, the AT can be used freely in environments other than school. If the student moves out of the school system, he or she can continue to use the AT. Some insurance policies have annual or lifetime caps regarding benefits. These caps may affect the family's decision to use personal insurance.

## What should schools do if a family chooses to purchase AT for use in a child's educational program?

If a family chooses to purchase AT that an IEP team has identified is required for a student to receive FAPE , then the family owns the AT. As with insurance policies, this method of obtaining AT must be voluntary and cannot be required by the school. Nor does family-owned AT dispense with a school's obligation to provide AT devices, services or maintenance to students as part of FAPE. When families own the AT, schools still must ensure that the AT is available for the student's use during the school day. Specific arrangements need to be made to outline the AT's use, obtain permission to use family-owned AT in the school setting, and ensure the maintenance and care of the AT. (A template that districts may elect to use can be found in Appendix B or downloaded from https://qiat.org/resource-bank.html.)

If the personally owned AT that has been included in the IEP becomes damaged and unusable, the school system is responsible to provide an alternative device or make arrangements to repair the personally owned device. Again, the school system has the burden of providing AT that the IEP team has identified as necessary for the student to receive FAPE
(34 C.F.R. § 300.6(c)).

If a family chooses to purchase and provide technology outside the AT consideration process, the IEP team may consider whether the family-owned technology would help the student accomplish IEP goals and achieve FAPE. The team is under no obligation to accept or implement use of technology that would not do so.

## Can a school seek other sources of funding to provide AT devices and services that are part of a student's IEP?

Schools may investigate other funding sources for purchasing AT, including private funding and loan programs through non-profit disability associations. Schools also may consider service organizations within the state and community as possible alternative funding sources. For certain populations of students, such as those with low vision or blindness, schools may seek funding support from governmental programs (e.g., instructional materials centers or federal quota funds), although these funding sources may be limited in scope and availability. School systems may choose to lease AT as well. It is important to note, however, that implementation of the devices and services required in the IEP cannot be delayed while the school system tries to find alternative funding sources.

## Can technologies already in a classroom be used by students as AT?

IDEA does not state that AT must be purchased specifically for an individual student. If a classroom contains a technology tool that an IEP team has identified as AT for a student, then the student may use that classroom technology tool as AT; however, the tool must be accessible so that the student can use it as AT in accordance with his or her IEP. In other words, if a student needs to use a particular tool

during specific times of the day or for certain tasks in order to receive make progress toward educational goals, then the technology needs to be available for the student to use during those times.

## Are schools required to insure the AT provided to a student?

Schools are not required to insure AT, but AT that is included on a school district's equipment inventory may be covered by the district or school's general insurance policy. The insurance company's agent of record should be contacted to confirm that AT devices are insured. In some situations, schools may want to investigate insuring AT over and above existing coverage, for example, if the cost of the device is above the coverage limit. Schools also may want to consider extended warranties for high-cost devices. Again, schools are required to provide AT identified by the IEP team for the student to receive FAPE. Insurance may help the school get a timely replacement if an AT tool or system becomes damaged.

## If AT is repeatedly damaged, how should the district respond?

Ultimately, when an IEP team determines that a student needs AT for purposes of achieving FAPE, the school or district is responsible for ensuring that the AT is provided, in working condition, when it is needed. If AT is damaged at school or in an environment other than school, it is the responsibility of the school or district to make repairs to the AT or provide the same or comparable AT to the student. Repeated damage does not in any way reduce the school's or district's burden to provide access to the needed AT. Schools and districts may apply policies and procedures to recover costs related to such repeated damage in much the same way that costs are recovered for other damaged school-owned materials and equipment. That said, a student's or a family's inability to pay for such damages does not remove the school's or district's responsibility of providing needed AT to a student.

## Are public school districts required to provide AT to students at charter schools or private schools?

AT may be needed by a student who does not attend a school operated by the district where he or she lives. In that case, questions may arise about which agency is responsible to ensure the provision of AT. Table 3 identifies the agency responsible for the provision of FAPE (and AT) based on the student's enrollment.

| Student Placement | Agency Responsible for Provision of AT |
|---|---|
| Charter school under a district | District that authorizes the charter |
| Independent charter school/district | Charter school/district |
| District placed in private school | District that placed the student |
| Parentally placed in private school | No obligation to provide AT |

Table 3: Agency Responsible for Provision of FAPE

### Summary

Schools and districts are responsible for providing AT that a student needs., IDEA does not limit the funding sources that can be used for purchase of AT.Shools are alos responsible for keeping the AT in good repair. While families may choose to purchase an AT device, they are not required to do so.

# Chapter 7
# AT Process: Understanding AT Implementation

Edyburn (1998) described a series of recommended activities to facilitate integrating AT into students' educational programs. Implementation involves:

- ensuring that the technology can be adequately used within the environments in which a student is required to perform
- creating a plan that addresses questions such as where technologies will be located, used and maintained
- making sure teachers, educational staff, the student and his or her family all have sufficient training, knowledge and skills to operate and troubleshoot problems with the AT
- developing AT contingency plans to ensure that a student has access to the AT tool or system identified by the IEP team, even if the primary AT tool or system malfunctions

## Who is responsible for implementation of AT?

Ensuring implementation of the AT as described in the IEP is the responsibility of the entire IEP team; however, an IEP goal or objective that includes an AT device or service should specify the person responsible for implementing that goal.

## Process for AT implementation planning

AT implementation planning is both purposeful and well thought out, as shown on the following form.

**Assistive Technology Implementation Plan**

`<your logo/name here>`

Student Name: _____ Grade: _____ DOB: _____ Date Plan Written: _____

School: _____ District: _____ Plan Review Date: _____

| Tasks | Tools/Strategies | Where is it used? | Additional Comments (e.g., set up needs, supervision level, restrictions, etc.) | Related IEP Goal(s) |
|---|---|---|---|---|
| Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Team Members

| Name | Role | Contact Info (i.e., phone & email) | | Name | Role | Contact Info (i.e., phone & email) |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Other Considerations

Page ___ of ____

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Student Name: _____ Date Plan Written: _____

**«Tool»**

| Manufacturer | Model Number | Serial Number | Version | Installation Code | Warranty |
|---|---|---|---|---|---|
| Purchase Date | Purchaser | Owner | Purchased From | Cost | |

Routine Maintenance Ⓕ

| What needs to be maintained (e.g., batteries, ink, charging)? | Responsible Team Member | Team Member to Contact for Training | Team Member to Contact for Customization |
|---|---|---|---|

Repairs Ⓖ

| Team Member to Coordinate Repair | Repair Contact Info (e.g., manufacturer or reseller) | Funding Source for Repairs |
|---|---|---|

Contingency Plan (Short Term and Long Term)

**«Tool»**

| Manufacturer | Model Number | Serial Number | Version | Installation Code | Warranty |
|---|---|---|---|---|---|
| Purchase Date | Purchaser | Owner | Purchased From | Cost | |

Routine Maintenance

| What needs to be maintained (e.g., batteries, ink, charging)? | Responsible Team Member | Team Member to Contact for Training | Team Member to Contact for Customization |
|---|---|---|---|

Repairs

| Team Member to Coordinate Repair | Repair Contact Info (e.g., manufacturer or reseller) | Funding Source for Repairs |
|---|---|---|

Contingency Plan (Short Term and Long Term)

Page ___ of ____

**Figure 4. AT Implementation Sample Form**

**(A) Tasks**

When planning the implementation of AT, it is important to identify the specific tasks for which the student will use an AT tool or system. For example, a task may be "reading textbook information" or "sitting at desk." By identifying the tasks for which AT will be used, the question of *when* the student will use the AT is addressed from the start.

**(B) Tools/Strategies**

It is then helpful to identify the specific AT tools or systems the student will use on each task. Being specific provides clarity on the strategic use of AT. Strategies associated with specific AT tools or systems (e.g., a least-to-most prompting strategy for a student using a particular communication device) also are identified. A clear picture of *how* AT tools and strategies are used helps every team member understand the plan for the student.

**(C) Where is it used?**

The environments *where* AT tools or systems are used should be identified. An environmental scan also includes items such as the location of the device when the student is using it, power sources,   and the method by which the AT tools or systems will be transported to different settings(e.g., whether the AT will be carried by the student or transported by a staff member).

**(D) Additional Comments**

Schools should note plans for training and protocols for AT use. Training could include the student, teachers, therapists, paraprofessionals, family members and any other individuals who are working with the student. As part of the *Supports for Staff* section of the IEP, schools could detail who will be trained on what content as well as the timelines for training. Protocols for AT use help individuals working with the student understand how he or she uses the AT tools and systems. For example, to effectively use a switch to access a computer, a student may need to have the switch located at a specific access site (e.g., head, elbow or right side of wheelchair tray). Issues regarding electricity needs for the device also might be articulated (e.g., location of batteries or times at which device will be charged).

**(E) Related IEP Goal(s)**

AT tools and systems have direct ties to the goals and objectives on a student's IEP. For more information on how AT interrelates with IEP goals, see the sections on *Develop IEP goals and objectives* and *How is AT documented in a student's IEP?*

**(F) Routine Maintenance, Training and Customization**

AT tools and systems require routine maintenance, which may include battery replacement, charging, cleaning and adjusting specific aspects of a device. An implementation plan should note what components of an AT tool or system need to be maintained. In addition, any new personnel who work with eligible students will need training. It is important to identify a contact person who can provide the necessary training on the AT tool or system. Finally, AT tools and systems often have to be customized to meet a student's individual needs. A person or a team can be appointed as the responsible party for handling any customization. For more information on customization, see *What does customization of AT mean?*

**Ⓖ Repairs and Contingency Planning**

Any technology system is bound to malfunction from time to time, despite routine maintenance. To expedite the repair process, schools can note information about repairs (e.g., whom to contact for repairs and how repairs will be funded) in an implementation plan. Because any AT tool or system identified on a student's IEP should be provided at all times when the student needs it, schools should consider developing a contingency plan in the event the primary AT tool or system malfunctions. The contingency plan stipulates how the student will be provided with a temporary replacement while the primary AT tool or system is being repaired.

## What training needs to be provided to implement AT effectively?

IDEA identifies training as a component of AT services to be provided to a student. The student may need to be trained on how to use the AT. So may all personnel who may work with the student while he or she is using an AT tool or system. Training includes:

- how to use the AT tool or system (e.g., building operational competence)
- any protocols that have been developed to specify how the student uses the AT tool or system, or how the AT tool or system will be set up for student use
- any prompting or cuing systems to be used with the student
- ways of troubleshooting and problem-solving any common issues with the AT tool or system

A training plan indicates who will be trained, on what content each person will be trained, and timelines to train each person.

## What does 'customization of AT' mean?

Customization refers to the process by which an AT tool or system is modified or adapted to meet a student's individual needs. An AT tool or system may be customized to allow the student better access to operate it, modify the functionality to better match the task in which the student will use it, or even change the appearance of the AT to increase the student's motivation to use it or decrease sensory defensiveness.

## Can AT be used on statewide assessments?

Use of AT tools and systems may be permitted on statewide assessments; however, the AT must be appropriately documented in the student's IEP. The IEP must specifically state that the student requires a particular AT tool or system during state or district assessments and explain how the AT tool or system will be used. Because of established protocols that affect assessment reliability and validity, not all AT tools or systems may be used on every component of an assessment. It is important to read the sections on accommodations in the administrator's manual for the assessment to determine what AT tools or systems may be used in each assessment component. In Illinois, information on accommodation procedures for statewide testing may be found at:

- Illinois Assessment of Readiness — https://www.isbe.net/Pages/IAR.aspx
- Illinois Science Assessment — https://www.isbe.net/Pages/Illinois-Science-Assessment.aspx
- SAT, PSAT 10 and PSAT 8/9L — https://www.isbe.net/Pages/sat-psat.aspx
- Dynamic Learning Maps Alternate Assessment — https://www.isbe.net/Pages/DLM-AA.aspx

## How can a team judge the quality of its AT implementation?

The processes that education agencies use when IEP teams implement an assistive technology program for a student may vary widely because of resources, staff knowledge, geographic makeup and population. The Quality Indicators for Assistive Technology Consortium (QIAT 2015) has developed a list of research-based quality indicators for AT Implementation. QIAT has defined a set of descriptors that serve as overarching guidelines for quality AT implementation, and the descriptors apply regardless of service delivery models. The indicators for effective assistive technology implementation include:

| | |
|---|---|
| Collaborative plan development | Training |
| Integration into curriculum and activities | Data-based |
| Shared responsibility | Equipment management and |
| Multiple strategies | maintenance |

The full text of the implementation indicators is included in Appendix A.

### Summary

The entire IEP team is responsible for ensuring that students can use AT where required, making the AT available and maintaining it, ensuring that those involved can operate and troubleshoot the AT, and developing backup plans for malfunctions. A sample planning document in this chapter guides teams through the process. A set of quality indicators in Appendix A helps teams judge their success.

# Chapter 8
# AT Process: Understanding Continuous Progress Monitoring of AT Use

AT, like any other intervention, must be monitored to ensure that the intervention is working in the way it is intended. The goal in reviewing the performance of a student using AT is to determine whether the AT still meets the student's needs and whether it continues to be needed for FAPE. Data about the effectiveness of the student's AT use are reviewed at least annually during the IEP meeting, and performance data are collected as indicated in IEP goals.

## What is involved in progress monitoring for AT?

Progress monitoring of a student's AT use includes data collection, documentation and analysis. The information gathered helps to monitor changes in student performance resulting from the implementation of assistive technology devices and services. Student performance is reviewed to identify if, when or where modifications and revisions to the implementation plan are needed. Evaluating the effectiveness of AT use is a dynamic, responsive, ongoing process in which scheduled data collection occurs over time and reflects measurement strategies appropriate to the individual student's needs.

Data are collected on specific student achievement goals that have been identified by the team. These might include the student's use of assistive technology to make progress toward IEP and curricular goals or increased participation in extracurricular activities at school and in other environments. To guide decision-making, teams regularly analyze data on multiple factors that may influence success or lead to errors and guide decision-making. Progress monitoring gives teams a way to analyze student achievement, identify supports and barriers that influence AT use, and determine what changes, if any, are needed.

Performance changes targeted for data collection are observable and measurable, so that data are as objective as possible. Among the changes identified by the IEP team for evaluation are accomplishment of relevant tasks; how AT is used; student preferences, productivity, participation and independence; quality of work; speed and accuracy of performance; and student satisfaction. For each environment where the AT is to be used, relevant tasks are identified, and data needed and procedures for collecting those data are determined.

## What are the potential outcomes of progress monitoring of AT use?

There are three primary outcomes related to performance monitoring of AT use:

1. AT is working and continues to be needed
2. AT is not working but continues to be needed
3. AT is no longer needed

Using a Time Series Concurrent and Differential Approach (TSCD) (Smith, 2000) may assist teams in collecting and analyzing data to determine tool effectiveness during AT trials. It may also be helpful to graph the information and analyze it visually. For example, the graphs below represent the data collected by using the TSCD approach. The dashed line represents the student's performance using AT on a task. The dotted line represents the student's performance on the same task, not using AT. Finally, the solid line represents the goal or the expected performance on the task. Note that there is a significant shift in performance when the student is using AT to perform the task. Across time, the student is able to approximate the performance expectations for the task while using AT; however, the data show the student is unable to meet the expected performance of the task while not using AT. This scenario indicates that the current AT tool or system is working for and continues to be needed by the student.
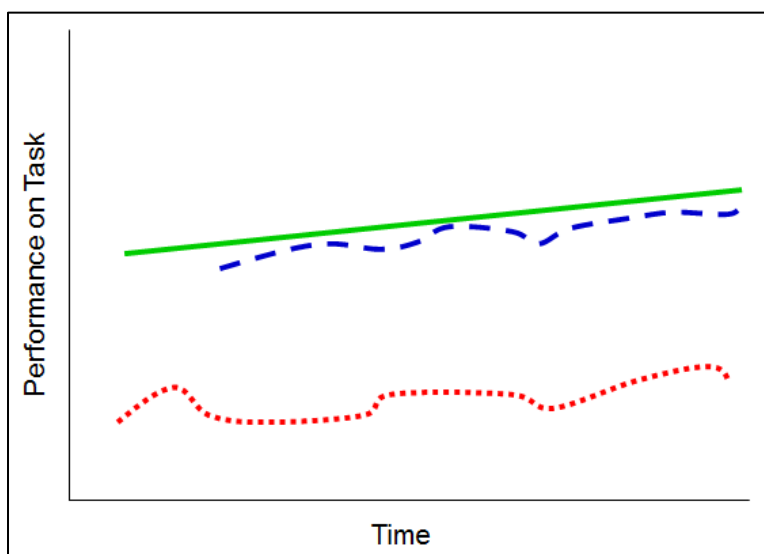


**Figure 5. Example Depicting Performance with and without AT**

Conversely, the following scenarios indicate that, while AT is still needed by the student, the AT tool or system is not working or is not providing sufficient compensatory benefit to the student to meet the expectations set for the task.

In the first scenario, over time, the expected performance on the task begins to outpace the compensatory benefit offered by the AT tool or system. In this scenario, a gap remains between the student's performance without the AT and the expected performance on the task. While AT is still needed, the current AT tool or system is not working for the student.

In the second scenario, the AT tool or system loses effectiveness in providing sufficient compensatory benefit to the student. As a result, the student's performance on the task diminishes. Again, there is a significant gap between the expected performance on the task and the student's performance while not using AT. The student still needs AT, but the current AT tool or system has lost its effectiveness. Perhaps there was a change in the student's medical condition or a new classroom environment that altered the effectiveness of the current AT tool or system. A determination would need to be made to identify the

reason the AT tool or system is no longer effective for the student on this task and new AT tool or system may need to be considered for the student.
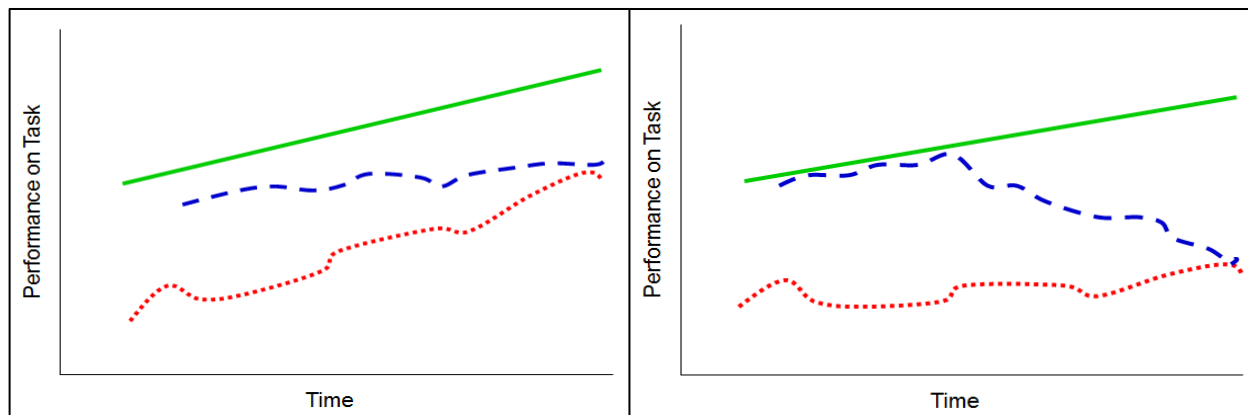


Figure 6. Example Depicting Scenarios in Which AT Is No Longer Effective

Finally, the following scenario demonstrates a situation in which the student's performance without an AT tool or system increases to the point that the student can meet the expectations set for the task without it. In this scenario, the student no longer needs the AT tool or system to perform the task in the way that it is expected.
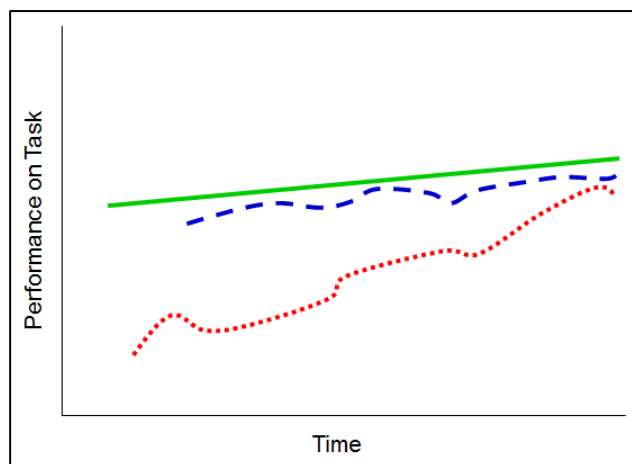


Figure 7. Example Depicting When AT Is No Longer Needed

## Summary

Monitoring the impact of AT on student performance allows the IEP team to determine whether AT is working and continues to be needed, AT is not working but continues to be needed, or AT is no longer needed. The Quality Indicators for Assistive Technology (QIAT) Consortium has developed research-based indicators to evaluate AT effectiveness. The full text is in Appendix A.

# Chapter 9
# Understanding AT Services in the
# Context of Transitions

In IDEA Part B, the term "transition services" means a coordinated set of activities for a child with a disability that is

- *designed to be within a results-oriented process that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities, including postsecondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, and community participation*
- *is based on the individual child's needs, taking into account the child's strengths, preferences, and interests*
- *includes instruction, related services, community experiences, the development of employment and other post-school adult living objectives, and, if appropriate, acquisition of daily living skills and functional vocational evaluation (*34 C.F.R.§300.43)

The word, transition, has several meanings within the context of AT services. Transition may often refer to the IDEA-mandated processes for post-school transitions discussed above. However, a transition that includes AT may also mean a change of placement or location such as the transition from one classroom to another or the transition from one school to another such as from elementary school to middle school. Regardless of the type of transition that a student with a disability will experience, advanced planning that addresses the AT needs of the student in a new environment is valuable. The processes and strategies discussed in this chapter are generally appropriate for any type of transition for AT users at any age.

## What AT and AT services components are important to address during a student's transition?
As transitions approach, IEP teams for students who use AT consider the impact of those transitions on the students' future needs for AT and AT services. A plan is developed to ensure that the AT each student has been using successfully, along with associated AT services, will continue to be provided within the new placement. The plan also addresses new functional activities in which the student will engage that may necessitate a change in the system of AT and AT services. AT transition planning requires coordination between the current and future placements. Discussions between each placement's support team, the student and the student's family help ensure continuity of AT use between the placements.

Transition planning for AT may include:

- training provided by the previous placement to the receiving placement
- transfer of AT equipment from one placement to the next
- purchase of new AT equipment for the receiving environment
- identification of and planning for providing specific AT services to the student at the receiving placement

Part of transition planning involves helping the student get ready for a new environment. New AT, training and specific supports may be added to the current IEP or to the IEP for the new placement. For example, if a student has a transition plan that focuses on entering a specific area of employment, training on the use of AT in the work setting may be needed to facilitate the student's success. Different support would be needed for a student with a disability affecting the ability to remember a series of steps needed to complete cooking or cleaning tasks at home. In that case, it could be appropriate to provide visual prompting AT, such as a flipbook of pictures associated with each step of the task, or an app that provides a visual and auditory cue for each step. AT of that nature would increase the accuracy of the task completion.

## How are transitions that include AT addressed in an IEP?

Transition services may be considered *special education* if provided as specially designed instruction, or a *related service* if required to assist a child with a disability to benefit from special education.

Project Tech Trans (Fried-Oken, Bersani, Anctil and Bowser, 1998) investigated critical features of an educational program that help students experience continuity of AT use during transitions. The research indicates that students who have the right skills and supports during transitions are more likely to continue using their AT after transitions occur. Comprehensive postsecondary transition plans that include specific details for the use of AT can help students become successful adults who use AT, are able to advocate for themselves and have skills that allow them to be, to the best of their ability, independent in their AT use. A paradigm, developed by Light, Beukelman and Reichle (2003) and adapted by Bowser and Castillani (2006), describes the types of skills a person who uses AT might need to be competent and independent. Based on this paradigm, introduced in Chapter 5, transition skill areas in the IEP could include:

- *Operational skills* — knowledge of how to make the technology work
- *Functional skills* — use of AT to improve performance in the functional area for which the AT was chosen
- *Social skills* — skills related to self-determination and self-advocacy such as choice-making, decision-making, problem-solving, goal-setting and -attainment, self-regulation/self-management, and self-advocacy and leadership (Wehmeyer, 2007)
- *Strategic skills* — ability to choose the right tool for a specific task and environment

## Can a student take school-provided AT to a new placement?

AT that has been purchased by a public agency for student use remains the property of the agency when the student makes a transition. Agency policy would determine whether the student can take a device to a new placement operated by the agency. If the transfer is to a new program (e.g., preschool to kindergarten) or to a different district, the device may stay with the agency that made the initial purchase. For this reason, it is important for the IEP team to determine what AT the student will need in new environments and how it will be provided.

## What AT and AT service components are important to address in transitions from one educational placement to another?

It is important to address both AT devices and AT services when a student is changing placements from one public education agency to another. The first consideration is the provision of ongoing AT and AT services. As stated earlier, AT purchased for a student by one agency remains the property of that agency if the student moves to a different agency placement. In implementing the student's IEP, the receiving agency may need to acquire that technology, or complete an assessment to determine whether that AT is appropriate to the new setting or should be changed. The receiving agency may conduct a new AT assessment to make this determination. Such an assessment also addresses the need for AT supports and services for the student and professionals in the new environment.

## What AT and AT service components are important to address when preparing for postsecondary transitions?

The use of AT is regarded as a factor in the successful transition of students as they move beyond K–12 education (Asselin, 2014; E. C. Bouck. C., ed., (2016); E. C. Bouck, Maeda and Flanagan, 2012; Targett, Wehman, West, Dillard and Cifu, 2013). There is a significant difference, though, between school-to-school transitions and the transition from school to community placements.

IDEA mandates postsecondary goals and outcomes for transition planning, including employment, education and/or training, and independent living. When a student leaves the public school setting, however, the *protections* of IDEA no longer apply, meaning less oversight. For students who successfully use AT in secondary school, it is important for the IEP team to identify what kinds of supports and services will be needed and how they will be provided to help realize these post-school goals and outcomes.

Individuals with disabilities who use AT in post-school settings must be able to describe the AT they need, request the support services they need and use their AT as independently as possible. If individuals who use AT are unable to advocate for and request their own AT and AT services, they will need an advocate who understands the AT and can ensure continuity of use after the student leaves the public school setting. Planning for this kind of advocacy and support is most effective when it begins as soon as a transition plan is developed for the student at age 14½.

Take, for example, a student with difficulty decoding text who has a transition plan focusing on entering postsecondary education. Text-to-speech technology may be provided as AT along with supporting AT

services to prepare the student to tackle the reading demands of postsecondary education. Specific plans need to be made to ensure that the student has access to appropriate AT within that environment.

Strategies also could be developed to help empower students to advocate for themselves with regard to the use of AT within post-school settings. Transition planning goals could specifically address appropriate AT and AT services that are needed within K–12 education and set the stage for ongoing AT use within post-school settings.

## How can IEP teams document AT services and devices in a student's post-secondary transition plan and Summary of Performance?

In the post-secondary transition plan, AT can be noted in the *Post-Secondary Outcomes* areas if the AT would *assist* the student in completing job tasks or communication. AT also can be noted in the *Transition Services* section if the student *requires* the AT to perform job-related skills or communicate. The Summary of Performance (SoP) should describe the student's academic and functional performance, and whether AT devices and/or services were used. Any continued need for AT services or accommodations also could be noted in the SoP.

## Can AT be transferred to a student upon graduation or transition to another placement?

It may be possible for AT to be transferred to a student who is graduating or transitioning to another placement. Models have been proposed and used to allow a student or a student's family to purchase AT from a school system or receive placement at a depreciated value; however, these models are subject to state and local policies regarding disposition of school-owned equipment. As these policies vary widely, it is difficult to provide blanket guidance on this issue.

## How can a team judge the quality of its AT transition planning?

Many factors can be addressed during a transition-planning process for student who uses AT. The QIAT Leadership Team (2015) has developed a list of research-based quality indicators for AT transitions. The indicators related to AT transitions can be found in Appendix B.

A sample planning worksheet from the QIAT Leadership Team (2013) also is included in Appendix B and can be retrieved at https://qiat.org/docs/resources/Transition_Planning_Worksheet.pdf.

### Summary

Transition can mean moving from one classroom to another. It can mean changing schools, as from elementary to middle school. It also can mean preparing to enter a world of employment, postsecondary education or training, and independent living. Transition services help students gain the operational, functional, social and strategic skills to use AT effectively in a new setting.

# Chapter 10
# Creating an Infrastructure that Supports Effective AT Services

Previous chapters of this guide have identified the legal and procedural requirements for an agency to provide assistive technology devices and services to all students who receive specially designed instruction and need AT to benefit from their educational program. Much of the guidance has been directed to the specific actions an IEP team would take to meet the needs of an individual student. Agencies providing AT services that are equitable, effective and efficient for all students offer guidance for their staff about how AT services are developed and managed. The purpose of this section is to describe the components of an infrastructure that supports effective AT services.

> *Productive schools exhibit a high degree of consistency where staff members use well-understood policies to guide the daily operation. Members of a well-managed organization should expect that routine matters will be dealt with in fair and consistent ways so that the other aspects can be addressed to improve the performance of all students (Ubben & Hughes, 1997).*

## What are the components of an infrastructure that supports high-quality AT services?

In an international synthesis of research about successful school leadership, Leithwood, Harris and Hopkins (2008) noted that almost all successful leaders draw on the same set of basic leadership practices. They organized these into four categories:

1. Building vision and setting directions
2. Managing the program
3. Understanding and developing individuals
4. Redesigning the organization

Each aspect of successful leadership can help administrators and AT leaders identify critical issues and specific actions that help to define and improve the way AT devices and services are provided.

## What actions can be taken to build vision and set direction for an AT program?

To ensure quality and consistency of AT services, agencies can help stakeholders develop a vision for what AT services should be in their setting. When agencies include teachers and other stakeholders in developing a shared vision and goals for reaching the vision, their actions give meaning, common purpose, challenge and motivation to everyone involved (Marzano, Waters and McNulty, 2005; Schmoker 1999).

A shared vision of the ways AT contributes to student performance describes AT's contribution to school improvement as well as individual student progress. Wide dissemination of the agency's approach to AT

services also confirms that AT for all students who need it is an agency priority. AT does not have to be viewed as a separate issue for individual students but can be folded into overall school efforts. Just as the full use of instructional technology by teachers and students is achieved only through the support and vision of technology-savvy administrators (ISTE, n.d.), the full use of AT is achieved only with that same support and vision.

In preparing to develop a vision for the agency, administrators and AT leaders might develop a set of questions such as these to help them gather information and data about the state of AT services.

### Questions about students' use of AT
- Which of our students currently use AT?
- What types of AT do they use?
- What percentage of students with disabilities have AT?
- Are there students who could benefit from AT for whom it has not been made available?

### Questions about staff members' knowledge about and use of AT
- Do teachers know what AT is available?
- Do they know how to request it?
- Do teachers or other staff need training about AT to be active participants in AT consideration during the IEP?
- Do they need training to use AT in their practice?

### Questions about agency or district resources
- Where might training be obtained?
- Is there an AT team?
- Is there a need to develop an AT team?
- If an AT team is required, what role should that team play (i.e., should members directly assess students and make recommendations, or should they focus on building the capacity of all teachers, therapists and assistants to provide these services)?

Questions like these can begin to provide a vision for the use of AT throughout the agency and help it focus the discussion of what an effective service design for the agency would look like.

## What aspects of managing a program can be applied to an AT infrastructure?
IEP teams need a way of approaching AT that can apply to every student. If each student's team uses a different decision-making process, inconsistent AT services and unequal treatment of students can result. Agencies can prevent difficult situations by developing procedures and operating guidelines for AT services to guide the actions of individual staff members and teams. These guidelines should address the following areas.

### Operating guidelines
Operating guidelines and policies identify the actions people should take in response to predictable and recurring events that concern AT. Guidelines can delegate specific tasks to team members and help to clarify roles. When educational agencies have operating guidelines for AT, more time is available for

people knowledgeable about AT to handle unusual or unpredictable problems that may require individual attention (Ubben and Hughes, 1997, Leithwood et al., 2008).

Operating guidelines also make it less likely that there will be conflict about AT decisions and implementation. When every member of an IEP or Individualized Family Service Plan (IFSP) team has a clear picture of what will be done for a student, as well as how and when it will be done, it is easier to track progress, identify implementation strategies and put them in place.

## Resource management

While it is important to make sure a program has sufficient guidelines and resources, it is also the agency's responsibility to ensure that the program uses those resources wisely. Efficiently managed AT programs have little duplication of costs and services. When AT budgeting is integrated into the agency's general budgeting and planning process, there are many opportunities to ensure efficiency. For instance, in some areas budgets for AT and AT services have been integrated with information technology (IT) budgets. This kind of integration can result in less duplication of purchases and more efficient use of resources.

A component of providing effective AT services is having access to a technology infrastructure that allows IEP teams to test and effectively implement an array of AT tools with students with disabilities. AT tools cannot be considered completely in the abstract for a student. Students should be allowed to try an AT tool, and IEP teams should collect data to determine the extent to which that tool meets the student's needs. It is imperative that schools establish a system that allows IEP teams to have ready access to potential AT tools.

## AT device infrastructure

There are four common strategies for building a technology infrastructure in school systems. These strategies may be used in isolation or in concert with each other. Descriptions of these strategies follow.

### Accessing and leveraging state and regional resources

Illinois has two major loan options for acquiring AT tools. The first option is provided through the Illinois Assistive Technology Program (IATP), funded by an ISBE grant (www.iltech.org). IATP provides access to a variety of AT tools at no cost to school systems. School systems may borrow AT tools for up to five weeks. The second loan option is provided through Infinitec. Infinitec offers a rental loan library to school systems that are members of the Infinitec Coalition. Items may be rented at a monthly rate, based on the purchase cost of a particular device, that can be applied toward purchase.

Some Illinois school systems report engaging in regional partnerships to leverage local technology resources. For example, one set of school systems reported setting up a regional agreement to create an inventory database of AT tools owned by each of the partnering systems. Each partner could borrow AT tools from other partners, provided that the particular AT tools were not currently in use by the primary partner. This agreement gives the school systems access to a greater variety of AT tools. It is advisable to put any such agreement to

writing, including length of time for the technology loans, and responsibility for wear and tear and damage to the AT.

*Working with vendors*

School systems also report working with vendors who either manufacture AT tools or are resellers of AT tools. Depending on the vendor, school systems can borrow AT tools for extended trial periods or rent the AT tools on a short-term basis. This approach allows school systems to have relatively quick access to AT tools without a large initial outlay of money.

*Purchasing in bulk to provide large-scale access*

Finkel (2012) pointed out that purchasing in bulk units allows school systems to deploy technologies to a greater number of students at a reduced cost per unit. In addition, Finkel commented that school systems lacking the ability to engage in bulk purchases may network with other school systems to increase their purchasing power. Bulk purchasing allows AT tools and software licenses to be widely available within a school system, and offers immediate access to AT tools for consideration. In some cases, the strategy may provide supports for all students, moving toward Universal Design for Learning. Infinitec provides a discounted bulk purchase program for Infinitec Coalition districts.

*Building a local AT library*

Finally, some school systems use local funds, donations and grants to establish and build their own local library of AT tools. With this library, IEP teams reported having more immediate access to potential AT tools for consideration, as well as backup options should students' primary AT tools need repair.

## What aspects of developing individual educators can be applied to an AT infrastructure?

Helping educators understand AT and develop AT skills can occur in different ways. AT knowledge can be part of both hiring and ongoing training of staff. Agencies recruit staff members who are qualified to provide AT services and to ensure that the AT services provided are legal and ethical. Agencies also help create a positive learning environment that supports and expects functional and effective AT use as part of a high-quality education for students with disabilities (Bowser and Reed, 2018). AT training needed by educators and staff to assist specific students should be discussed and noted in the student IEP under the *Supports for School Personnel* section.

Supervision activities present a significant opportunity to affect the quality of AT services by:

- recruiting individuals with knowledge about technology, including AT;
- hiring highly qualified staff experienced with all types of technology, including AT where possible;
- making the staff member's work with students who use AT a focus of staff observations;
- ensuring that staff evaluation forms include criteria about the responsibility to understand AT and support its use by students;
- helping individual staff members work together as teams to support students using AT;

- encouraging collaboration and cooperation among all staff in supporting students who use AT; and
- fostering a positive and productive climate for the use of AT and learning (Bowser and Reed, p. 49).

## Professional development to ensure effective AT services

Professional development to ensure effective AT services involves an array of activities that are grounded in practices of quality professional development for education professionals. By its nature, professional development should allow education professionals to not only develop an awareness of potential AT tools and services but also learn to use those tools effectively with students with disabilities in educational settings.

When AT services are effective, it is largely because those who are involved in providing them have the knowledge and skills necessary to do their job. Wojcik (2011) found that individuals engaged in providing AT services often reported they had no formal AT training but developed their knowledge and skills through a combination of on-the-job trial and error, workshops, webinars and conferences. Their experiences often related directly to the students with whom the individuals worked. Professional development experiences should be strategically designed to allow individuals to develop the knowledge and skills they need to provide effective AT services to the students with whom they work. In that way, school systems build the capacity for providing effective AT services.

Infinitec, an ISBE grant-funded service, provides online and in-person foundational and intensive trainings for AT services state-wide (www.at4il.org).
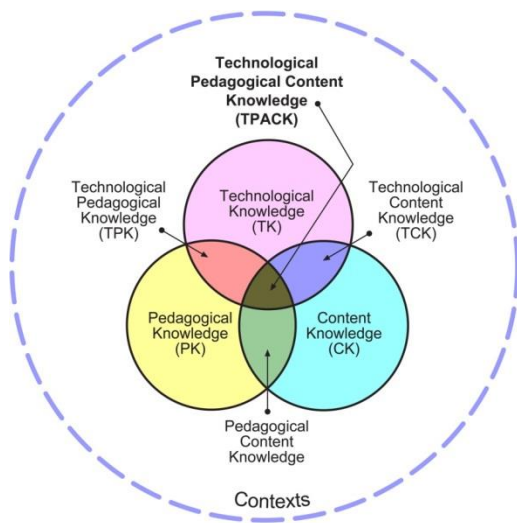


**Figure 8. Technological Pedagogical Content Knowledge Model (TPACK; Mishra and Koehler, 2006), reprinted with permission from http://tpack.org**

### TPACK Model for AT Professional Development

Mishra and Koehler (2006) introduced a model referred to as the Technological Pedagogical Content Knowledge Model or TPACK. The model illustrates the types of knowledge by education professionals that are required for effective technology integration.

In looking at the TPACK model, the components directly involving and overlapping with technology knowledge (TK) can be used as a lens when developing professional development experiences for education professionals. Figure 8 explains specific TK-related components of the model and connects them to the development of the knowledge and skills necessary to provide effective AT services.

| | TPACK Area | What it Means | What is Means for AT Services | Ways to Develop Knowledge Area |
|---|---|---|---|---|
| Basic ----> | Technology Knowledge (TK) | Education professionals can operate the technology and use a majority of the features. | Education professionals develop operational competence in an AT tool or a set of AT tools. | Focused workshops on learning how to use tools, webinars, just in time videos and quick tip sheets |
| | Technological Content Knowledge (TCK) | Education professionals can use the technology within the context of a particular curricular task and/or content area. They understand the manner in which the subject matter can be changed by the application of technology. | Education professionals can use AT tools as a means to increase performance on curricular tasks by providing compensatory benefit. Education professionals also understand how the use of AT tools may alter how students access and engage in learning within different content areas. | Modeling and demonstration workshops, webinars, and quick tip sheets. |
| | Technological Pedagogical Knowledge (TPK) | Education professionals understand how to teach students to effectively use the technology and understand how the use of the technology may change how the content is taught or how the task is accomplished. | Education professionals develop strategies to help students become effective users of AT tools. They also understand how instruction may need to be altered to allow students to progress in the curriculum while using AT tools. | Developing learning communities focused around case studies, collaborative learning, and problem-based learning. Development of online PLNs. |
| Advanced <---- | Technological Pedagogical Content Knowledge (TPACK) | Education professionals make decisions about selecting technology based on the technology characteristics (TK), the task (TCK), and the context (TPK). | Education professionals select appropriate AT tools based on the needs of the student, the context in which the AT tools may be used, and the curricular tasks for which the AT tools may be providing compensatory benefit. | Development of communities of practice and online PLNs. |

**Figure 9. Application of TPACK Framework to AT Professional Development**

## What aspects of redesigning the organization can be applied to an AT infrastructure?

Agencies that have a vision of high-quality AT use and the AT needs of their students can integrate and improve those services as they develop budgets, set educational priorities and address district goals. For example, AT needs can be addressed in district or building technology plans and in the development of technology grants. As agencies look for opportunities to enhance AT services, they also can examine school improvement initiatives to determine how the use of AT might contribute to achieving agency-wide goals.

Improvements to the way AT services are delivered may be undertaken as part of a larger agency-wide improvement effort or based on information gathered from self-assessments and surveys of consumers or AT providers. Program improvement entails change. When a significant program change is desired, agencies can convene a group of concerned individuals and make it possible for that group's members to participate in the decision-making, planning and implementation of program development and improvement activities.

Technology administrators and leaders are essential members in building a technology infrastructure that supports effective AT services. Brody (2004) and Wojcik (2011) indicated that decisions regarding AT tools and related issues often are not made in conjunction with the local technology administrators and support staff. Consequently, technology administrators may be unaware of the school's AT needs or may put policies in place that make the implementation of AT tools more difficult. Brody (2004) pointed out that a lack of coordination between those who work with AT and the technology administrators may result in missed opportunities to address the needs of students with disabilities within the technology infrastructures of school systems. Several Illinois school systems reported either engaging in frequent conversations with technology administrators and support staff regarding the technology issues related to AT services, or becoming members of the technology support team to directly address such issues.

## What should school systems do to plan for ensuring effective AT services?

Each school system is required to file a technology plan to meet requirements of certain technology-related funding programs. These technology plans serve as a means for guiding the development, revision and maintenance of technology infrastructures within school systems. Hasselbring and Bottge (2000) indicated that school system technology plans should proactively and overtly plan for addressing issues related to using technology with students with disabilities. Hasselbring and Bottge (2000) encouraged school systems to conduct needs assessments to identify the issues around using technologies with students with disabilities. The school systems were then urged to proactively incorporate strategies within agency technology plans to address the issues.

It is important to note, however, that public funds obtained to support the implementation of these plans cannot be used conjointly with IDEA funds to provide AT to individual students.

Any plan, once implemented, needs to be evaluated to determine the degree of effectiveness within a school system. Evaluation should be periodic and regular. Quality Indicators for Assistive Technology Services (QIAT, 2015) provides guidance to school systems on recommended practices regarding AT services. Using these indicators, the QIAT Consortium developed a series of self-evaluation matrices, and an associated score sheet, that school systems can use to evaluate their AT services and support.

Specifically, the QIAT matrices focus on:

| | |
|---|---|
| Consideration of AT needs | Evaluation of effectiveness of AT |
| Assessment of AT needs | AT transition |
| Inclusion of AT in the IEP | Administrative support for AT services |
| AT implementation | Professional development and training in AT |

These resources are available online at:

- Self-Evaluation Matrices
  http://natri.uky.edu/assoc_projects/qiat/documents/QIATMatricesUpdated2011.pdf
- Score Sheet
  http://natri.uky.edu/assoc_projects/qiat/documents/QIAT_Matrix_Score5-08.pdf

### Summary

No IEP team operates in a vacuum. Instead, teams need an infrastructure that supports effective AT services. By gathering information about the state of AT services, developing staff and connecting with others in the school system, teams can make AT services better for students and schools alike.

# Appendices

# Appendix A:

Quality Indicators for Assistive Technology

Quality Indicators for Assistive Technology Within 504 Plans
(QIAT-504)

# Quality Indicators for Assistive Technology

## Quality Indicators for Consideration of Assistive Technology Needs

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

1. **Assistive technology devices and services are <u>considered for all students with disabilities</u> 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 <u>collaborative decision-making process</u> 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 <u>collective knowledge and skills</u> 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 <u>based on the student's IEP goals and objectives, access to curricular and extracurricular activities, and progress in the general education curriculum.</u>**

   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 <u>gathers and analyzes data</u> 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 <u>explores a range</u> 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 <u>results are documented in the IEP</u> 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.


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 of Assistive Technology Needs

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

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

   <u>Intent:</u> 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 <u>team with the collective knowledge and skills needed</u> 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.**

   <u>Intent:</u> 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 <u>customary environments</u>, such as the classroom, lunchroom, playground, home, community setting, or work place.**

   <u>Intent:</u> 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 <u>reasonable time lines</u>.**

   <u>Intent:</u> 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 <u>based on data</u> about the student, environments and tasks.**

   <u>Intent:</u> 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 <u>documented recommendations</u> that guide decisions about the selection, acquisition, and use of assistive technology devices and services.**

   <u>Intent:</u> 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 <u>reassessed</u> 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.**

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

COMMON ERRORS:

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

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

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

   <u>Intent</u>: 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 <u>services</u> that the IEP team determines are needed to support the selection, acquisition, and use of assistive technology devices are designated in the IEP.**

   <u>Intent</u>: 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 <u>tool to support achievement of goals</u> 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.**

   <u>Intent</u>: 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 <u>measurable and observable outcomes</u>.**

   <u>Intent</u>: 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 <u>clear and complete description</u> of the devices and services to be provided and used to address student needs and achieve expected results.**

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

COMMON ERRORS:

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

## Quality Indicators for Assistive Technology Implementation

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

1. **Assistive technology implementation proceeds according to a <u>collaboratively developed plan</u>.**

   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 <u>integrated</u> 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 <u>share responsibility</u> 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 <u>variety of strategies–including assistive technology</u>– 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.

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 the Effectiveness of Assistive Technology

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

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

   <u>Intent</u>: 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 <u>related to one or more goals</u>.**

   <u>Intent</u>: 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 <u>quantitative and qualitative measurement of changes</u> in the student's performance and achievement.**

   <u>Intent</u>: 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 <u>across environments</u> during naturally occurring and structured activities.**

   <u>Intent</u>: 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 <u>analyzing student achievement and identifying supports and barriers</u> that influence assistive technology use to determine what changes, if any, are needed.**

   <u>Intent</u>: 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. **<u>Changes are made</u> in the student's assistive technology services and educational program when evaluation data indicate that such changes are needed to improve student achievement.**

   <u>Intent</u>: 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, <u>ongoing process</u> that is reviewed periodically.**

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

COMMON ERRORS:

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

## Quality Indicators for Assistive Technology Transition

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

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

   <u>Intent</u>: 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 <u>planning empowers the student</u> using assistive technology <u>to participate</u> 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. **<u>Advocacy related to assistive technology use is recognized as critical</u> 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. **<u>AT requirements in the receiving environment</u> are identified during the transition planning process.**

   <u>Intent</u>: 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 <u>individualized timeline</u>.**

   <u>Intent</u>: 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 <u>equipment, training and funding issues</u> such as transfer or acquisition of assistive technology, manuals and support documents.**

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


COMMON ERRORS:


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

## Quality Indicators for 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.

1. **The education agency has <u>written procedural guidelines</u> 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 <u>broadly disseminates</u> 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 <u>written descriptions of job requirements</u> 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 <u>personnel with the competencies</u> 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 <u>assistive technology in the technology planning and budgeting process.</u>**

   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 <u>on-going learning opportunities about assistive technology</u> for staff, family, and students.**

   <u>Intent:</u> 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 <u>systematic process to evaluate</u> all components of the agency-wide assistive technology program.**

   <u>Intent:</u> 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.

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.

## Quality Indicators for Professional Development and Training in Assistive Technology

This area defines the critical elements of quality professional development and training in assistive technology. Assistive technology professional development 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 assistive technology professional development 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 professional development 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.

1. **Comprehensive assistive technology professional development and training <u>support the understanding that assistive technology devices and services enable students to accomplish IEP goals and objectives and make progress in the general curriculum</u>.**

   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.

2. **The education agency has an AT professional development and training <u>plan that identifies the audiences, the purposes, the activities, the expected results, evaluation measures and funding</u> 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.

3. **The content of comprehensive AT professional development and training <u>addresses all aspects of the selection, acquisition and use</u> 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.

4. **AT professional development and training address and are <u>aligned with other local, state and national professional development initiatives</u>.**

   <u>Intent</u>: 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.

5. **Assistive technology professional development and training include <u>ongoing learning opportunities that utilize local, regional, and/or national resources</u>.**

   <u>Intent</u>: 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.

6. **Professional Development and Training in assistive technology follow <u>research-based models for adult learning</u> that include multiple formats and are delivered at multiple skill levels.**

   <u>Intent</u>: 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).

7. **The effectiveness of assistive technology professional development and training is <u>evaluated by measuring changes in practice that result in improved student performance</u>.**

   <u>Intent</u>: 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 educational practice that result in improved student performance.

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.

# Quality Indicators for Assistive Technology Within 504 Plans (QIAT-504)

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The QIAT-504 indicators are a set of statements that describe the characteristics of high quality assistive technology (AT) services provided to preschool, elementary and secondary students with disabilities who are entitled to a free and appropriate public education (FAPE) and receive protection under Section 504 of the Rehabilitation Act for K-12.

The indicators are divided into seven general areas which include descriptors of quality for each area.

Indicator Areas
1. Awareness of Reasonable 504 AT Accommodations
2. Determination of AT Needs as an Accommodation
3. Plan and Implementation
4. Evaluation of Effectiveness
5. Administrative Support
6. Professional Development and Training
7. Student Instruction about AT

1. **Awareness of Reasonable 504 Accommodations: The Awareness area describes the steps agencies take to make sure that 504 Teams are aware of the protections afforded to students with disabilities under Section 504, the AT services that are available to those students, and the agency processes to provide them.**

   ● 504 teams reference approved guidance and resources to support the decision making process for making reasonable student accommodations within the agency.
   ● AT accommodations are identified as an option for all students eligible for 504 protection.
   ● Teams are aware of potential AT tools readily available within the agency and acquire additional AT when it is needed.
   ● Teams are aware and follow a process for acquiring recommended AT in a timely manner.

2. **Determination of needs for AT devices and services as an Accommodation: The Determination area describes the steps an agency takes to identify and document the need for student AT devices and services as an accommodation to access FAPE.**

   ● 504 decisions regarding the need for AT devices and services are based on equal access to curricular and extracurricular activities, and progress in the general education curriculum.
   ● 504 accommodation decisions including those related to AT are made through a deliberate and collaborative decision making process that includes the use information provided by educators, students, and family members such as:
     ○ formative assessments,
     ○ diagnostic assessments,
     ○ observation information,

- ○ annual assessments,
- ○ classroom work samples and,
- ○ previous use of AT or AT trials.
- 504 team members have the collective knowledge and skills needed to make informed AT decisions and seek assistance when needed.
- AT is clearly documented as an accommodation within the 504 plan.

3. **Planning and Implementation: The Planning and Implementation area describes actions that a 504 team must take to make sure that students are able to use AT devices as accommodations in classrooms and other school settings.**

- Everyone who works with the student knows how, when and where the AT accommodations will be used.
- AT implementation is documented in a collaboratively developed 504 plan.
- The 504 plan is widely disseminated to the student's teachers and others who are responsible for making sure the plan is implemented.
- The student, family and staff have the information and training they need to ensure the student can effectively use the AT identified in the 504 plan.
- AT accommodations are integrated into the curriculum and routinely used by the student in relevant daily activities across environments.
- The 504 team facilitates problem solving and coordination when the student experiences challenges using AT and/or current AT devices and services are not providing adequate access to FAPE.

4. **Evaluation of Effectiveness: Evaluation of effectiveness addresses activities that 504 teams engage in to help ensure that AT is being effectively used by the student.**

- The 504 team regularly reviews the effectiveness of the overall impact and effectiveness of accommodations, including AT.
- Data are collected to provide 504 teams with a means to analyze the extent to which AT provides student access to FAPE and to determine what changes, if any, are needed.
- Changes are made in the student's 504 accommodations when the 504 plan review and data indicate that changes are needed to improve student access to FAPE.
- The effectiveness and impact of the student's use of AT and any needed changes within the 504 plan are communicated to all stakeholders, including the student and family, relevant educators, and administration.

5. **Administrative Support: This area defines the critical areas of administrative support and leadership for developing and delivering AT services. It involves the development of policies, procedures, and other supports necessary to improve quality of services and sustain effective AT programs.**

- The agency has written procedural guidelines for accessing and providing AT services that are consistent with federal, state and local laws to ensure FAPE for students with disabilities served under Section 504.
- The agency's written procedural guidelines about AT within the 504 process are broadly disseminated.

- The agency has a systematic process to handle grievances and complaints related to the use and support of AT or inaccessible instructional and information technology.
- The agency employs personnel with the competencies needed to support quality AT services within their primary areas of responsibility at all levels of the organization.
- The agency includes AT supports and services in the technology planning and budgeting process.

6. **Professional Development and Training: Professional development and training describes critical features of AT training efforts for all staff and other key players in the AT program.**

- The agency provides staff with opportunities for professional development on AT including ongoing learning opportunities that utilize local, regional, and, national resources.
- Professional development and training in AT follow research-based models for adult learning that include multiple formats, delivered at multiple skills levels and are driven by individual preferences and needs.
- AT professional development and training is aligned with other agency initiatives and/or services.
- The 504 Office leads by example and offers assistive and accessible technology professional development to all instructional staff.

7. **Student Instruction About Section 504 AT Accommodations to Access FAPE: This area describes actions an agency takes to help students enhance participation, increase self-awareness and problem solving related to the selection and use of AT for access to FAPE.**

- The agency ensures that student is actively involved in the 504 planning, implementation and evaluation processes.
- The agency ensures that skills are explicitly taught so that the student can independently advocate for, use and problem solve when appropriate when AT is provided as a 504 accommodation in classrooms and other school settings.
- The agency identifies an individual who the student can go to for assistance when AT is provided as a 504 accommodation.

*Our thanks to the many AT leaders who contributed to this work. We want to offer special thanks to Janet Peters of the QIAT-PS project and , Joan Breslin-Larson, Penny Reed and Joy Zabala of the QIAT Leadership Team for their excellent reviews and feedback during the development of the QIAT-504 Indicators.*

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# Appendix B: Forms for Team Process Use

**SETT Scaffold For Tool Selection**

**Assistive Technology Implementation Plan**

**Sample Agreement between Parent and District for Privately Owned Equipment**

**QIAT Transition Planning Worksheet**

# SETT Scaffold For Tool Selection **– Part 1 - Identifying Tools**
## Develop Descriptors of an Assistive Technology Tool System that Addresses Needs and Identify Possible Tools

STUDENT:                                    AREA OF ESTABLISHED NEED (See SETT: Part I):

**STEP 1: Based on S-E-T data, enter descriptors or functions needed by the student across the shaded top row - 1 descriptor per column**
**STEP 2: Enter promising tools in the shaded left column - 1 tool per row**
**STEP 3: For each tool, note matches with descriptors and functions to help guide discussion of devices and services**
**USE ADDITIONAL SHEETS IF NECESSARY**

| Descriptors ⇨<br><br>Tools ⇩ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
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# SETT Scaffold For Tool Selection – Part 2 - Prioritizing Tools
## Establish Availability and Training Needs for Promising Tools that Match Student Needs

| SHORT LIST OF TOOLS | TOOL AVAILABILITY | | | SERVICES (training, planning, coordination, etc.) REQUIRED FOR EFFECTIVE USE | | |
|---|---|---|---|---|---|---|
| JUSTIFY CHOICES WITH SETT DATA AND DESCRIPTOR MATCH | S | P | A | STUDENT | STAFF | FAMILY |
| | | | | | | |
| | | | | | | |
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KEY:　　S= Systemically available tools - Currently available to ALL students served by this system
　　　　P= Programmatically available through special education services or other services for which this student is qualified
　　　　A= Additional tools that need to be acquired for this student.

| | Assistive Technology Implementation Plan |
|---|---|

Student Name: _____ Grade: _____ DOB: _____ Date Plan Written: _____

School: _____ District: _____ Plan Review Date: _____

| Tasks | Tools/Strategies | Where is it used? | Additional Comments (e.g., set up needs, supervision level, restrictions, etc.) | Related IEP Goal(s) |
|---|---|---|---|---|
| | | | | |
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Team Members

| Name | Role | Contact Info (i.e., phone & email) | | Name | Role | Contact Info (i.e., phone & email) |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| Other Considerations |
|---|

Student Name: _____ Date Plan Written: _____

| <<Tool>> | | | | | |
|---|---|---|---|---|---|
| Manufacturer | Model Number | Serial Number | Version | Installation Code | Warranty |
| Purchase Date | Purchaser | Owner | Purchased From | Cost | |
| Routine Maintenance | | | | | |
| What needs to be maintained (e.g., batteries, ink, charging)? | Responsible Team Member | | Team Member to Contact for Training | | Team Member to Contact for Customization |
| Repairs | | | | | |
| Team Member to Coordinate Repair | | Repair Contact Info (e.g., manufacturer or reseller) | | Funding Source for Repairs | |
| Contingency Plan (Short Term and Long Term) | | | | | |

| <<Tool>> | | | | | |
|---|---|---|---|---|---|
| Manufacturer | Model Number | Serial Number | Version | Installation Code | Warranty |
| Purchase Date | Purchaser | Owner | Purchased From | Cost | |
| Routine Maintenance | | | | | |
| What needs to be maintained (e.g., batteries, ink, charging)? | Responsible Team Member | | Team Member to Contact for Training | | Team Member to Contact for Customization |
| Repairs | | | | | |

| Team Member to Coordinate Repair | Repair Contact Info (e.g., manufacturer or reseller) | Funding Source for Repairs |
|---|---|---|
| Contingency Plan (Short Term and Long Term) | | |

## Sample Agreement between Parent and District
**To Use Privately Owned Augmentative**
**Communication Equipment at School**

**EFFECTIVE DATES OF AGREEMENT**

_____TO_____

**STUDENT NAME:**

**PARENT/GUARDIAN NAME:**

**ADDRESS:**

**TELEPHONE:**

**SCHOOL:_____ XPS ID#:**

**DESCRIPTION OF PRIVATELY OWNED AUGMENTATIVE COMMUNICATION EQUIPMENT:**

**DESCRIPTION OF DISTRICT'S OFFER OF FAPE REGARDING AUGMENTATIVE COMMUNICATION:**

1. "Privately owned equipment" means augmentative communication equipment owned by the parent(s) or augmentative communication equipment not owned by the parent(s) but provided by the parent for the student to use at school.

2. I, the undersigned, agree with XXX Public Schools (XPS) that my child may use at school the privately owned equipment described above.

3. I agree that XPS will not be responsible for any damage or loss of any privately owned equipment while such equipment is in the care, custody or control of XPS.

4. XPS agrees that it will take reasonable precautions to protect the privately owned equipment but that it is in no way responsible for damage to or loss of this equipment.

5. XPS staff have explained to me that the school is required to offer my child a free appropriate public education (FAPE) under the law which includes providing necessary augmentative communication equipment. I understand that the District's offer of a FAPE for augmentative communication equipment is described above. I also understand that the privately owned equipment I am authorizing my child to use at school may be more technologically advanced than that which the District is required to provide to my child under the law.

6. I understand that at any time I may revoke my consent for my child's use of privately owned equipment at school and that this revocation must be in writing. I may then request that XXPS provide appropriate augmentative communication equipment to my child in accordance with the law. I understand that the augmentative communication equipment XXPS offers may be different than and may be a lower level of technology than the privately owned equipment my child has been using at school.

7. I agree that XXX Public School staff have sole authority to decide how the privately owned equipment is used at school.

8. I understand that this Agreement will be in effect until my child's annual IEP meeting. At that time, a new Agreement will need to be executed by me and the District in order for my child to continue to use privately owned equipment at school.


_____ _____

Signature of Parent or Guardian                Date Signed


_____ _____

Signature of Authorized District Staff          Date Signed

_____

Position of Authorized District Staff


Developed by Gayl Bowser.

# QIAT Transition Planning Worksheet for AT Users

Student _____ Age _____ Date _____

Indicate Transition:  ☐ Early Childhood to School   ☐  Program to Program
☐  School to School               ☐   School to Post Secondary

Persons completing this worksheet _____

| Name of Program and/or School | |
|---|---|
| Current Placement & Services: | Future Setting & Services: |
| **Name the primary point of contact (e.g., services coordinator, supervisor, etc.) with contact information (e.g., phone number, email address, etc.).** | |
| Current Setting: | Future Setting: |

| Services Needed in Future Setting<br>(e.g., OT, PT, Speech/Language, transportation, medical, etc.) | Person | Date |
|---|---|---|
| | | |

| General Transition Tasks to be Completed | Person | Date |
|---|---|---|
| ☐  Adults observe in future setting<br>☐  Student/family visit to future setting<br>☐  Meeting between staff from both settings<br>☐  Arrange enrollment in needed non-school services (e.g., DD, VR)<br>Other: | | |
| **Device Specific Tasks to be Completed**<br>Name/type of AT Used: _____ | **Person** | **Date** |
| ☐  Arrange transfer of technology including manuals, service records<br>☐  Create artifacts to demonstrate current level of use and independence<br>(e.g., video tape, work samples, etc.)<br><br>☐  Identify any new technology that may be needing in future setting<br>☐  Identify sources of funding for new technology<br>☐  Identify person(s) to do troubleshooting in future setting<br>Other: | | |

| AT Skills to Increase Student Independence —<br><br>To be included in IEP as necessary |
|---|
| **Device specific use/operational skills:** Knowing how to operate the technology<br><br><br>**Functional Use Skills:** Using AT to accomplish meaningful tasks across settings<br><br><br>**Strategic Skills:** Choosing the right tool for a specific task<br><br><br>**Social Skills:** Using technology effectively and appropriately around other people |

| AT Skills to Increase Student Self Determination —<br>To be Included in IEP as necessary |
|---|
| **Choice-making:**<br><br>**Decision-making:**<br><br>**Problem-solving:**<br><br>**Goal setting/attainment:**<br><br>**Self-regulation/self-management:**<br><br>**Self-advocacy/leadership** |

**Transition to Post-Secondary Settings**
**Coordinated Plan for Transition Activities Summary**

Transition planning teams should consider how the student's current or future AT use will impact success in each of these transition areas.

☐ **Instruction** - Is instruction needed to prepare the student for new settings? Is the current AT appropriate? Will additional devices or services be needed for new settings?

☐ **Related Services** - Is there a need for additional related services to prepare the student for post-secondary life? Are the current related services supporting AT use needed in future settings? Who will provide these? How can the student/family connect with necessary services?

☐ **Community Experiences** - What opportunities need to be provided for the student to use AT in community experiences to prepare for post-secondary life, including government, socialization, recreation, banking, transportation, etc.?

☐ **Employment** - If AT will be used as part of the student's employability, what services and strategies need to be considered? What activities using AT are needed to develop work related skills, including job seeking and retention skills, career exploration and paid employment?

☐ **Post-school Adult Living -** What activities will be needed to prepare the student to use his AT in developing independence in adult living, including accessing medical services, registering to vote, accessing transportation, paying rent and other bills?

☐ **Daily Living Skills -** What activities will be needed to prepare the student to use his AT in developing independence in daily living, such as cooking, dressing, shopping, maintaining health and hygiene, housekeeping, etc.?

☐ **Functional Vocational Evaluation** - How is the use of AT incorporated into the vocational evaluation? Do the evaluation results indicate a need for continued use of AT or the use of new AT?

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